



CHINESE SOCIETY FOR INTERNAL COMBUSTION ENGINES

2024 World Congress on Internal Combustion Engines

2024.04.19-23

# FINAL PROGRAMME



Detailed Schedule  
Please log in to the  
mini-program to view



Please scan the QR code  
to view the Congress  
Schedule.



Contact us:

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Sponsorship

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Academic Exchange

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**Hosted by:**

Chinese Society for Internal Combustion Engines

Tianjin University

The version was finalized on April 15. Subsequent fine adjustments to the content and sequence have not been updated in time. Please pay attention to the Congress mini-program!

Green · Reliable · Intelligent · Efficient

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## ■ Introduction to the Congress

The World Congress on Internal Combustion Engines (WICE) was initiated by the Chinese Society for Internal Combustion Engines (CSICE) in 2018. It serves as a comprehensive technical exchange event for the global internal combustion engine industry, attracting participants from various countries, regions and organizations across the world. Held every three years, the congress consists of international academic exchanges, summit forums, promotion of technological achievements, exhibition of high-end products and technical tour, among other activities. It is aimed to build a comprehensive platform that promotes collaborative innovation and facilitates the harmonious development of the global ICE industry.

For nearly a century, internal combustion engines have been the driving force behind convenience and efficiency in various industries, propelling forward the progress of human society. Today, carbon emission reduction has become the central focus of development in the field of power and energy, leading to remarkable advancements in diverse power technologies. To meet the demands of social development, internal combustion engines must be designed in a more efficient, cleaner, smarter and more reliable manner.

The 2024 WICE cordially invites you to join other top scientists, entrepreneurs, experts, scholars, and technological professionals from the world's internal combustion engine industry in Tianjin, China. Under the theme of "Green, Reliable, Intelligent and Efficient", we will explore technology trends and address technical difficulties through joint efforts. Together, we will contribute to the integration and innovation of ICE power with other power technologies, promoting the coordinated development of the entire ICE industry chain.





## Welcome Remarks



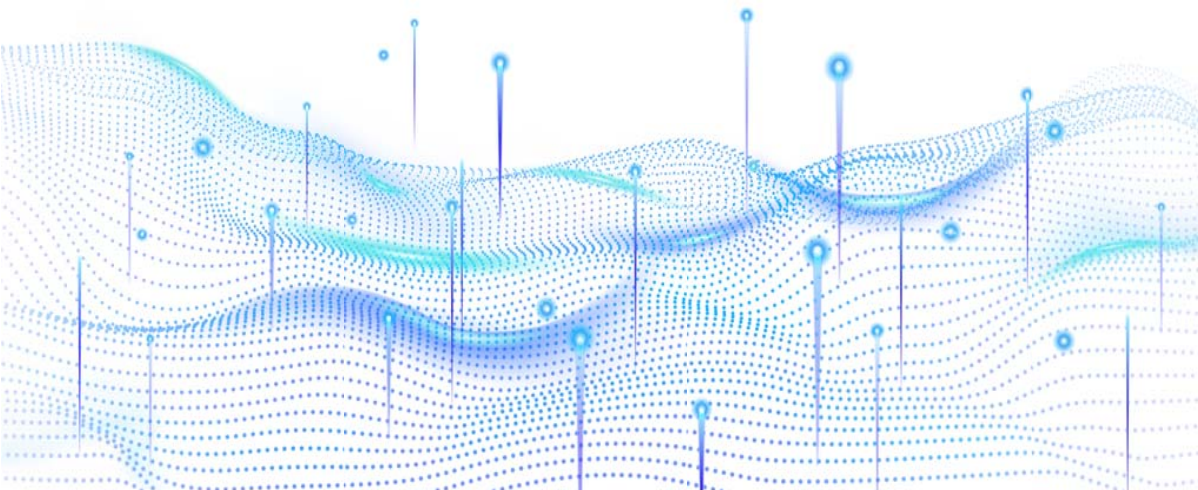
### Dr. Jin Donghan

Academician of the Chinese Academy of Engineering  
President of the 2024 World Congress on Internal Combustion Engines  
President of Chinese Society for Internal Combustion Engines  
President of Tianjin University  
Former President of CIMAC

The internal combustion engine (ICE), as a hallmark of the Second Industrial Revolution, continues to play an irreplaceable role in human society. Well into the future, it will remain the dominant power source for land transportation, maritime shipping, and construction machinery, with its position unshakable.

Today, there is a growing emphasis on energy conservation and emissions reduction, and the ICE is the most promising product for these goals, both presently and in the future. The rapid development of modern technologies has been applied to ICE, revitalizing its potential. To provide a platform for global manufacturers, component suppliers, users, universities and research institutions in the ICE industry to exchange ideas, facilitate technological innovation, business model innovation, and foster close cooperation, the Chinese Society for Internal Combustion Engines (CSICE) initiated the World Congress on Internal Combustion Engines. The 2024 Congress will be held in Tianjin, China on April 19—23, 2024, under the theme of "Green, Reliable, Intelligent and Efficient ". We believe this will be a grand gathering for exchanging ideas, inspiring wisdom, and building consensus, to lead the new development of the ICE technology and the whole industry.

We sincerely invite you to join us in Tianjin for the 2024 World Congress on Internal Combustion Engines.



## Registration

The 2024 World Congress on Internal Combustion Engines plans to feature specialized topics, including Sustainable Transportation & Intelligent Control, Efficient and Clean Combustion, Carbon Neutrality and Emission Control Technology, Design, Manufacturing, Lubrication and Reliability, Fuel Cells and Energy Storage, and Modern Power.

Please visit [wice.csice.org.cn](http://wice.csice.org.cn) to register or scan the QR code.



### Congress Time

April 19-23, 2024, registration on April 19 (registration time: 10:00—21:00)

### Venue

Tianjin Auditorium (No. 24, Youyi Road, Hexi District, Tianjin)

### Registration Standard

S/N	Category	Registration Fee
1	General Representative	RMB 2,800/person
2	Individual Member of Chinese Society for Internal Combustion Engines	RMB 2,600/person
3	Council Member of Chinese Society for Internal Combustion Engines	RMB 2,500/person
4	Student Member of Chinese Society for Internal Combustion Engines	RMB 1,500/person

## Schedule

Date	Time	Schedule
2024/4/18 Thursday	10:00-15:00	CIMAC 2024 Spring Board Meeting
April 19, 2024 Friday	10:00-15:00	CIMAC 2024 Spring Council Meeting
	10:00-21:00	Registration
		Unveiling Ceremony of the National Key Laboratory Alliance of Internal Combustion Power
	16:00-17:00	Unveiling Ceremony of "Chambroad-Jilin University Joint Laboratory" by Chinese Society for Internal Combustion Engines
		Unveiling Ceremony of Chinese Society for Internal Combustion Engines Ammonia Engine Innovation Consortium
		Unveiling Ceremony of Chinese Society for Internal Combustion Engines Hydrogen Engine Innovation Consortium
	18:00-20:30	CSICE Chinese and Foreign Youth Science and Technology Salon (Closed-door Meeting)
April 20, 2024 Saturday	08:30-10:40	Opening Ceremony
	10:40-11:00	Tea Break
	11:00-12:00	Keynote Reports
	12:00-13:30	Lunch
	13:30-15:30	Theme Reports
	15:30-16:00	Tea Break
	16:00-18:30	Theme Reports
	19:00-20:30	Reception Dinner (NAIT Night)
April 21, 2024 Sunday	08:30-10:30	Technical Sessions Reports
	10:30-11:00	Tea Break
	11:00-12:30	Technical Sessions Reports
	12:30-13:30	Lunch
	13:30-15:30	Technical Sessions Reports
	15:30-16:00	Tea Break
	16:00-18:30	Technical Sessions Reports
	18:30-19:30	Dinner
April 22, 2024 Monday	08:30-10:30	Technical Sessions Reports
	09:30-11:30	Academic Salon: Present and Future of Internal Combustion Engine Fuel
	10:30-11:00	Tea Break
	11:00-12:30	Technical Sessions Reports
	12:30-13:30	Lunch
	13:30-15:30	Theme Reports
	15:30-16:00	Tea Break
	16:00-18:00	Theme Reports
	18:00-18:20	Closing Ceremony
	19:00-20:30	Closing Dinner (Rianlong Kantai Night)
April 23, 2024 Tuesday	09:00-12:00	Technical Tours

## Site Arrangement

Date	Venue	Venue
April 18, 2024	CIMAC 2024 Spring Board Meeting	2F Congress Room 3 Renaissance Tianjin Lakeview Hotel
April 19, 2024	CIMAC 2024 Spring Council Meeting	2F Congress Room 6+7+8 Renaissance Tianjin Lakeview Hotel
April 19, 2024	Registration Unveiling Ceremony	1F Press Congress Area Tianjin Auditorium
April 20, 2024	Main Venue (Opening Ceremony)	CATARC Hall (Grand Theater, 1F) Tianjin Auditorium
April 21-22, 2024	The First Technical Session Sustainable Transportation & Intelligent Control	Great Wall Hall (Medium Theater, 1F) Tianjin Auditorium
April 21-22, 2024	The Second Technical Session Efficient and Clean Combustion	Rianlon & Kangtai Hall (International Congress Hall, 3F) Tianjin Auditorium
April 21-22, 2024	The Third Technical Session Carbon Neutrality and Emission Control Technology	Act-blue & Taizhou Saite Hall (Congress Hall 1, 3F) Tianjin Auditorium
April 21-22, 2024	The Fourth Technical Session Design, Manufacturing, Lubrication and Reliability	Shuanggang Piston Hall (Congress Hall 2, 3F) Tianjin Auditorium
April 21, 2024	The Fifth Technical Session Fuel Cells and Energy Storage	Wuhan Hydrogen Energy Engineering Institute Hall (Congress Hall 3, 4F) Tianjin Auditorium
April 22, 2024	The Fifth Technical Session Modern Power	Wuhan Hydrogen Energy Engineering Institute Hall (Congress Hall 3, 4F) Tianjin Auditorium
April 22, 2024	Academic Salon: Present and Future of Internal Combustion Engine Fuel	Hexi Hall, 2F Tianjin Auditorium
April 22, 2024	Main Venue (Closing Ceremony)	CATARC Hall (Medium Theater, 1F) Tianjin Auditorium

■ Keynote and Theme Reports

April 20, 2024 (Saturday)  
CATARC Hall (Grand Theater, 1F)

Time	Speech Title	Speakers	Guest Introduction
Host: Shu Gequn, Vice Chairman of Chinese Society for Internal Combustion Engines and Secretary of the Party Committee of the University of Science and Technology of China			
08:30-10:40	Opening ceremony (cultural and artistic performances, speeches by leaders, release of the latest achievements in China's internal combustion engine industry)		
10:40-11:00	Tea Break		
Host: Mao Ming, Academician of the Chinese Academy of Sciences, Vice President of Chinese Society for Internal Combustion Engines, and Director/Researcher of National Key Laboratory of Advanced Off-road System Technology at China North Vehicle Research Institute			
11:00-11:30	Transformation of Vehicle and Ship Power Energy	Huang Zhen	Academician of CAE, Chair Professor of Shanghai Jiao Tong University
11:30-12:00	E-fuels. A pathway to Achieve 2030 CO <sub>2</sub> Horizon	Raul Payri	Professor, Deputy Director of CMT Engine Research Institute at the Polytechnic University of Valencia in Spain; Editor-in-Chief of International Journal of Engine and Research; Editorial Board Member of Atomization and Sprays
Host: Jonas Åkerman, CIMAC Vice President, Director of Research & Technology Development of Wärtsilä Finland Oy			
13:30-14:00	Decarbonization—Opportunities and Challenges for the ICE Industry	Christoph Rofka	President of Medium and Low-speed Machine Business of Accelleron Industrial Group Co., Ltd.
14:00-14:30	Maritime Decarbonization-moving from Strategy to Implementation	Dominik Schneider	CEO of CSSC Winterthur Engine Co., Ltd (WinGD)
14:30-15:00	Unlocking the Potential of Alternative Fuels in Shaping the Future of Sustainable Mobility	Dieter van der Put	Group Vice President Commercial Powertrains Group Head Technical Compliance FEV Group GmbH
15:00-15:30	Main Scientific and Technological Challenges and Countermeasures for the Core Technology and Durability of Automotive Proton Exchange Membrane Fuel Cells	Zhang Jiujun	Foreign Academician of the Chinese Academy of Engineering, Fellow of the Academy of Sciences of the Royal Society of Canada, Fellow of the Canadian Academy of Engineering, Fellow of the Engineering Research Institute of Canada, Professor of the School of Materials and Engineering at Fuzhou University, Professor of Institute for Sustainable Energy at Shanghai University
15:30-16:00	Tea Break		
Host: Dong Jianfu, Vice President of CSICE, Director of Shanghai Marine Diesel Engine Research Institute			
16:00-16:30	H2 ICE – Engine of the Future	Zhao Hua	Foreign Academician of the Chinese Academy of Engineering, Fellow of the Royal Academy of Engineering (United Kingdom), Vice President of Brunel University in the United Kingdom
16:30-17:00	Carbon Emission Status and Low-carbon Technology Route of Heavy Commercial Vehicles	Wu Zhixin	Member of the Party Committee and Deputy General Manager of China Automotive Technology and Research Center Co., Ltd., Foreign Academician of Russian Academy of Engineering
17:00-17:30	Application Prospects of Ammonia Fuel in the Field of Marine Engines	Shao Yu	General Manager of CSSC Power (Group) Co., Ltd.
17:30-18:00	Research of the Development Trends of Passenger Car Powertrain	Gao Dingwei	Chief Engineer of GWM HYCET Power Research Institute
18:00-18:30	New Configurations and Key Technologies for Carbon Neutral IC Power Systems	Lin Tiejian	Chief Engineer of Guangxi Yuchai Machinery Co., Ltd.

April 22, 2024 (Monday) CATARC Hall (Medium Theater, 1F)			
Time	Speech Title	Speakers	Guest Introduction
Host: Yasuyuki Takahata, CIMAC Vice President, Vice President of Yanmar			
13:30-14:00	Future Diesel Engine for Small Power Source -Fuels, Engine Concept, Thermal Efficiency, CO2 Emission	Keiya NISHIDA	Guest Professor in Department of Mechanical Engineering, Graduate School of Advanced Science and Engineering, University of Hiroshima, Japan
14:00-14:30	Active Pre-chamber Ignition: Unlocking Maximum Efficiency and Performance for SI Engines	Michael Wensing	Professor, CTO of Think-tech
14:30-15:00	Ignition and Combustion Innovation towards Carbon Neutral Propulsion	Ming ZHENG	Professor , Director of Clean Combustion Engine Laboratory
15:00-15:30	Development Status and Prospects of Plug in Hybrid Electric Vehicles	Yang Dongsheng	Vice President of BYD President of BYD Product Planning and Automotive New Technology Research Institute
15:30-16:00	Tea Break		
Host: Liu Zhigang, Vice President of CSICE, Former President of Harbin Engineering University			
16:00-16:30	Electrocatalysts for Fuel Cells:From Nano to Single Atom	Sun Xueliang	Foreign Academician of the Chinese Academy of Engineering and Fellow of Royal Society of Canada Academician of the Canadian Academy of Engineering and Professor at University of Western Ontario, Canada
16:30-17:00	Zero-carbon ICE Technology for Heavy-duty Commercial Vehicles	Liu Jiangwei	FAW Jiefang Automotive Co., Ltd. Vice President of Commercial Vehicle Development Institute, President of Powertrain Development Institute and Deputy General Manager of Powertrain Division
17:00-17:30	Development Trends and Industrialization of Methanol Internal Combustion Power	Guo Lei	Vice President of Geely Farizon New Energy Commercial Vehicle Group



■ Keynote Reports



Huang Zhen

Academician of the Chinese Academy of Engineering  
Chairman of WICE Academic Committee  
Chair Professor, Shanghai Jiao Tong University  
Fellow of the International Institute on Combustion

Reporting time

20 April 11:00-11:30

Report Title

Vehicle and Vessel Power Energy Reform

Report Contents

Under the goal of carbon neutrality, the green transition of energy shows four major trends: new energy is shifting from supplementary to the primary source of energy, fossil energy is moving from the primary to a secure source of energy, re-electrification based on green electricity, and renewable fuels will become the most important solution for decarbonizing the power of vehicles and vessels. Today, the power sources for vehicles and vessels are facing a major shift that hasn't been seen in a century, and the global vehicle, vessel, and transportation sectors are accelerating their transition away from fossil fuels. The report introduces the main paths for the transformation of vehicle and vessel power energy and the latest research progress from Shanghai Jiao Tong University, indicating that the economic viability of large-scale production of renewable fuels, engine compatibility, fuel safety, fuel availability, and the completeness of regulations and standards will be the five key elements for realizing the large-scale application of renewable fuels.



Raul Payri

Deputy Director of CMT Engine Research Institute, UT Valencia, Spain  
Editor-in-Chief of the internationally renowned journal, International Journal of Engine  
Research Editorial Board Member of Atomization and Sprays

Report time

11:30-12:00, April 20

Report Title

E-fuels: A pathway to achieve 2030 CO<sub>2</sub> horizon

Abstract

The present keynote will cover three aspects, What implies reaching Carbon Neutrality in 2050 for the EU?, Which could be a suitable e-fuel for working on ICE' s?, How to develop the application of OMEx in ICE' s?

The talk will present recent movements of EU commission towards this objective and which internal combustion engines and efuels is a possible pathway towards carbon neutrality in 2050. E-fuels offers similar performance than electric vehicles, allows a better exploration of renewable world resources and may offer a direct path to a fast transport decarbonization.

One possible e-fuel is Poly-oxymethylene dimethyl Ethers (OMEx) that offers no carbon-to-carbon bonds so there is no direct formation of soot precursors, high molecular oxygen content that provides Rapid oxidation, high reactivity fuel suitable for combustion modes based on autoignition. The main challenges is the Lower Heating Value and viscosity with respect to regular diesel.

April 21, 2024 morning (Sunday)

■ Technical Sessions Reports

Great Wall Hall (Medium Theater, 1F)

Transportation Energy and Intelligent Power

Hosts: Shuai Shijin, Chen Xiaoxun

**08:30-08:50**  
New Energy Power Systems Based on Ammonia-Hydrogen Engines  
Wang Zhi Tsinghua University

**08:50-09:10**  
Towards Understanding Thermodynamic Effects on Fuel Injection Process: From Flash Boiling to Transcritical Jets  
Guo Hengjie Northwestern Polytechnical University

**09:10-9:30**  
Energy Saving and Efficiency Enhancing Paths for Commercial Vehicles  
Li Weizi Shell (Shanghai) Technology Co., Ltd.

**09:30-09:45**  
Effect of Injector Arrangement on Combustion Performance of Methanol/Diesel Dual-Direct Injection Engine  
Lin Tao Zhejiang University

**09:45-10:00**  
The Effect of Acetone-Butanol-Ethanol and Gasoline Blends on the Knocking Performance of Gasoline Engine  
Ren Kai Hunan Agricultural University

**10:00-10:15**  
Experimental Study on the Effect of High Pressure EGR Rate on the Performance of Dual-Fuel Mode Engine of Diesel and Ammonia  
Chen Dongdong Taiyuan University of Technology

**10:15-10:30**  
Experimental Study on Combustion and Emission of Ternary-Fuel Combined Supply SI Engine with HHO/Butanol/Gasoline  
Zhao Zhe Jilin University

10:30-11:00  
Tea Break

**11:00-11:15**  
Physics-Based Reevaluation of Acetaldehyde Chemistry and Statistical Considerations of Model Uncertainty  
Ren Xinrui Department of Mechanical Engineering, The Hong Kong Polytechnic University

**11:15-11:30**  
Driving Behavior-Fuel Consumption Characterization of Commercial Vehicles Based on Real Vehicle Data  
Meng Xiang Harbin Institute of Technology (Weihai)

**11:30-11:45**  
Numerical Simulation of Ammonia-Hydrogen Engine Using Low-Pressure Direct Injection (LP-DI)  
Sun Qiyang Tsinghua University

**11:45-12:00**  
Experimental Study of Performance and Combustion Characteristics of a Heavy-Duty Direct-Injection Hydrogen  
Wang Bowen Huazhong University of Science and Technology

**12:00-12:15**  
Exploration of the Fuel Droplet Evaporation Process Under Ambient Hydrogen Conditions  
Zhao Chenxi Dalian University of Technology

**12:15-12:30**  
High-Temperature Autoignition Experiments and Kinetic Modeling Study on NH3/Methyl 3-Hexenoate  
Shang Yanlei Qilu University of Technology (Shandong Academy of Sciences)

Rianlon & Kangtai Hall (International Congress Hall, 3F)

Efficient Clean Combustion

Hosts: Yue Zongyu, Lu Lili

**08:30-08:50**  
Spray and Combustion Modeling for Performance Analysis of Direct-Injection Engines with Low-Carbon and Zero-Carbon Fuels  
Liu Long Harbin Engineering University

**08:50-09:10**  
Core Components and Control Technology of Advanced High Thermal Efficiency Engines  
Wang Xiuqiang Weifang Lichuang Electronic Technology Co., Ltd.

**09:10-9:30**  
Development Trend of High-Power Gas Engines  
Li Quanwu CNPC Jichai Power Equipment Company

**09:30-09:45**  
Optical Diagnostic Study on Engine Combustion Performance and Flame Development of Ammonia and Methane Narrow Throat Pre-chamber  
Sun Jiuling Tianjin University

**09:45-10:00**  
The Influence of Initial Conditions and Ammonia Substitution Rate on the Combustion Process of Diesel-Ignited Ammonia Mixture  
LI, Hongmei CSSC Shanghai Marine Diesel Engine Research Institute

**10:00-10:15**  
Investigation of Heat Flux Characteristics of Hydrogen-Air Mixture Flames in a Maritime Pre-Chamber Using a Constant Volume Bomb  
Duan Yonghui Beijing Institute of Technology

**10:15-10:30**  
Data-Augmented Cross Modelling of Engine Knock Detection Based on Conditional Generative Adversarial Network  
Xu He University of Birmingham, United Kingdom

10:30-10:45  
Tea Break

**10:45-11:00**  
Combustion and Thermal Development of aHeavy-Duty Hydrogen IC Engine  
Lu Zhiguo Realis Simulation Ltd.

**11:00-11:15**  
Evolution of the Gas-liquid Interface Dominated by Richtmyer-Meshkov Instability  
Liang Tong Beijing Institute of Technology

**11:15-11:30**  
Study on the Characteristics of Near Limit Laminar Combustion with Ammonia Dilution  
Lv Senlin Xi’ an Jiaotong University

**11:30-11:45**  
Combustion Characteristics of Hydrogen Gases in a Featureless Port-Injection SI Engine  
Adebayo Fakeye University of Leeds, United Kingdom

**11:45-12:00**  
Effects of Adding Lubricity Improver and Blending Water on methanol HPDI Spray Characteristics  
Liu Haoye Tianjin University

**12:00-12:15**  
A Comparative Study on the Performance of Gasoline-Diesel Dual Fuel Direct Injection Engine with Different Injection Modes  
Xie Manyao Xi’ an Jiaotong University

**12:15-12:30**  
Study on Naphtha Combustion in HCCI Engines  
An LU University of Leeds, United Kingdom

Act-blue & Taizhou Saite Hall (Congress Hall 1, 3F)

Carbon neutrality and emission control of internal combustion engine

Hosts: Lin He, Bai Shuzhan

**08:30-08:50**  
A Technical Overview of the Challenges and Solutions for Adapting Natural Gas Engines to Hydrogen Engines  
DI Rüdiger Herdin PGES GMBH

**08:50-09:10**  
Research, Development and Application of Three-way Catalyst for Automobile Exhaust Aftertreatment  
Wang Yun Sinocat Environmental Technology Co., Ltd.

**09:10-9:25**  
Experimental Study on the Interactions of Excess Air Ratio and Ammonia Energy Fraction in the Load Control of PFI-DI Ammonia-Diesel Engines and Their Effects on Combustion and Emission Characteristics  
Wang Zhongxuan Huazhong University of Science and Technology

**09:25-09:40**  
The Macroscopic and Microscopic Characteristics of Ammonia Spray at Flare and Transition Flash Boiling Regions  
Liu Xiao Xi’ an Jiaotong University

**09:40-09:55**  
Effect of Hydrogen Injection Strategy on Combustion and Emission Performance of Hydrogen Direct Injection Engine  
Chen Wei Xiangtan University

**09:55-10:10**  
Combustion and Emission Characteristics of a Compression-ignition Internal Combustion Engine Fueled with High-pressure Direct-injection Pure Methanol Fuel  
Wu Yangyi Tianjin University

**10:10-10:25**  
Effect of Hydrogen and EGR Addition on Performance and Emissions of a Compressed Natural Gas Internal Combustion Engine: An Experimental Study  
Muhammad Ihsan Shahid Tsinghua University

**10:25-10:40**  
Visualization Study of Ammonia Combustion Characteristics Based on Gasoline Ignition Chamber Jet Ignition  
Chen Shihao Dalian University of Technology

10:40-11:00  
Tea Break

**11:00-11:15**  
The Effect of Ammonia Substitution Ratio and Diesel Injection Pressure on the Combustion Characteristics of an Ammonia-Diesel Dual Fuel Engine  
Zhang Shouzhen Tianjin University

**11:15-11:30**  
Experimental Study of Combustion and Emission in SJTU175 Marine Single-Cylinder Engine by Pilot Diesel Ignited High Ammonia Energy Proportion  
Chen Run School of Shipbuilding and Oceanography, Shanghai Jiao Tong University

**11:30-11:45**  
Kinetic Roles of Excited State Species in the Oxidation of n-Pentane/air Assisted by Nanosecond-Pulsed Discharge  
Liu Nan Beijing Jiaotong University

**11:45-12:00**  
The Influence of Different EGR Rates on the Combustion and Emission Performance of Ammonia/Natural Gas Engines  
Wang Binbin Harbin Engineering University

**12:00-12:15**  
Techno-Economic and Life Cycle Assessment for Emerging Heavy-Duty Truck Powertrain Technologies in China: A Comparative Study of Fuel Cell Electric, Hydrogen Combustion Engine, and Battery Electric Trucks.  
Li Yin Aramco

**12:15-12:30**  
Decoupling Study of "Discharge + Catalysis" in Plasma-Catalytic Ammonia Synthesis  
Zhou Guangzhao Shanghai Jiao Tong University

Shuanggang Piston Hall (Congress Hall 2, 3F)

Design Manufacturing Lubrication and Reliability

Hosts: Fan Liyun, Zhao Jianhui

**08:30-08:50**  
Failure Mechanism and Visualisation of Cylinder Liner Cavitation in Internal Combustion Engines  
Li Guoxing Taiyuan University of Technology

**08:50-09:10**  
Developing Progress of Used Oil Low-Speed Pre-Ignition (UOLSPI) Test  
John Sparrow Intertek Automotive Research

**09:10-9:30**  
Application of 3D Printing Technology in Engine Parts Design and Manufacture  
Zhao Hao Shandong Shuanggang Technology Co., Ltd.

**09:30-09:45**  
Internal Combustion Engine and Powertrain Research and Technology at IFToMM: An Overview  
Tigran Parikyan IFToMM

**09:45-10:00**  
Effect of Valve Spring on Abnormal Wear of Gas Engine Valves  
Li Mingxiao CNPC Jichai Power Equipment Company

**10:00-10:15**  
Mechanism Analysis of Heavy Duty Diesel Engine Oil Viscosity Increase Induced by Soot  
Yang Guofeng Shanghai Jiao Tong University

10:15-10:30  
Tea Break

**10:30-11:00**  
Performance Analysis of an Upscaled Linear Engine Generator Fueled with Ammonia-Hydrogen  
Dawei Wu University of Birmingham

**11:00-11:15**  
Stress Analysis of Piston Top Surface Based on SiC Particle Composite Coating  
Liu Yuwei China University of Mining and Technology (Beijing)

**11:15-11:30**  
Research on the Characterization Method and Mechanism of Cracking Tendency in the Overlay Welding Layer of Gas Valve Cone Surface  
Zhu Feng CSSC Shanghai Marine Diesel Engine Research Institute

**11:30-11:45**  
Study on the Variation Law of Fuel Injection Stability of Common Rail Injector  
Chen Xiaohuan China North Engine Research Institute

**11:45-12:00**  
Analysis of the Development of Future Power and Its Demand for Intake Air Filtration  
Li Minghua China North Vehicle Research Institute

**12:00-12:15**  
Parameter Study on Dynamic Fatigue Strength of Crankshaft  
Li Wenda CSSC Marine Power Engineering Institute Co., Ltd.

Wuhan Hydrogen Energy Engineering Institute Hall (Congress Hall 3, 4F)

Fuel Cells and Energy Storage

Hosts: Jiao Kui, Ma Xiao

**08:30-09:00**  
Research Status and Application Progress of Hydrogen Storage Technology in Fuel Cell  
Liu Qiang (specially invited) The 712th Research Institute of China State Shipbuilding Corporation

**09:00-09:30**  
Cycle Analysis of Automotive Liquid Hydrogen Fuel Based on the GREET Model  
Zhang Caizhi Chongqing University (specially invited)

**09:30-10:00**  
Theories, Methods and Concepts of Energy Storage  
Issam SALHI (Invited) Technical University of Belfort-Montbellia, France

10:00-10:30  
Tea Break

**10:30-10:45**  
Interaction Between Fuel Cell and DC/DC Interleaved Boost Converter with Coupled Inductors  
Meryem Benzine Technical University of Belfort-Montbellia, France

**10:45-11:00**  
Effect of Pore Structure and Thermal Conductivity of Gas Diffusion Layer on PEMFC Performance and Improvement Method  
Wang Jianan The 712th Research Institute of China State Shipbuilding Corporation

**11:00-11:15**  
Study on Electrode Design of PEM Fuel Cell with Cross-Scale 3D Modeling Method  
Xie Biao Tianjin University

**11:15-11:30**  
Analysis of NH3 Catalytic Reaction Kinetics and Heat-Mass Transfer in SOFC Anode  
Ni Shidong/Wei Shengli Jiangsu University

**11:30-11:45**  
Catalyst Design for High-Performance Seawater Batteries under Lean-Oxygen Condition  
Zhang Chen Tianjin University



April 21, 2024 Afternoon (Sunday)

# ■ Technical Sessions Reports

Great Wall Hall (Medium Theater, 1F)

Transportation Energy and Intelligent Power

Hosts: Xie Hui, Long Wuqiang

<b>13:30-13:50</b> The Global Trends for Automotive Powertrain Development Qiao Jun                      United Kingdom R&D Center of Changan Automobile	<b>13:50-14:10</b> Research on Energy Management Optimization for NEV Su Jianye                      Controller System Engineering Division of United Automotive Electronic Systems Co., Ltd.
<b>14:10-14:30</b> The Effect of Electric Compound Turbocharging on the Performance of a High-Speed Diesel Engine Zhang Yan                      China North Engine Research Institute	<b>14:30-14:45</b> Study on Fuel Stratification Active Control of Ammonia Marine Engine Based on Reforming Assisted Jet Ignition Li Zhuohang                      Shanghai Jiao Tong University
<b>14:45-15:00</b> Effect of Excess Air Ratio on the Combustion and Flame Characteristics of Diesel-Hydrogen Dual-Fuel Combustio Mode Li Xiao                      Shanghai Marine Diesel Engine Research Institute	<b>15:00-15:15</b> The Design of Hot Gas Engine for Variable Temperature Heat Source Wu Tengma                      Jiangnan Shipyard (Group) Co., Ltd.
<b>15:15-15:30</b> Numerical Simulation Study on Combustion Characteristics of High Load Hydrogen Ammonia Premixed Ignition Engine Yu Zining                      Tianjin University	<b>15:30-16:00</b> <b>Tea Break</b>
<b>16:00-16:15</b> WinGD 2-Stroke Engines and Solutions — Key Enablers for the Decarbonization of International Shipping Sebastian Hensel                      WinGD	<b>16:15-16:30</b> Transient Control Strategy of Port Fuel Injection Lean Burn Turbocharged Hydrogen ICE Ma Ning                      Beijing Institute of Technology
<b>16:30-16:45</b> Study on the Measurement Method and Influencing Factor Analysis for Relative Torsion Angle of Crankshaft Hu Longyu                      College of Energy and Power Engineering, Shandong University	<b>16:45-17:00</b> Research on Multi-Objective Speed Planning for an Electric Vehicle Considering Traffic lights Li Jian                      United Automotive Electronic Systems Co., Ltd.
<b>17:00-17:15</b> The Construction of Marine Diesel Engine Model and Multi-objective Optimization of Performance Based on CNN-GRU Hu Deng                      Harbin Engineering University	<b>17:15-17:30</b> Optimization of Dynamic Energy Management for PHEV with Cloud-Vehicle Collaboration Under Limited Information Chen Daxin                      Tianjin University
<b>17:30-17:45</b> Artificial Intelligence in Powertrain Development: Methods and Practices Yang Qirui                      Institute for Vehicle Engineering and Propulsion Systems, Stuttgart, Germany	<b>17:45-18:00</b> Simulation and Algorithm Design of Following Control for Heterogeneous Vehicle Platoon Systems Lei Junteng                      Harbin Institute of Technology (Weihai)
<b>18:00-18:15</b> The Development of Adaptive Equivalent Fuel Consumption Minimization Strategy Improved by Dynamic Programming for Multi-Mode Hybrid Power Bus Han Mengwei                      Dalian University of Technology	<b>18:15-18:30</b> Physics-Informed Data-Driven Modeling Approach for Commuting-Oriented Hybrid Powertrain Optimization Lei Nuo                      Tsinghua University

Rianlon & Kangtai Hall (International Congress Hall, 3F)

Efficient Clean Combustion

Hosts: Hu Bozong, Luo Hongliang

<b>13:30-13:50</b> Controllable Reaction Pathway Combustion Theory and Key Technology of Internal Combustion Engines Wang Hu                      Tianjin University	<b>13:50-14:10</b> Study of Active Pre-chamber Jet Ignition Based on Synergy of Airflow to Achieve 53% Indicated Thermal Efficiency for Hybrid Engines under Lean Burning Conditions An Yanzhao                      Tianjin University
<b>14:10-14:30</b> Experimental Study on Ignition of Large Cylinder Bore Gas Engine Zhang Wei                      Shaanxi Diesel Engine Heavy Industry Co., Ltd.	<b>14:30-14:45</b> Utilizing Ethanol to Enable the Incorporation of Additional Renewable Hydrocarbon Streams Li Weizi                      Shell
<b>14:45-15:00</b> Numerical Simulation Study on the Effect of Deflection Angle of Intake Pipe and Shape of Intake Port on Intake Process and Combustion Characteristics of a Cycloidal Rotary Engine Zhu Hongzhang                      Kunming University of Science and Technology	<b>15:00-15:15</b> Experimental Study on Combustion and Emission of Marine Methanol/Diesel Dual Fuel Engine Guo Zongwei                      Harbin Engineering University
<b>15:15-15:30</b> Experimental Study of Ammonia-Diesel Dual Fuel Combustion in a Heavy-Duty Engine Enshen Lu                      Brunel University, United Kingdom	<b>15:30-15:45</b> <b>Tea Break</b>
<b>15:45-16:00</b> Utilization of Hydrogen and Hydrogen Mixtures for Power Generation with Gas Engines - Experience and Outlook of Process Gases from Iron and Steel Industry Herdin Günther                      INNIO Jenbacher GmbH & CO KG	<b>16:00-16:15</b> Hydrogen Engine Combustion Solution Emmanuella SOTIROPOULOU                      Prometheus Applied Technologies
<b>16:15-16:30</b> Experimental Study on Improving Cold Start Performance of Diesel Engines at Low-Temperature and High-Altitude Environments with Diethyl Ether and Nanoparticles Sun Hao                      Shanghai Jiao Tong University	<b>16:30-16:45</b> Effect of Primary Hole Parameters on Recirculation Structure and Outlet Characteristics of aTwo-stage Swirl Combustor Fu Xueqing                      China North Engine Research Institute
<b>16:45-17:00</b> Advancing Combustion Research with Deep Learning: Image Processing for Spherical Premixed Flame Cellular Structures GENGXIN ZHANG                      University of Birmingham, United Kingdom	<b>17:00-17:15</b> Hydrogen Engine Insights: A Comprehensive Experimental Examination of Port Fuel Injection and Direct Injection Mohamed Mohamed                      Brunel University, United Kingdom
<b>17:15-17:30</b> Evaluation of an Ammonia Improvement System Using an Ammonia and Diesel Dual Fuel Engine Yuki Shimizu                      Daihatsu Diesel Co., Ltd.	<b>17:30-17:45</b> Prediction of Performance and Emissions for a Turbocharged Hydrogen Internal Combustion Engine Based on Machine Learning Chen Kai                      Beijing Institute of Technology
<b>17:45-18:00</b> Study on Similarity o Characteristics of Turbulent Jet by Active Pre-chamber Wu Zehao                      Shanghai Jiao Tong University	<b>18:00-18:15</b> Study on the Quantification Evaluation Method for Stable Operation Boundary of the Main Two-Stroke Aviation Piston Engines Han Zhiqiang                      Xihua University

Act-blue & Taizhou Saite Hall (Congress Hall 1, 3F)

Carbon neutrality and emission control of internal combustion engine

Hosts: Chen Jian, Wang Pan

<b>13:30-13:50</b> Heavy Duty Diesel Particulate Filter Technology Trend Ding Ning                      Corning Incorporated	<b>13:50-14:10</b> Research Progress of Key Technologies for Emission Control of Diesel Vehicles in the Next Stage Li Zhenguo                      China Automotive Technology and Research Center
<b>14:10-14:25</b> Effects of Ni Loading and Ce Doping on a Novel CaO-Based Dual Function Material for Integrated Carbon Capture and In-Situ Methanation Li Linjia                      Shanghai Jiao Tong University	<b>14:25-14:40</b> Investigation of Preprocessing Method for NOx Prediction of Commercial Vehicles based on BP Neural Network Xu Jialin                      Harbin Institute of Technology (Weihai)
<b>14:40-14:55</b> Performance Characterization of Pd-SSZ-13 as Passive NOx Adsorption Material for Diesel Engines Xinyang Wang                      King Abdullah University of Science and Technology	<b>14:55-15:10</b> NSGA-III Combined with ISOA-BPNN for Multi-objective Optimization of Diesel Particulate Filter Regeneration Conditions to Reduce Emissions and Fuel Consumption Wang Yuhua                      Kunming University of Science and Technology
<b>15:10-15:25</b> Research on Simultaneous Test Method of Emissions and Fuel Consumption of Heavy Duty Gasoline Vehicles under Cold Start Han Ronggang                      CATARC Automotive Test Center (Tianjin) Co., Ltd.	<b>15:25-15:45</b> <b>Tea Break</b>
<b>15:45-16:00</b> Experimental Study on Transient Filtration Characteristics of Diesel Particulate Filter and Structure Optimization Deng Huan                      School of Automotive and Transportation Engineering, Xihua University	<b>16:00-16:15</b> Rotor Dynamic Design and Stability Analysis of Electrically Assisted Turbocharger Duan Baoyin                      Harbin Engineering University
<b>16:15-16:30</b> Effect of Catalyst Coating Strategy on the Performance of Selective Catalytic Reduction Catalysts Integrated into Diesel Particulate Filters (SDPF) Technology Yang Xiaomei                      Tongji University	<b>16:30-16:45</b> Sensitivity Assessment of Emission Boundary Conditions for Hybrid Electric Vehicles and Fuel Vehicles Du Baocheng                      Chongqing University
<b>16:45-17:00</b> NO2 Ratio Prediction Model Development for Low NOx Emission Aftertreatment Li Jincheng                      Tianjin University	<b>17:00-17:15</b> The Effect of Internal EGR on the Thermal Management Performance of Diesel Engine Exhaust at Medium Load Dou Wenzheng                      Shandong University
<b>17:15-17:30</b> Characterizing Urban Road CO2 Emissions: A Study Based on GPS Data from Heavy Diesel Trucks Xu Jiachen                      Southwest Forestry University	<b>17:30-17:45</b> Transient NOx Emission Prediction of Non-road Mobile Diesel Engine Based on LSTM Neural Network Zeng Wen                      China Machinery International Engineering Design & Research Institute Co., Ltd.
<b>17:45-18:00</b> Experimental Research on Diagnostic Method of Hydrocarbon Trap Performance Anomaly Based on WLTC and CLTC Mode Li, Hai                      Dongfeng Nissan Technology Center	<b>18:00-18:15</b> Study on SDPF Catalytic Technology for Light-duty Vehicle Diesel Engine Aftertreatment Zhou Zhou                      Shanghai Jiao Tong University
<b>18:15-18:30</b> Modeling Urea Deposit Risk Prediction of Diesel Engine SCR System Zhao Haiyang                      Shandong University	

Shuanggang Piston Hall (Congress Hall 2, 3F)

Design Manufacturing Lubrication and Reliability

Hosts: Liang Gang, Li Yuqiang

<b>13:30-13:50</b> Research on the Effect of Power Output Modes on Kinematics and Combustion Characteristics of Opposed Rotary Piston Engine Gao Jianbing                      Beijing Institute of Technology	<b>13:50-14:10</b> Research on Flow Control Technology of High Pressure Oil Supply System Wang Ziman (specially invited)                      Beijing Institute of Technology
<b>14:10-14:30</b> Vibration, Tribology, and Thermal Coupling Analysis of Engine Friction Pairs Cui Yi                      Shanghai Jiao Tong University	<b>14:30-14:45</b> Using MSA Technology to Reduce the Manufacturing Cost of Precise Coupled Parts Wang Chunhua                      China FAW Wuxi Oil Pump & Nozzle Research Institute
<b>14:45-15:00</b> Numerical Analysis of Axial Force in Diesel Engine Shaft System Based on Longitudinal and Transverse Vibration Coupling Method Ye Bin                      CSSC Shanghai Marine Diesel Engine Research Institute	<b>15:00-15:15</b> Failure Load Prediction of Key Parts of Internal Combustion Engine Based on DSA-BP Neural Network Zeng Qinglong                      Yuchai Machinery Co., Ltd.
<b>15:15-15:30</b> Study on the Synergistic Tribological Properties of Molybdenum Dithiocarbamate Combining with Ashless Dispersant in Engine Oil Wang Liping                      Wuxi PetroChina Lubricant Co., Ltd	<b>15:30-15:45</b> <b>Tea Break</b>
<b>15:45-16:00</b> Evaluating of Vibration Cavitation in Cylinder Liners Caused by Piston Slaps Liu Dong                      Taiyuan University of Technology	<b>16:00-16:15</b> Rotor Dynamic Design and Stability Analysis of Electrically Assisted Turbocharger Duan Baoyin                      Harbin Engineering University
<b>16:15-16:30</b> Analysis and Solution to the Problem of Uncontrolled Chamfer Depth Size of Cylinder Head Oil Scale Hole Based on SPC Qian Jun                      Shanghai Volkswagen Powertrain Co., Ltd.	<b>16:30-16:45</b> Research on The Effect of Cylinder Liner Pre-compensation Design on Friction Pair Seal and Wear Xu Yuchen                      Kunming University of Science and Technology
<b>16:45-17:00</b> Effects of Integrated DOC+CDPF+SCR Aftertreatment on Regulated and Unregulated Emission Characteristics of Methanol/Diesel RCCI Engine Liang Wenwen                      Jiangsu University	<b>17:00-17:15</b> Experimental Study on the Factors Affecting the Bolt Torque of Variable Compression Ratio Connecting Rod Hao Lina                      Construction Industry Group (Yunnan) Co., Ltd.
<b>17:15-17:30</b> Research on Lubrication Pressure and Shear Flow Factors Based on Lattice Boltzmann Method Wang Tianqi                      Hebei University of Technology	<b>17:30-17:45</b> Characteristics of the Transition from Streamer Discharge to Filament Discharge in the Pressure Range of Engine Application Hu Yong                      Shandong University
<b>17:45-18:00</b> TEHD Coupling Model of 3D PRCL System Based on Finite Element Method Gao Lining                      Shanghai Jiao Tong University	<b>18:00-18:15</b> Effect of Ammonia on the Physicochemical Properties Trans-formed and the Tribological Performances of In-cylinder Lubricating Oil Xu Xing                      Harbin Engineering University
<b>18:15-18:30</b> Optimization Design o Low Loss and High Stability Radial Bearing for Marine High Flow Turbocharger Shenhua                      Chongqing Jiangjin Shipbuilding Heavy Industry Co., Ltd.	

Wuhan Hydrogen Energy Engineering Institute Hall (Congress Hall 3, 4F)

Fuel Cells and Energy Storage

Hosts: Zhang Chen, Zhang Caizhi

<b>13:30-14:00</b> Prevention and Control of Heat Damage to Power Battery System for New Energy Vehicles Rao Zhonghao                      Hebei University of Technology (specially invited)	<b>14:00-14:30</b> Research on Metal Supported SOFC System for Vehicle Powertrain Ma Xiao (specially invited)                      Tsinghua University
<b>14:30-15:00</b> Research and Application of Immersion Cooling Technology Wang Huijuan (specially invited)                      Lanzhou Lubricant R&D Center of PetroChina Lubricant Company	<b>15:00-15:15</b> Research on Transient Response of Commercial-Size PEMFC Under Varying Load with Local Current Density Analysis Ma Yunyang                      Tongji University
<b>15:15-15:30</b> Effects of Lithium Source on Flame-Assisted Spray Pyrolysis for the Preparation of Nickel-Rich Ternary Cathode Materials LiNi0.8Co0.1Mn0.1O2 for Energy Storage Lithium-Ion Batteries Wang Junlei                      Tianjin University	<b>15:30-15:45</b> Study on the Effect of Block Structure on Water Transport and Mass Transfer Performance in PEMFC with U-Shaped Flow Field Chen Yuan                      Hebei University of Technology
<b>15:45-16:00</b> <b>Tea Break</b>	
<b>16:00-16:15</b> Investigation on the Two-phase Flow and Temperature Distribution Characteristics of Large-scale Alkaline Electrolysers Deng Qingpeng                      Xi' an Jiaotong University	<b>16:15-16:30</b> The Study of Fabricating Integrated Membrane Electrode Assemblies and its Performance on Ji Zhaoqi                      Harbin Institute of Technology (Weihai)
<b>16:30-16:45</b> Study on the Influence of Balance Orifices Structure on the Performance and Thrust of Hydrogen Fuel Cell Air Compressor Wang Jing                      Chongqing Jiangjin Shipbuilding Heavy Industry Co., Ltd.	<b>16:45-17:00</b> Influence of Anode Off-Gas Recycle on Middle Temperature Solid Oxide Fuel Cell Coupled with Partial Oxidation Reforming Han Yuhao                      Shandong University
<b>17:00-17:15</b> Research on Energy Efficiency Optimization of Large Cruise Ship Based on Power Battery Ma Shengping                      Harbin Engineering University	<b>17:15-17:30</b> Pore-Scale Study of Two-Phase Flow and Reactive Transport in Gradient Porosity Gas Diffusion Layer Li Qifeng                      Tianjin University
<b>17:30-17:45</b> Numerical Simulation and Experimental Study of Liquid Water Transport in Perforated Gas Diffusion Layer Lan Shunbo                      Tongji University	<b>17:45-18:00</b> Pore-Scale Study of Liquid Water Freezing in the Porous Skeleton of Fuel Cell Gas Diffusion Layer Xu Sheng                      Jiangsu University
<b>18:00-18:15</b> Revealing Proton Transfer Mechanisms at Triple Phase Boundary in Fuel Cells using AIMD Li Lincai                      Tianjin University	

April 22, 2024 morning (Monday)

# ■ Technical Sessions Reports

Great Wall Hall (Medium Theater, 1F)

Transportation Energy and Intelligent Power

Hosts: Xu Hongming, Song Kang

**08:30-08:50**  
How Will Machine Learning Work for the Design and Application of Future IC Engines?  
Xu Hongming      University of Birmingham

**08:50-09:10**  
Energy Management Strategy for Connected HEVs and Development of Traffic Simulation Platform  
Tatsuya Kuboyama      Chiba University (Japan)

**09:10-9:30**  
Hybrid Electric Vehicle Development Based on Engine Test Bench and Vehicle Simulation Platform  
Liu Yuguo      Suzhou ITI Motor Technology Co., Ltd.

**09:30-09:45**  
Research on Optimization of Starting Plan for Diesel Electric Power Unite  
Wang Guoying      China North Engine Research Institute

**09:45-10:00**  
Research on Cooling System Integration and Control Strategy for Extended Range Electric Vehicles  
Qiu Yue      Kunming University of Science and Technology

**10:00-10:15**  
Diesel-electric Hybrid System Performance Degradation Diagnosis and Fault-tolerant Control  
Fan Wenhao      Beijing Institute of Technology

**10:15-10:30**  
Optimal Energy Management Approaches for Hybrid Electric Transportation  
Traffic Information      Tianjin University

**10:30-11:00**  
**Tea Break**

**11:00-11:15**  
Development of a New Generation of Marine Intelligent Medium-Speed Diesel Engine  
Yang Tao      CSSC Shanghai Marine Diesel Engine Research Institute

**11:15-11:30**  
A Novel Sensorless Position Sensing for Free-piston Engine Generation Using Observation Coil  
Yang Fengyuan      Beijing Institute of Technology

**11:30-11:45**  
Study on the Improvement of the Power of a Deep Miller Cycle Engine in High Ambient Temperature Environments and Plateau Environments  
Li Rui      Beijing Automotive Technology Center Co., Ltd.

**11:45-12:00**  
**Value Iteration Algorithm-based Energy Management Strategy for Hybrid Electric Vehicles**  
Fuguo XU      Chiba University

**12:00-12:15**  
Steady and Transient Performance of a Diesel Engine with a Two-Stage Turbocharging System at Different Altitudes Based on Predictive Regulation Model  
Lukambo      Shanghai Jiao Tong University

**12:15-12:30**  
Hydrogen Energy Industry and Dongfeng Hydrogen Engine Application Development  
Zhang Shemin      Technical Center of Dongfeng Motor Corporation

Rianlon & Kangtai Hall (International Congress Hall, 3F)

Efficient Clean Combustion

Hosts: An Yanzhao, Li Yuqiang

**08:30-08:50**  
Low/Zero Combustion for ICE: Pre-chamber Turbulent Jet Ignition  
Zhou Lei      Tianjin University

**08:50-09:10**  
Research on Zero-Carbon Combustion Technology of Low-speed Marine Engine under Diesel Cycle Mode  
Wang Yang      Harbin Engineering University (Youth Project of Chinese Association for Science and Technology)

**09:10-9:30**  
Study on Combustion Route of Hydrogen/Ammonia Internal Combustion Engine for Commercial Vehicle  
Yin Yong      Dongfeng

**09:30-09:45**  
Research on the Jet Ignition Mechanism of PJI Engine Fueled with Ammonia-Hydrogen  
Zhao Ziqing      Civil Aviation University of China

**09:45-10:00**  
Study of the Combustion Characteristics of Ammonia/Hydrogen Fuel Jet Ignition in Marine Engines  
Wei Shengli      Jiangsu University

**10:00-10:15**  
Unveiling the Complexity in SOFC Off-Gas Utilization: Conversion Boundaries, Flame Dynamics, Emission Characteristics, and Kinetic Modeling  
Cui Yanqing      Hong Kong Polytechnic University

**10:15-10:30**  
Investigation of High Compression Ratio Premixed-Diffusion Cooperative Combustion (PDCC) Mode for Low-Speed Dual-Fuel Engine  
Cao Jianlin      Dalian University of Technology

**11:30-11:00**  
**Tea Break**

**11:00-11:15**  
Study on Combustion and Emission Characteristics of Engines with Ammonia-Hydrogen Mass Ratio and Equivalence Ratio  
Liu Jiajia      Tianjin University

**11:15-11:30**  
Experimental Study for the Effect of Multi-Site Spark Ignition on the Dedicated Hybrid Engine Performance under High Dilution Condition  
Yan Bowen      Chongqing Changan Automobile Co., Ltd. (Academic Youth Program)

**11:30-11:45**  
Mechanism Study of the Effect of Wall Intervention on Spray Ignition Characteristics  
Ouyang Qiming      Kunming University of Science and Technology

**11:45-12:00**  
**Optimization of Hidden Layer Nodes for Spray Penetration Prediction Using a Neural Network**  
Dawei Wu      University of Birmingham, United Kingdom

**12:00-12:15**  
Simulation Study of Tail Injection Ratio Effect on Combustion Characteristics of Sparked-Spray Induced Combustion  
Li Minglong      Tongji University

**12:15-12:30**  
**The Influence of the Ambient Density on Spray Combustion: A Large-Eddy Simulation Study**  
Feng Yizhuo      Brunel University, London

Act-blue & Taizhou Saite Hall (Congress Hall 1, 3F)

Carbon neutrality and emission control of internal combustion engine

Hosts: Ping Tao, Liang Xingyu

**08:30-08:50**  
Study on High Pressure Injection System of Methanol-Diesel Dual Fuel for Marine Medium and High Speed Internal Combustion Engine  
Jin Jiangshan      CSSC Shanghai Marine Diesel Engine Research Institute

**08:50-09:10**  
Engine Combustion Technology with Ultra-High Ammonia Substitution  
Han Dong      Shanghai Jiao Tong University

**09:10-9:25**  
The Research on VGT Opening Control Strategy of the High-Thermal Efficiency and High-Power Direct Injected Hydrogen Engine  
Lai Fengyu      Beijing Institute of Technology

**09:25-09:40**  
**Decarbonisation Paths and Solution for Large Engines**  
Jens Olaf Stein      Robert Bosch AG

**09:40-09:55**  
Study on the Application of Port Injected Methanol Ignited by Directly Injected Diesel Mode in a Marine Engine  
Ma Yue      Shanghai Marine Diesel Engine Research Institute

**09:55-10:10**  
Study on the Effect of Pre-Injection Strategy on the In-Cylinder Working Process and Emission Performance of Ammonia/Diesel RCCI Engine  
Wang Xidong      Jiangsu University

**10:10-10:25**  
Study on Compression Combustion Characteristics of Premixed Hydrogen-ammonia Fuel in Low-speed Marine Engine with Large Cylinder Diameter  
Liu Haoyu      Harbin Engineering University

**10:25-10:40**  
**Tea Break**

**10:40-11:00**  
Study of Immobilised Carbonic Anhydrase and Its Performance in Carbon Capture  
Li Xiaobo      CSSC Shanghai Marine Diesel Engine Research Institute

**11:00-11:15**  
Study on Non-equilibrium Plasma Assisted Ammonia Ignition  
Zhang Mingming      Beijing Jiaotong University

**11:15-11:30**  
Adaptation of Cu-SSZ-13 Catalysts to Ammonia-Hydrogen Fueled Engines in a Raw Discharge Environment  
Fu Yi      Zhejiang University

**11:30-11:45**  
Electrically Driven Ammonia Decomposition: An Approach without External Heating to Efficient Hydrogen Production  
Wang Xiaochao      Shanghai Jiao Tong University

**11:45-12:00**  
Emission Characterization of Coaxial Layered Injection Combustion of Methanol-Diesel in Marine Engine  
Meng Lingchao      Harbin Engineering University

**12:00-12:15**  
High Efficiency Catalytic Oxidation of Low Concentration Methane at 200 °C by Electric Field  
Xiao Fei      CSSC Shanghai Marine Diesel Engine Research Institute

Shuanggang Piston Hall (Congress Hall 2, 3F)

Design Manufacturing Lubrication and Reliability

Hosts: Lu Zhen, Wang Zhen

**08:30-08:50**  
Research on the Application of Liquid Carbon and Nitrogen Co-Infiltration and Ultrasonic Rolling Composite Surface Treatment Technology in Engine Parts  
Ma Yong      Ningbo Geely Luoyou Engine Parts Co., Ltd.

**08:50-09:10**  
Research on the Application of High-Performance Thermal/Environmental Barrier Coatings  
Fei Chunguang      Wuhan University of Technology

**09:10-9:30**  
Research on Lubrication Technology for Alcohol Hydrogen Engine  
Jin Lili (specially invited)      PetroChina Lubricant Company

**09:30-09:45**  
Analysis and Structure Optimization of Intake Pipes Bracket Based on Vibration Fatigue  
Jin Yushan      CSSC Shanghai Marine Diesel Engine Research Institute

**09:45-10:00**  
Study on Thermal Fatigue Evaluation Method and Feasibility of Internal Combustion Engine Piston Based on Induction Heating  
Xiong Peiyou      Shanghai Jiao Tong University

**10:00-10:15**  
Study of Wear Performance on Marine Cam Pair under Mixed Lubrication  
Hua Deliang      Harbin Engineering University

**10:15-10:30**  
Research on Thermal Fatigue Test and Life Prediction of Aluminum Alloy Piston  
Yan Jie      Beijing Institute of Technology

**10:30-11:00**  
**Tea Break**

**11:00-11:15**  
Study and Analysis of Durability Cracking of the Bearing Seat in an Engine Block  
Xu Zhuhua      Dongfeng Honda Engine Co., Ltd.

**11:15-11:30**  
Research on Swirl Combustion System Parametric Design and Combustion Characteristics of Opposed-Piston Two-Stroke Diesel Engine  
Zhang Lu      Beijing Institute of Technology

**11:30-11:45**  
Study on Thermal Failure of Diesel Engine Cylinder Head Based on Viscoplastic Simulation  
Zhang Huabing      CSSC Shanghai Marine Diesel Engine Research Institute

**11:45-12:00**  
Research on the Calculation Method of Oil Film Characteristics in Marine Diesel Engine Sliding Bearings  
Chen Chao      Harbin Engineering University

**12:00-12:15**  
Study of the Anti-seize Performance of Diesel Engine Connecting Rod Bearings  
Du Fengming      Dalian Maritime University

**12:15-12:30**  
Fatigue Life Prediction Under Coupled Analysis of Diesel Engine Timing Gear Shaft System Vibration Characteristics and Three-Dimensional Hybrid Lubrication  
Sun Wen      Harbin Engineering University

Wuhan Hydrogen Energy Engineering Institute Hall (Congress Hall 3, 4F)

Modern Power

Hosts: Wang Zhi, Ma Xiao

**08:30-08:50**  
Intelligent Control of Internal Combustion Engines Based on Multi-Scale Uncertainty Observation and Learning  
Song Kang      Tianjin University

**08:50-09:10**  
Advanced Lubrication Technology for Electrical Driveline System of New Energy Vehicle  
Jin Zhiliang      PetroChina Lubricant Company

**09:10-9:30**  
Testing and evaluation technology of special lubricating oil for hybrid electric vehicles  
Warren      Suzhou Automotive Research Institute of Tsinghua University

**09:30-09:50**  
Research on Special Fuel Development Technology  
Sun Yuncai      Shandong Chambroad New Energy Holding Development Co., Ltd.

**09:50-10:10**  
Effects of Zero-Carbon Fuels on Large Engine Turbochargers  
Hu Bozong      Accelleron Turbo Systems (Chongqing) Limited

**10:10-10:30**  
State-of-the-Art in Ammonia-Diesel Engines  
Qi Yunliang      School of Vehicle and Mobility, Tsinghua University

**10:30-11:00**  
**Tea Break**

**11:00-11:20**  
Research on Key Technologies of Independent Advanced Aftertreatment System for Diesel Engine in the Next Stage  
Zhu Lei, Luan Hao      Kailong High Technology Co., Ltd.

**11:20-11:40**  
Development of hybrid special engine turbocharger  
Xie Mingzhao      Garrett China

**11:40-12:00**  
Development of the Leishen Hybrid System  
Liu Guoqing      Ningbo Geely Luoyou Engine Parts Co., Ltd.

**12:00-12:20**  
Technological Status and Development Prospect of Commercial Vehicle Power System  
Chen Xiaoxun      Dongfeng Commercial Vehicle Technical Center



Poster Contents

ID	Paper Title	First author	First author' s affiliation
2084	Engine Off-line Calibration based on Reinforcement Learning Technology	Xiuyong Shi	Tongji University
2115	Research on comprehensive evaluation method of nanofilter materials for automobile ICEs	Yuwen Wang	Pingyuan Filter Co., Ltd.
2122	Full-automatic Drainage Technology of Vehicle Oil-water Separator	Chen Yongqiao	Shanghai Fleetguard Filter Co., Ltd.
2125	Application Research on Injection Control System of a New Type Marine Methanol Fuel Engine	Zhang Yanpeng	CSSC Marine Power Engineering Institute Co., Ltd.
2135	Study on Variation Trend of PN Emission in Extreme Environment	Zhen Lei	Weichai Power Co., Ltd.
2136	Analysis and Research on High Temperature Failure of Passenger Vehicle Purifier	Chen Zhengguo	Wuxi Weifu Lida Catalytic Converter Co., Ltd.
2137	Experimental Study on Gasoline-Ammonia Combustion Characteristics of Prechamber Jet Ignition	Zhan Wenfeng	Auto Engineering Institute of Guangzhou Automobile Group Co., Ltd.
2141	Experimental study on combustion and emission characteristics under world harmonized steady state cycle fueled by fatty acid methyl esters and hydrogenated catalytic biodiesel/diesel blends	Tamilselvan Pachiannan	Jiangsu University, Zhenjiang
2145	Effect of diesel fuel volatility on spray, combustion, and emissions	Heng Wu	Jilin University
2157	Numerical study of the spray mixing and combustion in the near-wall region with thermal barrier coating	Tianyu Max	Chongqing Changan Automobile Co. Ltd,
2160	Internal Combustion Steam Engine	Wang Jie	
2166	Study on the Influence of Tilting and Rolling Condition to Seawater and Lubricating Oil System of Diesel Engine	Wu Yalong	Henan Diesel Engine Heavy Industry Co., Ltd.
2168	Effect of Methanol Staged Injection Strategy on Dual Direct Injection JCCI Mode Performance	Li Bo	Harbin Engineering University
2169	New supercharger to meet the multi-purpose requirements of high-speed diesel engine	Wang Weicai	Accelleron Turbo Systems (Chongqing) Limited
2173	Influence of Inlet Angle on the Flow Field and Combustion Characteristics in Cylinder of SDI Rotor Engine	Zou Run	North University of China
2174	Research Progress of Thermal Management Technology for Vehicle Fuel Cell System	Zhang Bao	Sunrise Power Co., Ltd.
2199	The influence of fuel injection strategy on the starting performance of a methanol spark ignition engine at 0°C	Hao Feng	GAC Automotive Research & Development Center
2214	Research on Hybrid Power System of Hydrogen Engine	Zhang Jinlong	Ningbo Geely Luoyou Engine Parts Co., Ltd.
2221	Load Expansion and Control of High Power Lean Burn Natural Gas Engine	Jiao Lianguo	Xi'an Kongtian Energy Power Intelligent Manufacturing Research Institute Co., Ltd.
2227	Construction and Verification of Mechanism for Gaseous Decomposition of N2O from Diesel Engine Exhaust and Heterogeneous Carbon Reduction of N2O	Li Zehong	Kunming University of Science and Technology
2229	Development of Marine Medium-speed Engine with Two Combustion Concepts: Methanol Port Injection and Direct Injection	Zhang Dongming	Shanghai Marine Diesel Engine Research Institute
2230	Analysis of In-cylinder Combustion Characteristics in Hydrogen/Oxygen Direct Injection Engine on Space Orbit	Chu Weisheng	Harbin Engineering University
2232	Parameter Optimization of the Effect on Combustion and Exhaust Emissions in Heavy Duty Diesel Engine Precombustor Jet Perturbation Combustion System	Lu Yingying	Nanjing Tech University
2238	Study on Variable Altitude Matching of Exhaust Bypass Valve in Adjustable Two-stage Turbocharging System	Zou Hao	Dalian CRRC Diesel Engine Co., Ltd.

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2239	Development of 3D all-vanadium redox flow battery model based on open source CFD	Gao Qingchen	Tianjin University
2240	Research on SOC Estimation for Multi-Innovation Unscented Kalman Filtering Algorithm Based on Fractional Order Model for Composite Power System	Xu Yonghong	Beijing Information Science and Technology University
2243	A Control Method for Starting of Miller Cycle Diesel Engine in Low Temperature Environment	Guan Minghua	Dalian CRRC Diesel Engine Co., Ltd.
2246	Cylinder Phase Compensation Technology of Marine Engine Based on EtherCAT Distributed Clock	Ke Shaoqing	CSSC Marine Power Engineering Institute Co., Ltd.
2249	Research on Influencing Factors and Evaluation Methods of Predictive Cruise Energy Saving Effect for Heavy-duty Commercial Vehicles	Zhao Jianfu	CATARC Automotive Test Center (Tianjin) Co., Ltd.
2252	Optimization of Cylinder Exhaust Temperature Nonuniformity for a Marine Dual-fuel Engine	Zhang Qi	CSSC Marine Power Engineering Institute Co., Ltd.
2253	Switching between SI and SPCCI Combustion Modes by ECU Bypass Control Technology	Zhang Zhiyong	Great Wall Motor Company Limited
2255	Research on Monitoring Method of In-cylinder Pressure in Diesel Engine Based on LSTM	Li Liangyu	North University of China
2256	Exhaust Smoke and Particulate Matter of High Pressure Methanol Direct Injection Combustion with Diesel Pilot Ignition at Medium or Low Load	Qian Zhaoyi	Tianjin University
2260	Study on Emission Control Strategy of High Power and High Speed Diesel Engine Meeting EU V Requirements	Tan Bowen	Dalian CRRC Diesel Engine Co., Ltd.
2269	Study on Combustion and Emission Performance of Ammonia-hydrogen Hybrid Engine	Sun Xiuxiu	Hebei University of Technology
2273	Analysis on the Influence Law of In-cylinder Flow on Combustion Performance	Wen Huan	North University of China
2274	CRRMS-Supercharger developed for inland coastal and fishing vessel applications in China	Hu Bozong	Shanghai Branch of Accelleron Turbo Systems (Chongqing) Limited
2279	Experimental Study on Evaporation and Transition Characteristics of Microemulsion Droplets	Yang Wei	North University of China
2288	Study on Fuel Quantity Characteristics of Electronically Controlled Injector with Wide Fuel Quantity for Low-Speed Engine	Xu Jing	Harbin Engineering University
2289	Fatigue Strength Analysis of Connecting Rod Assembly for Marine Low-speed Engine	Liu Shuaining	Harbin Engineering University
2293	Visualization Study and Simulation Analysis of High-Pressure Liquid Ammonia Spray Characteristics	Liu Yalong	Beijing Institute of Technology
2298	Analysis of transient lubrication and wear coupling behaviors considering thermal effect for main bearings under actual dynamic load	Rui Chen	Harbin Engineering University
2301	Study on effects of ethylene/acetylene blending on the stability of ammonia laminar diffusion flame by optical diagnostics and chemical kinetics	Changyou Yu	Jilin University
2317	Measurement and Simulation Analysis of Air-Fuel Ratio Inconsistency in Cylinders of Two Stroke Engine	Feng Yifang	Tianjin University
2327	A Study on the Measurement Method of Shafting Axial Clearance in Diesel Generator Set	Li Gang	Dalian CRRC Diesel Engine Co., Ltd.
2328	Optimal Design of PEMFC Transition Zone Structure	Zhao Ming	Shandong University
2330	Research on Combustion Chamber Design Optimization of Heavy-duty Highly Intensified Diesel Engine Based on Working Conditions	Li Chaofan	China North Engine Research Institute
2332	Effect of Different EGR Rates on Combustion and Emission Performance of Ammonia/Natural Gas Engine	Wang Binbin	Harbin Engineering University

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2336	Numerical Analysis of the Dynamic Characteristics for a High-flow Gas Injection Valve	Ran Yi	Shanghai Marine Diesel Engine Research Institute
2340	Study on Evaporation Characteristics of Emulsion Droplets from Methanol-Diesel under Different Conditions	Hu Jiakang	North University of China
2342	Study on Reduction of PM Emission by Dry-wet Compound Method for Mine Explosion-proof Diesel Engine	Wang Xiao	China Coal Technology & Engineering Group Taiyuan Research Institute Co., Ltd.
2344	Transient Control Strategy of Port Fuel Injection Lean Burn Turbocharged Hydrogen ICE	Ma Ning	Beijing Institute of Technology
2346	Introduction to Application of Cooling Oil in Three Fields	Cheng Liang	Guangdong Institute of Petroleum and Chemical Engineering
2348	Effect of Injection Strategy on Combustion Characteristics of Low-speed Marine Methanol/Diesel Dual Fuel Engine at Different Loads	Gao Xiaoliang	CSSC Marine Power Engineering Institute Co., Ltd.
2349	CO2 AND POLLUTANT EMISSION REDUCTION USING VARIABLE VALVE TRAIN SYSTEMS FOR DIESEL IN HEAVY-DUTY APPLICATIONS	P. Traversa	Schaeffler Technologies AG & Co. KG, Herzogenaurach, Germany
2351	Progress in Mixture Formation in modern H2-DI Engines	Olaf Weber	Schaeffler Technologies AG & Co. KG, Herzogenaurach, Germany
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2354	Influence of Different Data Starting Points on Emission and Dynamic Performance Verification of Hybrid Electric Vehicle	Yao Yangyu	Southwest Forestry University
2359	Multi-objective Optimization of Compression Ignition Aircraft Piston Engine Performance at Variable Altitude Based on the Kriging Model and NSGA-III	Sun Min	Kunming University of Science and Technology
2362	Study on Knock Characteristics of HPDI Natural Gas Engine with High Compression Ratio under Different Combustion Modes	Yang Shun	Kunming University of Science and Technology
2364	Effects of oxygenated fuels on the knock resistance of gasoline engine: A review	Leilei Liu	China University of Petroleum (East China)
2367	Formation and Tribological Properties Analysis of Tribofilm on Piston Ring and Cylinder Liner	Ge Chang	Harbin Engineering University
2368	Research on Joint Optimization of Economy and Emissions of Plug-in Hybrid Electric Vehicle Based on Equivalent Consumption Minimization Principle	Tang Dong	College of Automotive and Transportation Engineering, Jiangsu University
2369	Modelling and evaluating piston slap-induced cavitation of cylinder liners in heavy-duty diesel engines	Dong Liu	Taiyuan University of Technology
2370	Numerical simulation of zigzag flow channel performance in proton exchange membrane fuel cells	Du Changqing	Wuhan University of Technology
2379	Experimental Study on the Effect of n-Butanol on Combustion of Diesel and Biodiesel Blended Fuel with Constant Volume Incendiary Bomb	Yan Renxing	Central South University of Forestry and Technology
2381	Study on Flow Field Performance of Underwater PEMFC Based on Large Scale 3D Simulation	Liu Xueliang	Tianjin University
2384	Multi-objective Optimization of DMCC Engine Operation Parameters Based on GWO-SVM Regression Model	Wei Feng	Wuhan University of Technology
2385	Effect of Ignition Advance Angle and Ammonia Ratio on NOx Formation in Marine Ammonia/CNG Engine	Wei Wenwen	Wuhan University of Technology
2386	Research on Multi-objective Optimization and Cyclic Variation of Engine Performance Based on Automatic Machine Learning	Zhu Yizi	Jiangsu University
2387	Research on Temperature Management of Non-road China IV Diesel Engine with Range Extender After Treatment in Reach Stacker	Chen Turun	Guangxi Yuchai Machinery Co., Ltd.

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2390	Study on Evaporation Characteristics of Bulk Micro-nano Bubble Flow Premixed Fuel	XUAN Rong	Jilin University
2391	Research on Optimization Economy of Mining Truck Based on Gas Engine Matching Range Extender	Lv Jian	Guangxi Yuchai Machinery Co., Ltd.
2392	A Comprehensive Vehicle On-road Emission Detection Technology	Qin Zheng	Guangxi Yuchai Machinery Co., Ltd.
2393	Research on Test Method of Diesel Engine Oil Consumption for China VI Automobile Crane Application	Li Xingrong	Guangxi Yuchai Machinery Co., Ltd.
2395	Comparative study on three-dimensional simulation of distribution region in large size proton exchange membrane fuel cell	Liu Bohao	Tianjin University
2396	Study on Combustion Characteristics of Diesel/CNG Dual Fuel Engine Based on In-cylinder Mixture Active Reforming	Ji Shuaizhuang	Harbin Engineering University
2398	RECIPROCATING SLIDING FRICTION BEHAVIOR AND WEAR STATE TRANSITION MECHANISM OF CYLINDER LINER AND PISTON RING	Baofeng Zhang	Harbin Engineering University,
2405	Numerical Simulation of Otto Cycle Marine Ammonia Fueled Low Speed Engine under Different Factors	Zhao Junhong	CSSC Marine Power Engineering Institute Co., Ltd.
2409	Influence of Combustion Chamber Shape on In-Cylinder Flow and Combustion Process in CNG Engine with Equivalent Operation	Wake up	College of Automotive Engineering, Jilin University
2412	Study on Speed Control System of a New Type High-speed Marine Diesel Engine	Wang Peng	CSSC Marine Power Engineering Institute Co., Ltd.
2413	Effects of different hydrocarbon group components and different cetane number diesel on combustion and emission of compression combustion engine	HUANG Zhixiong	Tianjin University
2414	Effect of Sulfur Content and Cetane Number on the Exhaust Emissions from Marine Diesel Engine and Physical-Chemical Properties of Particulates	Li Tengteng	CATARC Automotive Test Center (Tianjin) Co., Ltd.
2417	Steady-state Performance Prediction of Fuel Cell System Based on MRMR Algorithm	Guo Bin	Shandong University of Science and Technology
2420	Prediction of Remaining Service Life for PEMFC Based on WOA-LSTM	Liu Qiang	Kunming University of Science and Technology
2421	Optimization Design of Novel Combined Flow Channel for Proton Exchange Membrane Fuel Cell	Li Yaozhang	Kunming University of Science and Technology
2423	Experimental Study on Spray Characteristics of Pin Type Injector	Liu Zhuoxin	Tianjin University
2424	Pore Network Simulation Study on the Effect of Gas Diffusion Layer Morphology on Mass Transport in Porous Media	Zhang Wei	Jiangsu University
2428	Research on Supercharging Control Strategy of 416L6 Marine Diesel Engine	Wang Zhengxiang	Harbin Engineering University
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2435	Characteristic Analysis of Lubricating and Sealing Ring Sets Considering Two-Dimensional and Three-Dimensional Ring Dynamics	Li Chen	Harbin Engineering University
2436	Development of M320DM-PFI Methanol Fueled Medium Speed Engine	Nie Haopeng	CSSC Marine Power Engineering Institute Co., Ltd.
2438	Effect of Cathode Channel Structure on Performance of Open-Cathode Proton Exchange Membrane Fuel Cell	Du Minyuan	Kunming University of Science and Technology
2439	Research on Low Load Cycle (LLC) Variable-load Emission of Heavy-duty Vehicles Oriented to China VII	Liu Zhiwei	CATARC Automotive Test Center (Tianjin) Co., Ltd.

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2445	Numerical Simulation of Thermal Management for PEM Fuel Cell Based on Mixed Nanofluid Coolant	Li Jie	Kunming University of Science and Technology
2446	Numerical Simulation of High Pressure Direct Injection Methanol Diffusion Combustion Based on Dual Direct Injection System	Xiahou Minghao	Tianjin University
2448	Optical Diagnosis of Flame Development and Soot Formation in Direct/Indirect Coal-Based Synthetic Diesel Fuel Liquefaction	Zhu Genan	College of Automotive Engineering, Jilin University
2450	Comparative Analysis on Physical and Chemical Properties of Various Domestic Fuels and Diesel Oil from Neighboring Countries	Zhang Xiaojin	China North Engine Research Institute
2453	Advances in Optimization Design of Sealing Connection Clamp for 600°C High Temperature and Pressure Exhaust Pipe	Jin Shuang	CSSC Shanghai Marine Diesel Engine Research Institute
2454	Development and Performance Analysis of a New Thermodynamic Cycle for High Power Density Marine Diesel Engine	Ma Jiawei	Harbin Engineering University
2455	Improvement of PEMFC Performance by Double-sided Overlapping Hydrogen Supply	Yang Hua	Kunming University of Science and Technology
2457	Study on the Effect of Ridged Air-cooled Fuel Cells on PEMFC Performance	Yang Xudong	Kunming University of Science and Technology
2467	Fatigue Reliability Evaluation Method of Engine Cylinder Head Based on Neural Network	Fu Yafei	Hebei University of Technology
2468	Structural Improvement Design of a Marine Diesel Engine Piston Based on Thermal-Mechanical Coupling Strength Analysis	Zhao Libin	Hebei University of Technology
2470	Performance Optimization of Methanol Engine Based on Quasi-dimensional Combustion Model	Fan Ruitao	Harbin Engineering University
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2473	Research on Digitalization of Diesel Engine Electronic Control System Based on Modelica Language	Zhou Yepei	Harbin Engineering University
2475	Effect of Dimethyl Carbonate Blending with Coal on Engine Combustion and Emission under Different Fuel Injection Strategies	Zheng Qihu	Guangxi University
2476	Effects of Combustion System Parameters on Combustion and Emission Characteristics of Commercial Vehicle Diesel Engine	Li Zhenzhuo	Kunming university of science and technology
2478	Effect of Heat Exchange Tube Array on Phase Change Heat Transfer in Solidified Lubricating Oil and Its Enhancement	Lei Jilin	Kunming University of Science and Technology
2480	Coronal Morphology and Splash Characteristics of a Single Liquid Droplet Impinging on a Low-Temperature Wall	Liang Na	No institution
2482	A wide-speed-adaptive sliding mode observer for the fuel cell air compressor	Tengyu He	Hebei University of Technology
2484	Lattice Boltzmann Study on the Influence of Interface Structure between Microporous Layer and Diffusion Layer on Liquid Water Transport in PEMFC	Wang Yulin	Tianjin University of Commerce
2487	Design and Optimization of Wave-parallel Flow Field Characteristic Structure for Large Size PEM Fuel Cell	Xu Wenzhen	Tianjin University
2488	Application and Development of Diesel Spray Theory in Methanol High Pressure Spray Analysis	Zhang Yifan	dalian university of technology
2489	Numerical Simulation of Cavitation in Cooling Water Jacket Considering Piston Dynamics	Wang Fuxin	Harbin Engineering University

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2494	Design and Optimization of Low Power Air-cooled PEMFC Stack	Lei Jilin	Kunming University of Science and Technology
2499	Study on Thermal Fatigue Life Prediction and Influencing Factors of Aluminum Alloy Piston in Diesel Engine	Wang Baojian	Kunming University of Science and Technology
2504	Adaptability of Heat Transfer Model in Hydrogen Engine	Liang Jiakun	Huazhong University of Science and Technology
2505	A Study on the Influence of Shape Parameter of Stepped Combustion Chamber on Heavy Duty Diesel Engines	Haichen Xu	Tianjin University
2508	Effect of Electrospinning Parameters on Structure and Oil-Water Separation Performance of Filter Media	Song Qiang	South China University of Technology
2509	CPGC M450DF-Development of Clean, Efficient and High Power Medium Speed Dual Fuel Series Engines	Song Yali	CSSC Marine Power Co., Ltd.
2510	Study on Modeling Method and Application of Tribological Dynamics for Three-Dimensional Piston Pin-Hole Swing Pair in Multi-Field Coupling Environment	Gao Lining	Shanghai Jiao Tong University
2511	Research on High Performance Modulation Technology of Diesel Engine	Zhang Wenle	Harbin Engineering University
2512	Performance Optimization of China VI Heavy-duty Vehicle Engines at Different Altitudes	Xie Libing	CATARC Automotive Test Center (Kunming) Co., Ltd.
2513	Surrogate Model and Optimization of Turbocharger Compressor Characteristic Map Based on Digital Twin	Yang Qirong	Harbin Engineering University
2520	Engine Main Bearing Wear Prediction and Reliability Analysis Model under Multi-source Uncertainties	Xu Zhaohui	Shanghai Jiao Tong University
2524	Research on Pre-ignition of Hydrogen Engine for Passenger Car/Light Commercial Vehicle	Sun Jian	Great Wall Motor Company Limited
2530	Rule-Based Energy Management Strategy Optimization for Fuel Cell Heavy Duty Commercial Vehicles	Zhao Ziliang	Shandong University of Science and Technology
2537	Effects of compression ratio on combustion stability and emission characteristics of natural gas/diesel RCCI engines	Wenyao Zhao	Jiangsu University
2541	Cross-scale Simulation of H2O and CO2 Co-electrolysis at High Temperature Based on SOEC	Li Ang	Shanghai Jiao Tong University
2542	Optimization of the orientated type flow channel of polymer electrolyte membrane fuel cell with genetic algorithm	Ping SUN	Jilin University
2545	Experimental and simulation study on NOx generation characteristics of PODE/methanol dual-fuel RCCI engine	Huabin Zhang	Jiangsu University
2547	Research on Multi-physical Field Coupling Model and Profile Optimization Design of Piston-cylinder Liner System	Liu Shuo	Shanghai Jiao Tong University
2548	Performance Simulation and Experimental Study of Valve-controlled Jet Ignition High Efficiency Gasoline Engine	Jia Dongdong	Hunan University
2549	Sustainability and Environmental Consumption Analysis of Diesel/n-Butanol Blends with Different Alcohol Energy Fraction in Heavy Duty Diesel Engine	Ma Qixin	Hunan University
2556	Experimental Study on Abnormal Combustion Phenomena and Laws of Hydrogen Engine	Zu Chaoyang	Huazhong University of Science and Technology
2557	Experimental Study on the Performance of Diesel Methanol Premixed Diffusion Combustion Mode	Wang Yang	Dalian University of Technology
2559	Effects of Heat Diffusion and Turbulence on Detonation Development of Hydrogen/air mixtures under Engine-relevant Conditions	Jiabo Zhang	Shanghai Jiao Tong University

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2572	Influence of Pin Hole Structural Parameters Design on Lubrication Characteristics of Steel Piston Bearing	Chen Jikun	Kunming University of Science and Technology
2573	Mechanism of C-N Coupling Reaction on Combustion Characteristics of NH3/Hydrocarbon Fuels	Liu Zechang	Beijing Institute of Technology
2577	Chemical Reaction Kinetics Analysis of the Effect of Hydrogen/Syngas on Methanol Combustion	Wang Yongjian	Dalian University of Technology
2579	Chemical kinetic analysis of natural gas-diesel dual-fuel laminar burning combustion characteristics under engine-related conditions	Xun Wang	Hunan University
2581	Cylinder Pressure Reconstruction Method Based on Instantaneous Torque and Neural Network	Liu Long	Harbin Engineering University
2582	Experimental investigation of the energy distribution and the relevant combustion characteristics of a turbocharged direct -injection hydrogen engine	Zhang Shi-Wei	Beijing Institute of Technology
2583	Research on Energy Management Strategy of Plug-in Hybrid Passenger Vehicle Based on Real-time Traffic Information	Dai Lihong	Tianjin University
2589	Study on Flow Characteristics in Nozzle of Marine Ammonia Fuel Injector	Zhang Dianhao	Harbin Engineering University
2590	Lean Burn Stability Control of Marine Natural Gas Engine	Xiong Jinzhi	Harbin Engineering University
2592	Performance Simulation of High-power Hydrogen Fueled Internal Combustion Engine	Li Lianfeng	CRRC Ziyang Co., Ltd.
2600	Numerical and experimental investigation on the influence of dual fuel injection phase on the combustion characteristics and brake thermal efficiency of a dual-direct-injection diesel/natural gas engine in natural gas premixed combustion	Kailin Yang	Jilin University
2601	Research on Economic Efficiency of P2 Hybrid System for Commercial Vehicles under CHTC Condition	Dong Cheng	Dongfeng Cummins Engine Co., Ltd.
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2613	Analysis of Scroll Disk Deformation Caused by Inlet Orifice in Scroll Expander for Engine Waste Heat Recovery	Qi Shijia	Hubei University of Arts and Science
2614	Numerical Study on the Effect of Meridian Curvature on Compressor Performance of Low-Speed Turbocharger	Song Yao	Harbin Engineering University
2617	Study on Exhaust Thermal Management Performance of Diesel Engine Based on Second Opening of Exhaust Valve	Zhang Jinqun	Shandong University
2621	Prediction of Kinematic Viscosity for Turbine Lubricating Oil Based on Bi-LSTM	Sun Aotong	Harbin Institute of Technology (Weihai)
2622	Simulation verification of hydrogen fuel cell power system for a 500 kW ship	Xingxing HOU	Wuhan Rules and Research Institute
2625	Study on Optimum Design of Oil Hole in Internal Cooling Oil Chamber with Double Oil Chambers	Wang Chunming	Kunming University of Science and Technology
2634	Experimental and Kinetic Model Study of Syngas/NOx Oxidation in High Pressure Flow Tubes	Liu Yunyang	Xi' an Jiaotong University
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2641	Prediction and Correction of Fuel Injection Quantity in High Pressure Common Rail System Based on GA-KELM	Lu Xiangdong	Harbin Engineering University
2645	Development Status of Standards for Hydrogen Production by Water Electrolysis at Home and Abroad	Wang Sheng	Research Institute of Petroleum Processing Co., Ltd.
2647	Thermodynamic and aerodynamic performance analysis of air compressor under	Yaorui SHEN	Hunan University
2650	ASSEMBLY AND EXPERIMENTAL TEST OF A MICROTUBULAR SOLID OXIDE FUEL CELL STACK USING VARIOUS FUELS	J. Shi	Tsinghua University
2656	EXPERIMENTAL STUDY ON HIGH PURITY HYDROGEN PRODUCTION FROM DIESEL OIL REFORMING-PURIFICATION SEPARATION	Wang Yurui	Shanxi Institute of Clean Energy, Tsinghua University
2657	Application of Lightweight Materials in Internal Combustion Engine Design and Carbon Emission Reduction Effect	Gao Ji	No. 704 Research Institute of China State Shipbuilding Corporation
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2663	Experimental Study on the Influence of Acoustic Radiation on FPLG	Wu Guo'ao	Beijing Institute of Technology
2669	Error Analysis of Involute Gear Profile Positioning Technology Based on Non-backlash Meshing Equation Theory	Zhang Zhenhui	Henan Diesel Engine Heavy Industry Co., Ltd.
2670	Influence of Optimization on Combustion Process and Temperature Field in Miller Cycle Coupled Combustor	Li Bing	Tianjin University
2673	Construction of Multi-component Characterization Model for Diesel Oil and Analysis on the Influence of Fuel Components on Diesel Engine Performance	Zhang Xinran	Dalian University of Technology
2690	Analysis on the Influence of Tube Lubrication to Press-fitting Parameters	Xing Tao	Shanghai Volkswagen Powertrain Co., Ltd.
2692	Application Analysis of a New Type Small Bore Low Speed Dual Fuel Engine	Ge Yu	CSSC Marine Power Engineering Institute Co., Ltd.
2693	SOx Poisoning Characteristics of Cu-SSZ-13 Zeolite SCR Catalyst for Diesel Engine	Hu Jiadong	Zhejiang University
2701	Study on Fluid-Solid Coupling Heat Transfer of Air-Cooled Inverse Triangular Rotor Engine	Xie Xiang	Xi' an Jiaotong University
2702	Experimental Study and Kinetic Model of Ammonia/PDME Oxidation in Jet Stirred Reactor	Li Lincheng	Shanghai Jiao Tong University
2704	Study on the Response of Different Oxygenated Antiknock Additives to Gasoline Fuel Octane Number	Lv Delin	Shanghai Jiao Tong University
2715	DESIGN PLASMA-CATALYTIC CH4/CO2 DRY REFORMING: DECOUPLING OF THERMAL, ELECTRIC AND MOLECULAR EXCITATION EFFECTS	QIN Wanyue	Beijing Jiaotong University
2721	Effect of a Nitrogen Ionic Liquid Additive on Friction and Wear Properties of Piston Ring-Cylinder Liner	Fan Junjing	Dalian Maritime University
2722	Tribological Properties of Flake Al <sub>2</sub> O <sub>3</sub> Nanoparticles as Lubrication Additive	Wang Zichun	Dalian Maritime University
2728	Pore size study on two-phase flow and reaction transport in gradient porosity diffusion layer of PEMFC	Suo Mengshan	Tianjin University
2729	Modeling and Performance Simulation of Portable Direct Methanol Fuel Cell System	Guan Chengshuo	Tianjin University
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2738	Research on wear prediction of bearing bush based on optimized neural network algorithm	Fengming Du	Dalian Maritime University
2758	Effect of Flash Spray on Soot Formation in Concentrated Oil-gas Mixture Under Different Environmental Pressures	Cui Mingli	Shanghai Jiao Tong University
2775	Construction and Analysis of a Kinetic Model for Benzopyrene Formation Based on Density Functional Theory	Ma Zhenzhu	Kunming University of Science and Technology
2788	Simulation study on oxygen-enriched combustion of a hydrogen internal combustion engine	SUN Ping	Jilin University
2805	Study on Real-World Performance of Heavy Duty Diesel Vehicle Using Biodiesel	Li Bo	CATARC Automotive Test Center (Tianjin) Co., Ltd.
2806	High-efficiency Internal Combustion Engine	Li Peishi	Linzhou City, Henan Province
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2849	Visualization Study on Abnormal Combustion Characteristics of Fuel Spray Reburning Pool Fire	Yin Penghao	Traffic Engineering College of Kunming University of Science and Technology
2853	Structure Optimization of Phase Change Energy Storage System Based on Field Cooperation	Zhong Lin	Qiqihar University
2859	Study on the Movement Law of Sand Erosion on Cascade Surface	Sun Mingyue	Harbin Engineering University
2863	Characterization and analysis of piston deposits on Caterpillar 1P engine stand	Wu Si	Sinopec Lubricant Co., Ltd
2865	Experimental Study on Marine Diesel Engine Fueled with Self-produced Crude Oil in South China Sea	Pu Weihua	CSSC Shanghai Marine Diesel Engine Research Institute
2868	Simulation and Analysis of LNG High-pressure Gas Supply System Based on Aspen HYSYS	Zhang Yadi	Yantai Research Institute of Harbin Engineering University
2870	Study on Combustion Characteristic and Operating Boundary of Marine Hydrogen Engine	Shuai Guan	Harbin Engineering University
2872	Reaction Kinetics Study on the Effect of Hydrogen on Ignition Characteristics of Ammonia/Hydrogen Fuel under Engine Operating Conditions	Yu Zhiqing	Harbin Engineering University
2875	One-pulse diesel pre-injection to improve the thermal efficiency and reduce N2O and unburned NH3 emissions of an ammonia/ diesel dual-fuel CI engine: effects of the pre-injection ratio, timing, and pressure	Fan Zhang	Huazhong University of Science and Technology
2880	Study on Nonlinear Promotion of Reactivity During Dual-fuel Ignition	Mai Zhaoming	Xi' an Jiaotong University
2885	Study on Gas Exchange Enhancement Technology of Connecting Rodless Opposed Piston Two-stroke Engine	Gao Yuchuan	Tianjin University

Tip: Delegates are welcome to communicate with the authors of posters in the display area during the tea break (displayed on April 21-22)

ID	Paper Title	First author	First author' s affiliation
2888	A Novel Full-floating Cell Thermal Management System for Cylindrical Lithium Battery Based on Bionic Structure	Du Ruiheng	Xi' an Jiaotong University
2889	Study on High Efficiency Combustion System of Heavy Duty Spark Ignition Methanol Engine	Bu Fanlu	Xi' an Jiaotong University
2891	Cooperative Control Strategy of Valve Action in Gas Supply System for Marine Dual-fuel Engine	Wang Junkai	Shanghai Marine Diesel Engine Research Institute
2892	Design and Research of Fuel Cell Bipolar Plate Flow Channel Based on Malus Spectabilis Vein Structure	Zhang Chenyang	Xi' an Jiaotong University
2893	Simulation Study on Arrangement of Pilot Fuel Injector for Marine Dual-Fuel Engine	Yang Shanggang	Zichai Machinery Co., Ltd.
2895	Study on Knocking of Natural Gas/Diesel Dual Fuel Medium Speed Engine with Large Cylinder Diameter	Cui Yuanlong	Harbin Engineering University
2896	Experimental Study on Multi-cylinder Air Fuel Ratio Nonuniformity Control of Light Vehicle Based on UEGO Signal	LI, Hai	Technical Center of Dongfeng Nissan Passenger Vehicle Company
2897	Numerical simulation of ignition characteristics of low-speed two-stroke pure ammonia fuel Marine engine	Bingqian Yin	Tianjin University
2899	Study on Fretting Wear of Exhaust Valve in Marine Natural Gas Engine	Xing Yiming	Harbin Engineering University
2901	Experimental Study on Inner Flow and Near Field Spray Characteristics of Helical Hole Nozzle	Yang Shuang	Jiangsu University
2904	Study on Comprehensive Cascade Utilization of Cold and Heat Energy in LNG-powered Ship	Liu Wei	Harbin Engineering University
2905	Study on Combustion and Emission Characteristics of Ammonia-Diesel Dual Fuel Engine	Nie Xuexuan	Kunming University of Science and Technology
2906	Influence of Fuel Injection Strategy on Ultrafine Particulate Matter Emission in Different Combustion Modes	Deng Longfei	Tianjin University
2907	Collaborative Optimization Research on Economy Efficiency, Emission, and Running Stability of Methanol/Diesel Dual Direct Injection In-Cylinder Engines	Yang Qifan	Dalian University of Technology
2908	Study on Standard SCR Model and N2O Formation Mechanism Based on Sample Test	Li Lingzhi	Dalian University of Technology
2911	Study on Thermal Surface Ignition and Spark Ignition Characteristics of Ammonia	Zhang Qihang	Tsinghua University
2940	INVESTIGATION ON THE THERMAL RUNAWAY MECHANISM OF ELECTROLYTE IN LITHIUM-ION BATTERIES VIA REAXFF MOLECULAR DYNAMICS	Zhaoxin Wang	Wuhan University of Technology
2943	Influence of Nonideal Characteristics of High Density Environment Gas on the Ignition Behavior of N-heptane	Dai Jiayi	Beijing Institute of Technology
2944	Multi-objective Optimization Design of Battery Thermal Management System Based on New Liquid Cooling Plate	Zhou Daquan	Harbin Engineering University
2946	Effect of Intake Port Water Injection on Combustion and Exhaust Emissions in Hydrogen Engine	Chen Zeyu	Beijing Institute of Technology
2947	Study on the Coupling Optimization of Intake and Exhaust Pressure Waves for Multi-cylinder Opposed Piston Two-stroke Engine	Sun Long	Beijing Institute of Technology
2950	Simulation Study on the Effect of Miller Cycle on Gas Exchange and Performance of Turbocharged Direct Injection Hydrogen Fueled Engine	Li Siyuan	Beijing Institute of Technology
2967	Study on the Deviation of Detection Efficiency between Aviation Soot and Calibration Particle Based on Condensed Particle Counting	Zhou Quan	China Jiliang University
2968	Research on Speed Control Algorithm of Marine Diesel Engine Based on Deep Reinforcement Learning	Jiang Wenbin	Harbin Dongan Automotive Power Co., Ltd.

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■ Poster Contents

ID	Paper Title	First author	First author' s affiliation
2973	Amine-functionalized macroporous adsorbent resins for direct air carbon capture: effects of moisture and oxygen	Zhao Shu	Shanghai Jiao Tong University
2974	One-step synthesis of Pt@CrMnFeCoNi <sub>3</sub> O <sub>4</sub> high entropy oxide catalysts through flame spray pyrolysis	Haonan Zheng	Shanghai Jiao Tong University
2977	Effect of Bioethanol as a Fuel Additive on the Combustion and Emissions of Diesel Engines under Idle Conditions	Jun Cong Ge	Jeonbuk National University
2981	A comparative study on methanol/diesel and methanol/ Fischer-Tropsch diesel RCCI combustion in a dual-fuel engine	Dongdong Chen	North University of China-Taiyuan University of Technology
2982	Research and Verification on Electric Potential Characteristics of Diesel Engine Bearing Bush under Abnormal Contact State	Liu Hao	National Engineering Research Center for Ship and Marine Engineering Special Equipment and Power System
2984	Realization and Verification of Cycle-by-cycle Real-time Calculation Method for Engine Combustion Characteristic Parameters	Anweiwei	National Engineering Research Center for Ship and Marine Engineering Special Equipment and Power System
2985	Research on Weight Reduction Optimization of Turbocharger Bracket for High Index Marine Diesel Engine	Zhang Kaiyue	National Key Laboratory of Advanced Marine Engine Technology
2986	Study on Flame Characteristics of Direct Injection Engine Combustion Based on Digital Image Processing	Ma Zhen	National Key Laboratory of Advanced Marine Engine Technology
2989	A Fault Sample Generation Method for Diesel Engine Based on Simulation and DCGAN	Li Baoyue	Wuhan University of Technology
2993	Effect of Cathode Particulate Matter on Performance of Proton Exchange Membrane Fuel Cell	Ma Junjie	Tianjin University
3001	Research on high-efficiency hydrogen engine of Geely	Yuan Shuang	Geely Automobile Powertrain Research Institute
3005	Analysis and Study on the Fracture of Exhaust Manifold Fastening Studs in a Turbocharged Gasoline Engine	Wang Zhenhai	Beijing Automotive Technology Center Co., Ltd.
3007	Experimental Study on Three-Dimensional Turbulent Flow Characteristics in High Tumble Intake Cylinder of Spark Ignition Engine	Tian Fuquan	Tianjin University
3009	Formation Mechanism of N <sub>2</sub> O in Catalytic Aftertreatment System for Ammonia Fueled Engine	Li Shilong	National Key Laboratory of Advanced Internal Combustion Power
3010	Analysis of the correlation between mechanical and physicochemical properties of particles based on a diesel oxidation catalytic system	Xu Lyu	Tianjin University
3011	Theoretical Study Of H-atom Abstraction By CH <sub>3</sub> OO Radicals From Aldehydes And Alcohols: Ab Initio And Comprehensive Kinetic	Ruoyue Tang	The Hong Kong Polytechnic University
3013	Locating Optical Window in Shock Tubes for IC Engine Applications	Shijie Bai	Tianjin University
3015	Preparation of Mg-Mo Doped Cobalt Free Nickel Rich Cathode Materials by Flame Synthesis	Li Jinyu	National Key Laboratory of Advanced Internal Combustion Power
3019	Preparation of Aluminum-doped Solid Electrolyte for Lithium Ion Battery by Flame Spray Pyrolysis	Luo Junxiao	Tianjin University
3020	Techno-economic Analysis of High Nickel Ternary Cathode Material Precursor for Lithium Ion Battery Produced by Flame Spray Pyrolysis	Du Wen	Tianjin University
3021	Experimental and Modeling Study on the Reaction Kinetics of Polycyclic Aromatic Hydrocarbons in High Energy Density Fuel JP-10	Song Yecheng	Tianjin University
3022	Construction of Extremely Low Friction Self-lubricating Environment for Locomotive Diesel Engine Based on Metal Surface Autogenous Strengthening Technology	Cao Qi	Beijing Moanmaite Technology Co., Ltd.
3023	Research on Fuel Injection Control Strategy for Marine Diesel Engine Based on Neural Network PID	TANG Qichun	Wuhan University of Technology
3027	Study on Natural Gas Jet Characteristics of Integrated Dual Fuel Injector	Wang Wei	China FAW Group Wuxi Oil Pump Nozzle Research Institute

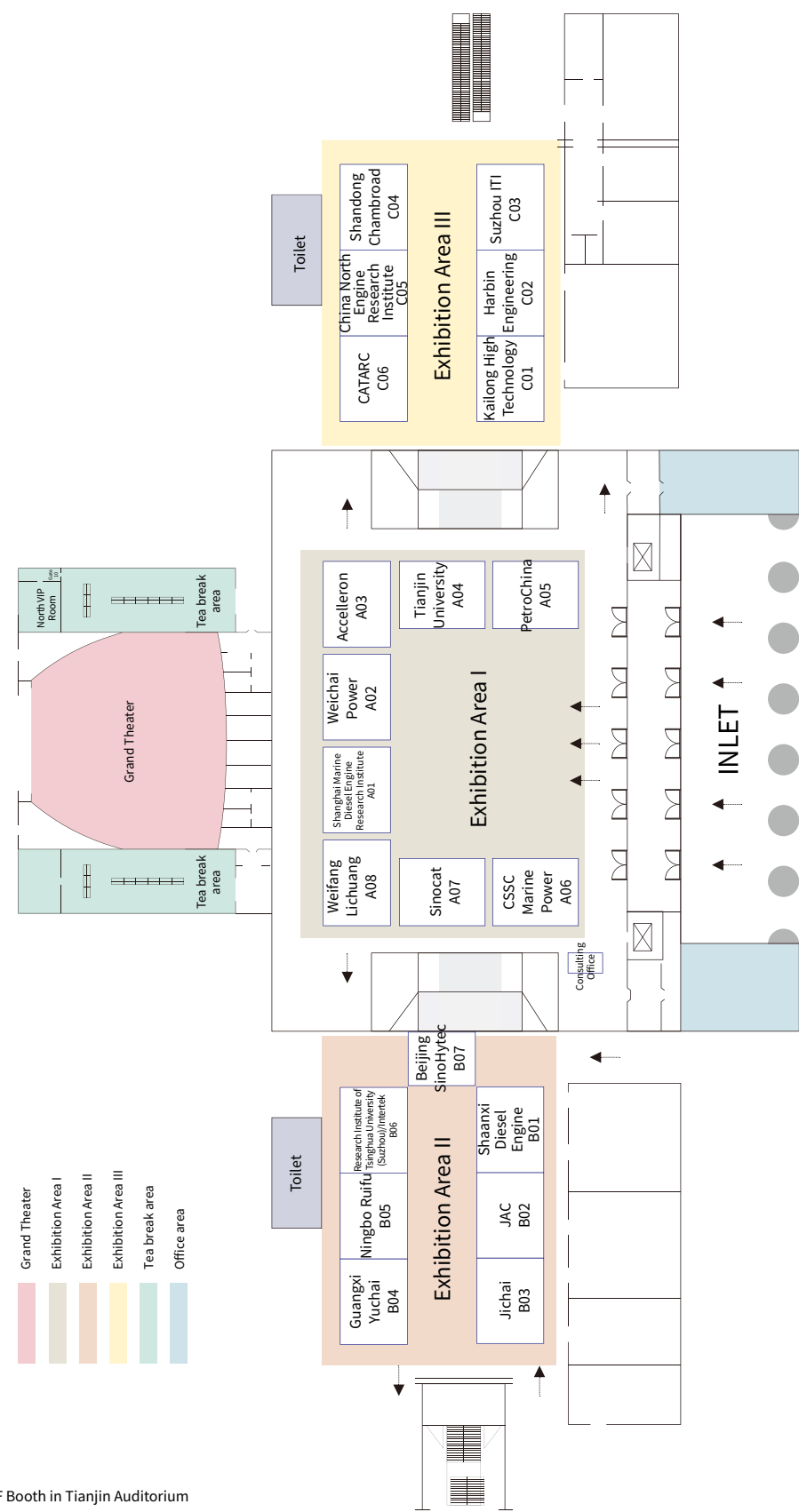
Tip: Delegates are welcome to communicate with the authors of posters in the display area during the tea break (displayed on April 21-22)

ID	Paper Title	First author	First author' s affiliation
3030	Thermal design and management of shipborne electromagnetic railgun based on pinch analysis	Yongzhen Wang	Beijing Institute of Technology
3040	An Investigation of the Effect of Isopropanol-n-Butanol-Ethanol Fuel Components on Combustion and Emission Performance in SICI Mode at High Compression Ratio Engine	Meng Xianglong	Jilin University
3045	H-assisted CO <sub>2</sub> Cracking over Pd <sub>n</sub> Pt(4-n)/In <sub>2</sub> O <sub>3</sub> (n = 0-4) Catalysts:DFT Simulation Study	Wang Xiaowen	Tianjin University
3046	Research and Optimization of High Temperature Plateau and Low Temperature operating characteristics two-stage turbocharging system	Qian Liu	Dalian CRRC diesel engine co.,ltd.
3051	Study on Physical and Chemical Properties of Biodiesel Mixed with Alcohol Fuels	Shen Zhaojie	Automotive Engineering College of Harbin Institute of Technology (Weihai)
3064	Numerical Simulation of Preparation of SiO <sub>2</sub> Nanoparticles Based on Coaxial Flame Burner	Zhang Changhuai	Tianjin University
3068	Study on the Bottom-mounted Multi-mode Valve Train and Its Two-stroke Braking Performance	Cui Jingchen	Dalian University of Technology
3069	Study on Overhead Three-mode Valve Train and Its Two-stroke Braking Performance	Cui Jingchen	Dalian University of Technology
3070	Study on the Effect of Injector Relative Position on Performance of Ammonia-Diesel Two-Stroke Engine	Cui Jingchen	Dalian University of Technology
3072	Optimizing PBDE Net Emission in Hazardous Waste Thermal Treatment Systems via Sludge and Fly Ash Co-incineration with Flameless Combustion	Sheng-Lun LIN	National Cheng Kung University
3044	Research on Digital Transformation of Toyota Engine Plant	Wang Zuping	GAC Toyota Engine Co., Ltd.
2431	Analysis of DPF Running Characteristics Based on On-line Monitoring and Its Influence on the Performance of Heavy Duty Diesel Engine	Hu Qingyao	Shanghai Academy of Environmental Sciences

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Booth Layout



Floor Plan of 1F Booth in Tianjin Auditorium

List of Exhibitors

Name of Exhibitor	Booth No.
CSSC Shanghai Marine Diesel Engine Research Institute	A01
Weichai Power Co., Ltd.	A02
Accelleron Turbo Systems (Chongqing) Limited	A03
Tianjin University/Tianjin Internal Combustion Engine Research Institute	A04
PetroChina Lubricant Company	A05
CSSC Marine Power Co., Ltd.	A06
Sinocat Environmental Technology Co., Ltd.	A07
Weifang Lichuang Electronic Technology Co., Ltd.	A08
Shaanxi Diesel Engine Heavy Industry Co., Ltd.	B01
Anhui Jianghuai Automobile Group Co., Ltd	B02
CNPC Jichai Power Equipment Company	B03
Guangxi Yuchai Machinery Co., Ltd.	B04
Ningbo Ruifu Machinery Technology Co., Ltd.	B05
Suzhou Automotive Research Institute of Tsinghua University/Intertek Automotive Research Institute	B06
Beijing SinoHytec Co., Ltd.	B07
Kailong High Technology Co., Ltd.	C01
Harbin Engineering University	C02
Suzhou ITI Motor Technology Co., Ltd.	C03
Shandong Chambroad New Energy Holding Development Co., Ltd.	C04
China North Engine Research Institute	C05
China Automotive Technology and Research Center Co., Ltd.	C06

## ■ Technical Tours April 23, 09:00-12:00 (one out of three)

### 01/China Automotive Technology and Research Center Co., Ltd.

China Automotive Technology and Research Center Co., Ltd. (hereinafter referred to as "CATARC") is a central enterprise directly under the State-owned Assets Supervision and Administration Commission of the State Council. Founded in 1985, it is a comprehensive science and technology enterprise group with extensive influence in the automobile industry at home and abroad. CATARC has 4 national research platforms and 17 provincial and municipal research platforms and has set up a number of major scientific research projects around the industry's "bottleneck" technology and "carbon peaking and carbon neutrality" goals to promote breakthroughs in common core technologies in the industry.

The engine testing and certification platform of CATARC is equipped with perfect engine regulation certification and R&D calibration equipment. It has more than 100 engine benches with a maximum power of 4,800 kW, and test bases in Tianjin, Beijing, Ningbo, Wuhan, Changzhou, Guangzhou and Kunming. The business objects cover vehicle diesel engines, gasoline engines, gas engines, non-road engines, marine engines, automotive oil products, lubricating oil and other aspects.

With the approval of the National Development and Reform Commission, CATARC took the lead in establishing the National Engineering Laboratory for Mobile Source Emission Control Technology. It is the only national engineering laboratory in this field approved by the state. Focusing on the national objectives of mobile source pollution prevention and control and air quality improvement, the laboratory strives to become an international leading innovative research and achievement transformation base for mobile source pollution emission control technology, a domestic first-class innovative talent training base for mobile source pollution prevention and control, and a core public platform for promoting international exchanges and cooperation.



### 02/National Key Laboratory of Engines

The National Key Laboratory of Advanced Internal Combustion Power was strategically reorganized by the State Key Laboratory in March 2023. Its predecessor is the National Key Laboratory of Engines, which was founded in 1986 under the leadership of Academician Shi Shaoxi, former President of Tianjin University. It is the first state-key laboratory in the field of internal combustion engines in China. The current director is Academician Jin Donghan, President of Chinese Society for Internal Combustion Engines, former President of CIMAC, and President of Tianjin University.

The laboratory has a fixed staff of 154 people, including 5 academicians and 33 other national-level talents. Focusing on the national major strategies of "energy security, green low-carbon, and powerful nation," the lab researches efficient internal combustion power combustion and emissions, net-zero carbon power energy conversion and utilization, advanced power system integration, and the application of foundational and key intelligent technologies. Since 2015, as the leading unit, the laboratory has won 6 national science and technology awards, accounting for 60% of the awards in this field. The Ministry of Science and Technology has evaluated the laboratory as having a "pioneering and leading" role.



### 03/Tianjin Internal Combustion Engine Research Institute

The Tianjin Internal Combustion Engine Research Institute has over 30 domestic leading and international first-class professional laboratories, and more than 500 sets of advanced testing equipment, which include a 55-560kW power test system, a radio anechoic chamber, and automotive high and low-temperature condition laboratories with environmental temperatures controllable within -50 to 60°C, establishing a high-level technical evaluation system. Accredited by the China National Accreditation Service for Conformity Assessment and approved by the Certification and Accreditation Administration of the People's Republic of China, the institute is able to inspect more than 40 types of products according to the relevant national standards, industry standards, international standards, and the standards of major countries and regions, such as Europe, America, and Japan within its authorized scope. It possesses laboratories with data recognized by the United States Environmental Protection Agency and the Vietnam Register, being the first in China to acquire such recognition. These laboratories can conduct a variety of testing tasks that meet Chinese national standards, American standards, and European Union regulations. It has the country's only motorcycle road test field compliant with international standards, covering an area of 660,000 square meters, consisting of a 5.1km high-speed circular track, a 1.8km performance road, a 4.6km performance track, 11 types of special performance surfaces, noise test roads compliant with ISO standards, European regulations, and United States EPA test requirements, a dedicated ABS brake test road for motorcycles, a wet surface for tire testing, and dynamic vehicle test zones, as well as specialized ABS brake testing roads for automobiles. The Institute has independently developed a full set of detection equipment for power, motor vehicles, and components that meet the needs of research and development, calibration, and inspection, providing scientific and effective testing means for the domestic and international industry peers.





## ■ Diamond Sponsor

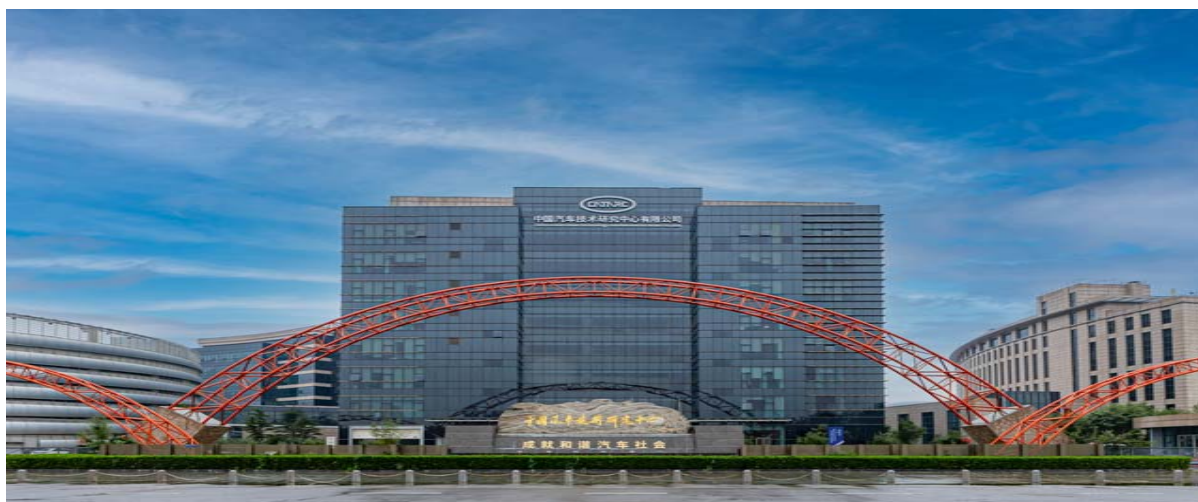


**中国汽车技术研究中心有限公司**  
China Automotive Technology and Research Center Co., Ltd.

China Automotive Technology and Research Center Co., Ltd. (hereinafter referred to as "CATARC") is a central enterprise directly under the State-owned Assets Supervision and Administration Commission of the State Council. Founded in 1985, it is a comprehensive science and technology enterprise group with extensive influence in the automobile industry at home and abroad. In February 2018, the company system reform was completed. Now it has 6 directly affiliated institutions, 34 wholly-owned subsidiaries and 9 holding companies, with total assets of RMB 19.108 billion, net assets of RMB 14.262 billion and a total of 4,585 employees.

Adhering to the newest development strategies, CATARC has methodically upgraded its business framework, continuously strengthening its comprehensive capabilities and core competitiveness. The company has meticulously refined its organizational structure, establishing an optimized network composed of one headquarters and four regional sub-centers. These sub-centers, strategically located in East China, South China, Central China, and Southwest China, are being developed with a clear focus on building distinctive professional competencies. Further expanding its global reach, CATARC has established subsidiaries and permanent offices in Germany and Japan. Additionally, the company spearheaded the creation of the China Automotive Standards Internationalization Center (CASIC) in Geneva, Switzerland. This center is a pioneering step for China, representing its first overseas entity dedicated to the standardization in the automotive industry. CASIC plays a critical role in fostering China's automotive sector, encouraging its more proactive integration into the global industry framework.

CATARC has always adhered to its founding principles of driving the technological progress of China's automotive industry and its industry position of "independence, impartiality, and third-party". It has accumulated profound technical strength and constructed a core capacity focused on industry think tank services, automotive product testing and certification, as well as common and forward-looking technological research and development. This capacity spans the entire automotive industry chain and the whole lifecycle, providing full-spectrum technical services. The business encompasses ten major fields including testing and trials, engineering technology R&D services, digitalization, engineering design, consulting services, certification services, and strategic emerging businesses, offering strong support to the development of China's automotive industry.



## ■ Platinum Sponsors



Great Wall Motor Co., Ltd. (hereinafter referred to as GWM) is a global intelligent technology company, whose business includes the design, R&D, production, sales and service of automobiles and parts. It has five complete vehicle brands: Haval, WEY, ORA, Tank and GWM Pickup. It was listed in Hong Kong H-shares and mainland A-shares respectively in 2003 and 2011. In 2023, GWM's total operating revenue was RMB 173.212 billion and the net profit was RMB 7.023 billion. The cumulative sales of vehicles exceeded 1.23 million, exceeding one million for eight consecutive years, including more than 300,000 overseas sales and over 250,000 new energy sales, both hitting a record high.



GWM has created a forest ecological system oriented by energy and intelligence, establishing a tri-track parallel development in hybrid, pure electric, and hydrogen energy. The company has laid out a full industry chain in intelligent driving, intelligent cockpits, and smart chassis, constructing an industry-leading "photovoltaic + distributed storage + centralized storage" energy system and completing the full value chain layout from "solar energy - battery - hydrogen energy - vehicle power."

Based on the concept of "more economical, farther and safer", GWM has created Hi4 and Hi4-T hybrid technologies in an innovative configuration of series-parallel electric four-wheel drive with dual motors for the front and rear axles. The brand-new intelligent 4WD electric hybrid technology Hi4, through the dynamic switching of 3 engines and 9 modules and the intelligent energy management system, truly realizes "a 4WD experience at the price of 2WD", and 4WD drive performance with the energy consumption of 2WD", and achieves "optimal efficiency in all working conditions and worry-free driving in all scenarios". The off-road super hybrid architecture Hi4-T makes the off-road with "powerful performance, cruising ability and energy-saving" to achieve "easy control in all working conditions and extreme experience in all scenarios".

GWM provides intelligent and green travel services for users around the world, accelerating its advancement to a global intelligent technology company.

## ■ Platinum Sponsors



### 中国船舶集团有限公司第七一一研究所 SHANGHAI MARINE DIESEL ENGINE RESEARCH INSTITUTE

Shanghai Marine Diesel Engine Research Institute, affiliated to China State Shipbuilding Corporation Limited (CSSC), is a national marine diesel engine R&D institution and the main supporting unit of the National Key Laboratory of Advanced Marine Engine Technology. Now, it has developed into a comprehensive power R&D institution and high-tech enterprise group with diesel engines, heat engines and their power plants as the main disciplines and power system solutions and related products, electrical and automation, energy equipment and engineering, environmental protection equipment and engineering as strategic industries. It serves more than 20 industries and fields such as machinery, petrochemicals, energy and transportation, involving more than 30 countries and regions in the world.



China North Engine Research Institute, affiliated to China North Industries Group Corporation Limited, is the only specialized research institute for special vehicle engines in China and the main supporting unit of the National Key Laboratory of Vehicle Power System. The Institute adheres to the mission of supporting the development, product upgrading and industrialization of special power technology in an all-round way, actively explores the frontiers of technological development such as high-speed high-power diesel engines, hybrid power, unmanned equipment power and clean energy power, and is committed to building a new power R&D technology system with independent innovation capability and creating an international advanced and domestic leading power R&D base.



Nanchang Intelligent New Energy Vehicle Research Institute (Tongji University), hereinafter referred to as "the Institute", was established on November 12, 2019. It is a new private non-enterprise R&D institution in the field of science and technology signed by Tongji University and Nanchang Municipal People's Government. It is located in the High-tech Industrial Park of Xiaolan

Economic and Technological Development Zone, with a planned land area of 60 mu (25 mu for Phase I). The special government fund is RMB 400 million and the total investment in test equipment is nearly RMB 300 million. Relying on the discipline and talent advantages of Tongji University, the policy support of Jiangxi Province, Nanchang City and Xiaolan Economic Development Zone, as well as the industrial advantages of Jiangling Motors Group Co., Ltd., the Institute has built a new automobile innovation R&D institution in cooperation with Tongji University integrating talent introduction and training, technology research and development, enterprise incubation and industrial services.



Shandong Chambroad New Energy Holding Development Co., Ltd. (hereinafter referred to as "Chambroad New Energy") is a comprehensive energy service management enterprise established in 2008 and a wholly-owned subsidiary of Shandong Chambroad Holding Group Co., Ltd.

Mainly engaged in the terminal retail and wholesale business of refined oil, Chambroad New Energy has two franchise chain brands—"Chambroad Home" and "Shandong Petrochemical", with terminal operation channels covering 1,000 gas stations and convenience stores in more than 270 provinces and cities (250 cities in 29 provinces) nationwide, serving millions of members.

The Company has a professional technical R&D team, customizes and develops products in special fields, and owns the first integrated display and experience platform for high-end oil manufacturing and oil application evaluation in Shandong Province. It serves customers from joint venture OEMs such as BMW, Volkswagen, SAIC and GWM, domestic OEMs, engine manufacturers and engine performance R&D and testing institutions.



### 锦州康泰润滑油添加剂有限公司 JINZHOU KANGTAI LUBRICANT ADDITIVES CO.,LTD.

Jinzhou Kangtai Lubricant Additive Co., Ltd., a wholly-owned subsidiary of Rianlon, is a leading enterprise in the domestic lubricant additive industry. It specializes in the production and research and development of various lubricant additives and lubricating materials, providing products and services for more than 3000 customers around the world.

Kangtai has three production bases and one R&D center, with nearly 200 varieties of independent technology property rights product lines such as sulfonic acid, sulfonate, sulfurized alkyl phenates, salicylate, antioxidant and anticorrosive agent, ashless dispersant, extreme pressure antiwear agent, antioxidant and various customized blending products.

Rianlon will give full play to the synergistic effect of Contec in technology research and development, operation management, sales layout and other aspects, strengthen integration to promote endogenous growth, achieve complementary advantages and promote common development. Actively plan new production capacity layout and build a global product technology platform with complete product lines, characteristic professional products and customizable products.



# Gold Sponsors

Tianjin Internal Combustion Engine Research Institute



National Key Laboratory of Advanced Internal Combustion Engine Power



PetroChina Lubricant Company



Harbin Engineering University



CSSC Marine Power Co., Ltd.



Weichai Power Co., Ltd.



Guangxi Yuchai Machinery Co., Ltd.



CNPC Jichai Power Equipment Company



Dongfeng Commercial Vehicle Co., Ltd.



Anhui Jianghuai Automobile Group Co., Ltd. Engine Branch



Shaanxi Diesel Engine Heavy Industry Co., Ltd.



Accelleron Turbocharging Systems (Chongqing) Co., Ltd.



Weifang Lichuang Electronic Technology Co., Ltd.



Sinocat Environmental Technology Co., Ltd.



Kailong High Technology Co., Ltd.



Beijing SinoHytec Co., Ltd.



Ningbo Ruifu Machinery Technology Co., Ltd.



Suzhou ITI Motor Technology Co., Ltd.



Kunshan Yitai Automobile Technology Co., Ltd.



Shell (Shanghai) Technology Co., Ltd.



Suzhou Automotive Research Institute, Tsinghua University (Wujiang)



Intertek Automotive Research



Anhui Act-blue Environmental Protection Co., Ltd.



Wuhan Hydrogen and Fuel Cell Industry Technology Research Institute Co., Ltd.



Shandong Shuanggang Piston Co., Ltd.



Taizhou Saite Fluid Control Co., Ltd.



Jinzhou Kangtai Lubricant Additive Co., Ltd.



Bank of Communications Co., Ltd.



Bank of Tianjin



Global Alliance of Overseas Chinese Societies of Automotive Engineers




Qianlilan (Shenzhen) New Material Technology Co., Ltd.




# Media Collaboration


Xinhuanet




CNR.cn



China Sciences



China Automotive News




China Energy News




China Ship News




Science and Technology Daily




China Youth Daily




China Education Daily




China News Service




Economic Daily



Sohu Auto



Commercial Vehicle News




Zhonghongwang




Qilu Evening News




Beijing Daily




The Beijing News




Tianjin Daily




Tianjin Television




Tianjin Education Daily




Jin Yun




Tonight's paper




Pavement mechanical net




Tianjin Workers Newspaper




Internal Combustion Engine



China Machine Press



Automobile terminal network





# Introduction to Tianjin

Tianjin is one of China's four major municipalities directly under the central government, with a total land area of 11966.45 square kilometers and a permanent resident population of 13.63 million people. Located 120 kilometers from Beijing, it is a crucial area and gateway for protecting the capital region. It is also a major node of the China-Mongolia-Russia Economic Corridor, a strategic pivot of the Maritime Silk Road, a convergence point of the Belt and Road Initiative, and the eastern starting point of the Eurasian Continental Bridge that is closest to the Eastern part. With its superior geographical location and transportation conditions, it has become an important hub connecting domestic and international areas, linking the north and the south, and facilitating communication between the east and the west, making it an important seaport for neighboring landlocked countries.

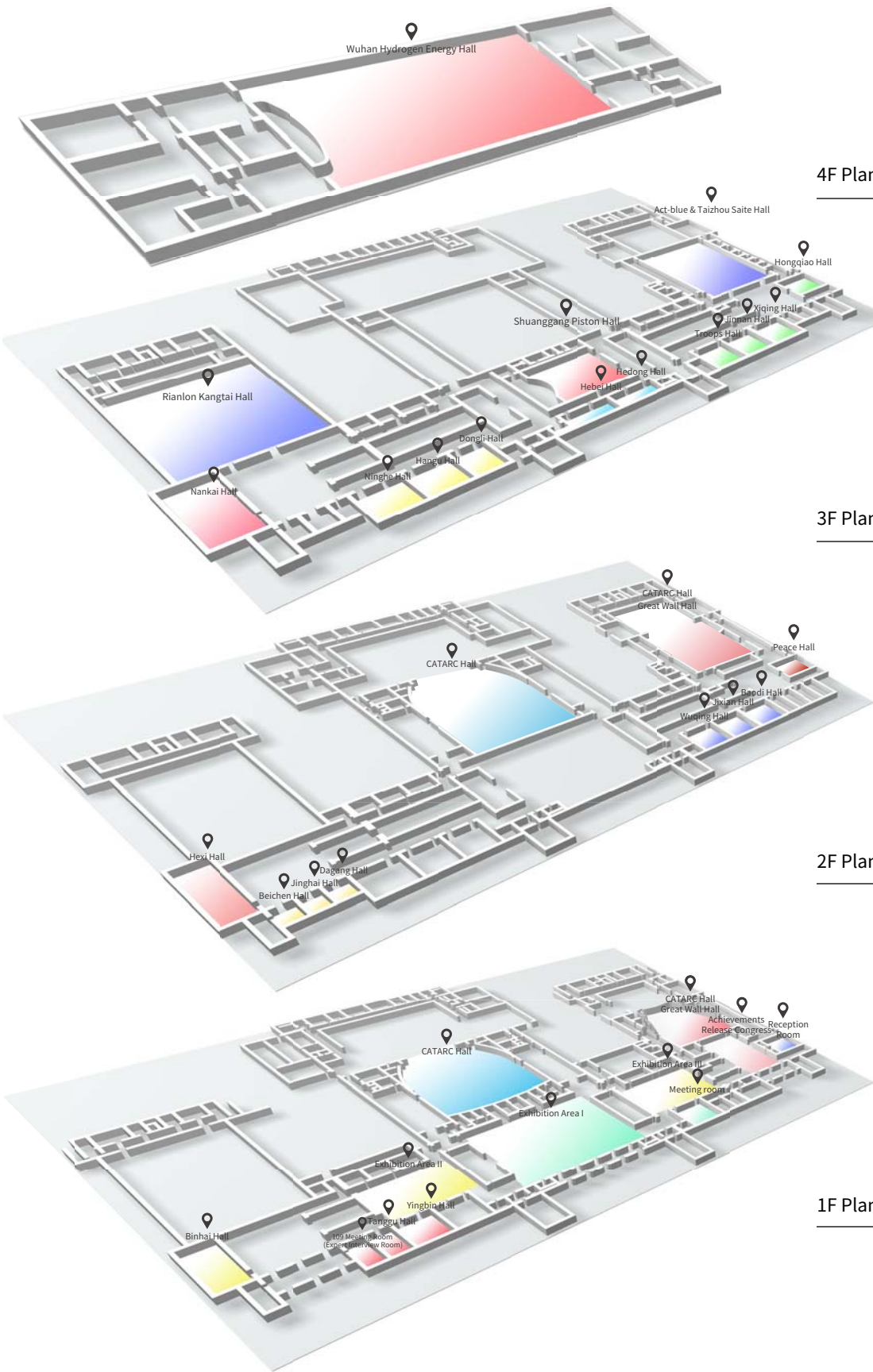
After Tianjin was opened as a treaty port in 1860, it became the forefront of Northern China's openness and the base for modern China's Self-Strengthening Movement. After the founding of the People's Republic of China, Tianjin, as a directly-administered municipality, saw comprehensive development in economic construction and social undertakings, further consolidating its status as an important comprehensive industrial base and business hub in China. Since the reform and opening up, Tianjin's advantages as a coastal port city have continuously increased, international exchanges have become increasingly extensive, and all sectors of its economy have flourished.

During the "13th Five-Year Plan" period, Tianjin's total economic output and the quality and efficiency of its economy steadily increased, with the added value of the equipment manufacturing industry growing at an average annual rate of 6.9%. Aiming at the goal of becoming a national advanced manufacturing research and development base, Tianjin continuously enhanced its advantageous industries such as high-end equipment, automobiles, petrochemicals, and aerospace. The city's automotive production capacity and supporting capabilities have significantly improved, and the aerospace industry has developed an industrial pattern featuring "three aircraft, one arrow, one satellite, and one station." In 2020, the national-level Vehicle-to-Everything pilot zone was successfully approved, and two clusters focusing on information security and power batteries were selected as part of the national advanced manufacturing industry clusters.



# Introduction to the Venue

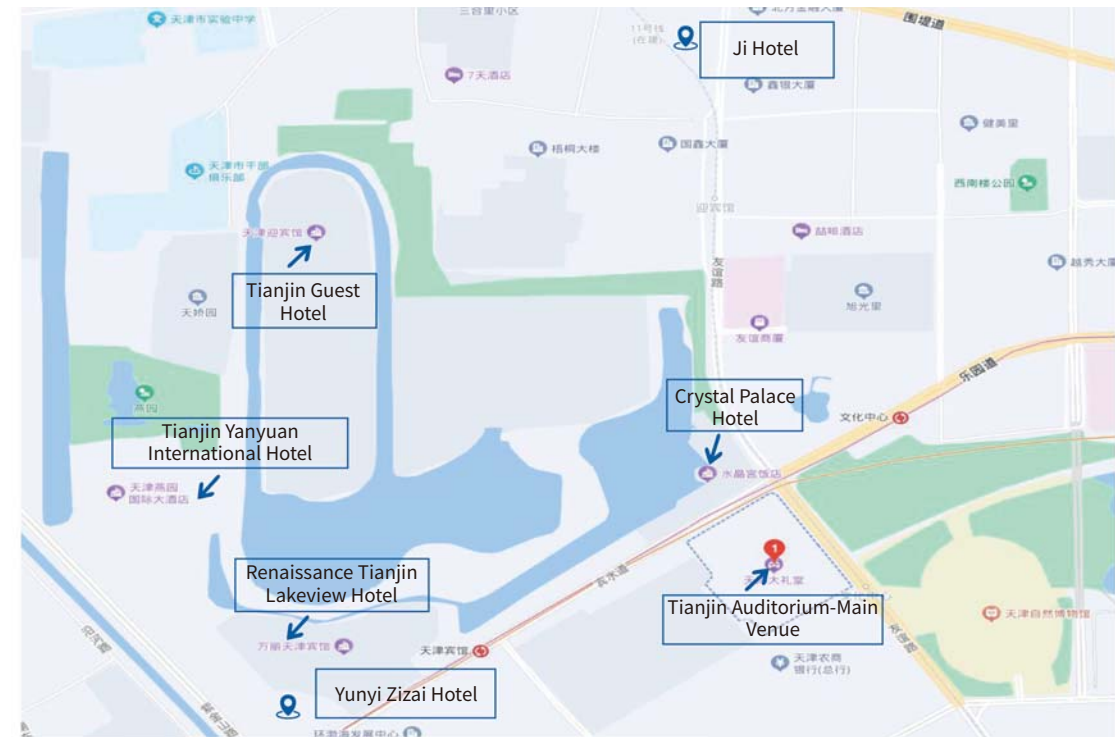
Tianjin Great Hall, built in 1959 with a total construction area of 32700 square meters, is mainly used to receive various congress.





# Hotel Reservation

**Please make a reservation by telephone.** When booking, the attendees should inform the Congress name of "2024 World Congress on Internal Combustion Engines". It is suggested that participants should book rooms before March 1, because the housing demand cannot be guaranteed after **March 1**.



## Tianjin Crystal Palace Hotel (★★★★)

109m (2-minute walk) from auditorium



Address: No. 28, Youyi Road, Hexi District, Tianjin  
 Booking method: Manager Cui +86-13920008201 (also the WeChat account)  
 13920008201@126.com  
 Negotiated price: RMB 450/single room  
 Standard Room: RMB 500/room

## Renaissance Tianjin Lakeview Hotel (★★★★)

729m (10-minute walk) from auditorium



Address: No. 16, Binshui Road, Hexi District, Tianjin  
 Booking method: +86-22-58223388 forward to the Reservation Department  
 rhi.tsnlv.reservations@renaissancehotels.com  
<https://www.marriott.com.cn/event-reservations/reservation-link.mi?id=1706173470415&key=GRP&app=resvlink> (room reservation link)  
 Negotiated price: RMB 600/single room  
 Standard Room: RMB 650/room

## Tianjin Guest House 6 Hotel

1.3 km (19-minute walk) from auditorium



Address: No. 335, Machang Road, Hexi District, Tianjin  
 Booking mode: +86-22-23511166/23510066  
 tjybg6h (WeChat)  
 Negotiated price: RMB 380/single room  
 Standard room: 420 yuan/room

## Tianjin Yanyuan International Hotel

1.7 km (23-minute walk) from auditorium



Address: No. 31, Zijinshan Road, Hexi District, Tianjin  
 Booking method: Fan Yuanyuan +86-13920813382  
 yuanyuan.fan@yanyuanhotel.com  
 Negotiated price: RMB 450/single room  
 Standard Room: RMB 500/room

## Yunyi Comfortable Hotel (Budget Hotel)

952m (13-minute walk) from auditorium



Address: No. 18, Binshui Road, Hexi District, Tianjin  
 Booking method: Zhou Lu +86-17678035321  
 1093960085@qq.com  
 Negotiated price: RMB 400/single room  
 Standard room: RMB 450/room

## Ji Hotel (Tianjin Youyi Road)

1.1 km (16-minute walk) from auditorium



Address: No. 2, Youyi Road, Hexi District, Tianjin  
 Booking: Ji Hotel +86-13299930379  
 haojinjuan@hworld.com  
 Negotiated price: RMB 320/single room  
 Standard Room: RMB 350/room



Meals

Date	Time	Dining Form	Dining Venue
April 19	17:00-20:00	Buffet dinner	Tianjin Auditorium (1F banquet hall + 1F Binhai Hall entrance)
April 20	12:00-13:30	Business package	Tianjin Auditorium (1F Banquet Hall + 1F Binhai Hall Gate + 2F Hexi Hall Gate + B1 (Staff Canteen at Basement 1)
	19:00-20:30	Welcoming banquet NAIT Night	Tianjin Hotel (1F Grand Ballroom + Outdoor Lawn)
April 21	12:30-13:30	Business package	Tianjin Auditorium (1F Banquet Hall + 1F Binhai Hall Gate + 2F Hexi Hall Gate + B1 (Staff Canteen at Basement 1)
	18:30-19:30	Business package	Tianjin Auditorium (1F Banquet Hall + 1F Binhai Hall Gate + 2F Hexi Hall Gate + B1 (Staff Canteen at Basement 1)
April 22	12:30-13:30	Business package	Tianjin Auditorium (1F Banquet Hall + 1F Binhai Hall Gate + 2F Hexi Hall Gate + B1 (Staff Canteen at Basement 1)
	19:00-20:30	Closing Dinner Rianlon Kangtai Night	Tianyi Yinglun (Take a bus at the entrance of the auditorium at 19:00)



TIANJIN CUISINE



Traffic Information



Tianjin Binhai International Airport

- A: It takes about 40 minutes to get there by taxi. The distance is 27 kilometers.
- B: Take Metro Line 2 to Jingjiang Road, transfer to Metro Line 5, and get off at Exit D of Cultural Center Station in about 52 minutes.



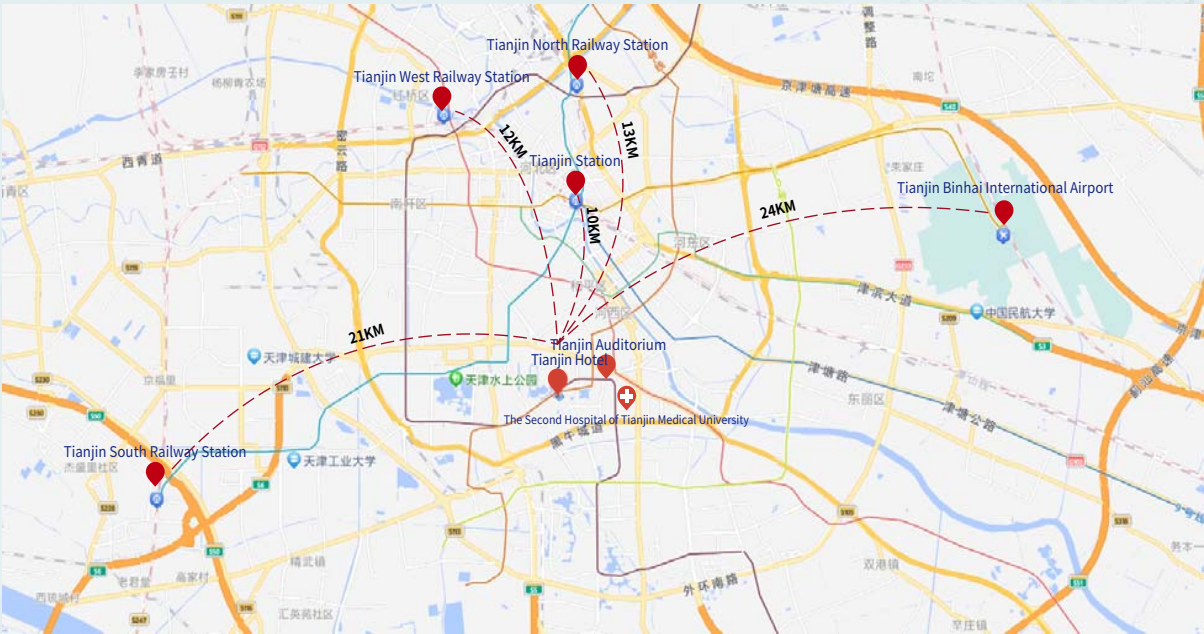
Railway Station

- Tianjin Railway Station (Tianjin Huo Che Zhan)
  - A: About 20 minutes by taxi, 7 kilometers away
  - B: Take Metro Line 9 and transfer to Metro Line 5 from Zhigu Station. It takes about 31 minutes to get off at Exit D of Cultural Center Station
- Tianjin South Railway Station (Tianjin Nan Zhan)
  - A: It takes about 30 minutes to get there by taxi, 21 kilometers away.
  - B: Take Subway Line 3 to Hongqi South Road, transfer to Metro Line 6, and get off at Exit D of Cultural Center Station in about 40 minutes.
- Tianjin West Railway Station (Tianjin Xi Zhan)
  - A: It takes about 30 minutes to get there by taxi, 21 kilometers away.
  - B: Take Metro Line 6, about 40 minutes to Exit D of Cultural Center Station
- Tianjin North Railway Station (Tianjin Bei Zhan)
  - A: About 25-minute drive by taxi, 13 km away
  - B: Take Metro Line 6 to Jinzhonghe Street, transfer to Metro Line 5, and get off at Exit D of Cultural Center Station in about 39 minutes.



The Second Hospital of Tianjin Medical University

- Business Hours:  
08:00-12:00 am; 14:00-17:00 pm
- Tel.: 02288328011
- Address: No. 23, Pingjiang Road, Hexi District, Tianjin
- Tianjin Auditorium
  - A: About 7 minutes (1.7 km) by taxi
  - B: Take Metro Line 6 and get off at Exit A of Jianshan Road in about 20 minutes



## ■ Introduction to Scenic Spots



Price: RMB 100/adult

Opening hours: 18:00-22:00 (Monday)

Open Tuesday-Sunday 09:30-22:00

Preferential policy: Half price for children under 1.4 meters (inclusive) or 7 years old (inclusive)

Half price for the elderly aged 65 and above



Price: RMB 50/person (adult)

Opening Hours: 04/01-12/31 09:00-19:00

Preferential policy: For students from universities, primary and secondary schools, discount tickets for the elderly aged 60 (inclusive) with student ID cards are available.

Concessionary ticket; free for children aged 70 (inclusive); free for children under 1.2 meters (exclusive)



Price: free admission

Opening hours: 1/1-12/31, all day long



Price: free admission

Opening Hours: 1/1-12/31, 09:00-17:00

### Tianjin Eye AAAAA

Address: Yongle Bridge, Sanchahekou, Hebei District,  
Tianjin Tel.: 022-26288830

The Tianjin Eye is a Ferris wheel that spans the Hai River, resembling an eye on the bridge. It is also one of the famous landmarks in Tianjin. When night falls and the lights come up, the colorful lights of the Tianjin Eye are soft and beautiful, attracting countless tourists to come here to take panoramic photos or to ride and sightsee, enjoying a different kind of romance. There are generally two ways to enjoy the Tianjin Eye: riding or observing and taking photos from afar. A ride on the Ferris wheel costs 80 RMB per person during the daytime and 100 RMB per person at night. A complete rotation of the Ferris wheel takes about 30 minutes, and each cabin is equipped with air conditioning, allowing for a slow appreciation of the wide-open views, especially at night when it's dark and the initial lights are very beautiful.

### Porcelain House

Address: No. 72, Chifeng Road (near Heping Road Commercial Street), Heping District, Tianjin Tel.: 022-27123366

The Porcelain House is a French-style building decorated with numerous privately collected ancient porcelains, white marble carvings, crystals, agates and antiques. The walls of the house are covered with exquisite ancient China porcelain, and the courtyard and building are filled with antiques, which often dazzle visitors.

The wall of the porcelain house is composed of hundreds of ancient porcelain vases built in series during the Republic of China and the late Qing Dynasty, which are called the "Ping'an Wall". The roof is decorated with a dragon made of ancient porcelain tiles to create the pattern of "China". Behind the dragon, there are pieces of broken porcelain that make up the Bird's Nest in the main stadium for the 2008 Olympic Games. Notice that on the right side of the periphery of the house, there is a vertical row of porcelain cats extending from the top floor to the corner of the first floor. The periphery of the porcelain cat is inlaid with crystal and agate. What is decorated so vigorously is a sewer pipe, which is admirable.

### Five Avenues, AAAAA

Address: No. 83, Chongqing Road, Heping District,  
Tianjin Tel: 022-23307222

The Five Great Avenues are located in Heping District, Tianjin, named after the five main roads in the region, though in reality there are more than twenty streets. Many former Qing dynasty supporters and figures from the Beiyang government once resided here. The rows of beautiful and elegant Western-style houses seem to narrate the tales of past events and stories of Tianjin.

Visitors to the Five Avenues are mainly attracted by more than 2000 garden-style European buildings, including over 300 former residences of celebrities. Many celebrities in the late Qing Dynasty and the early Republic of China left their names here, such as Chang Hsueh-liang, Gu Weijun and Aisin Gioro Zaizhen.

### Ancient Cultural Street AAAAA

Address: South Gate at the intersection of Shuige Street and Guwenhua Street, Nankai District, Tianjin Tel.: 022-27356128

Ancient Culture Street is located in Nankai District, Tianjin. With Tianhou Palace as the center, it starts from Shuige Street in the south and ends at Tongbei Road in the north. It is home to the most famous time-honored brands and handicraft shops in Tianjin. Visitors can find many handicrafts such as Yangliuqing New Year Painting, Clay Figurine Zhang and Wei's kite, and they can also taste classic Tianjin cuisine.

At present, there are hundreds of stores on the Ancient Culture Street, most of which are time-honored brands in Tianjin and full of strong folk characteristics. There are Qiaoxiangge comprehensive shops selling cloisonne, Suzhou embroidery and lacquerware, as well as Guoren Zhang, Pitang Zhang and Bengdou Zhang selling local specialties.



## ■ Introduction to the CSICE

The Chinese Society for Internal Combustion Engines (hereinafter referred to as "the Society") was established in March 1981 with the approval of the Chinese Association for Science and Technology. As a non-profit scholarly society, it is composed of internal combustion engine scientists and engineers from across the nation who have come together voluntarily. The Society serves as an integral part of the Chinese Association for Science and Technology. United by a common purpose, the Society dedicates itself to advancing the field of internal combustion engine science and technology. It plays a vital role in fostering scientific and technological advancements and industrial growth within the internal combustion engine sector. Through a diverse range of activities—including academic exchanges, international collaboration, scientific consultations, publishing initiatives, and educational outreach—the Society works tirelessly to support the development and expertise of scientific and technological professionals in the industry. The impact of the Society is broad and significant within the internal combustion engine community, where it fulfills a unique and indispensable role consistent with the mission of a scientific and technological association.

The successive presidents of the Association are Zhang Fengshi (the first), Shi Shaoxi (the second), He Guangyuan (the third), Li Shouren (the fourth and fifth), Zhang Xiaoyu (the sixth and seventh) and Jin Donghan (the eighth and ninth).

The Society joined CIMAC in April 1982 and became a member of the International Council on Combustion Engines (CIMAC). In 2019, it became a member of the chairmanship. This is the first time that a Chinese has held the chairmanship in nearly 70 years since the establishment of the organization. It is an important milestone for China to participate in international internal combustion engine work and reflects the improvement of China's status and discourse power in this international organization. CIMAC organizes and holds the International Congress on Internal Combustion Engines (CIMAC) every three years, which has been held for 29 sessions. The Society hosted the 18th and 27th International Congresses on Internal Combustion Engines in Tianjin and Shanghai in June 1989 and May 2013, respectively.

The Society is a mass scientific and technological organization with extensive cross-departmental, cross-industry, cross-regional and horizontal connections. There are 14 relevant industries in the Society's horizontal contacts. At present, it has more than 15,000 members in 28 provinces, autonomous regions and municipalities directly under the central government. Among them, 18 provinces and cities have established the Chinese Society for Internal Combustion Engines (CSICE). Chinese Society for Internal Combustion Engines (CSICE) has 21 branches and initiated the establishment of 3 consortia, including: High-power Diesel Engine Branch, Medium and Small Power Diesel Engine Branch, Gasoline Engine Gas Branch, Combustion Energy Saving Purification Branch, Testing Technology Branch, Basic Parts Branch, New Materials and Surface Technology Branch, Special Engine Branch, Fuel and Lubricating Oil Branch, Aircraft Internal Combustion Engine Branch, Aftertreatment Technology Branch, Design and Intelligent Manufacturing Branch, Fuel Cell Engine Branch, Plateau Internal Combustion Engine Branch, Internal Combustion Power Intelligent Technology Branch, Hybrid Power Technology Branch, Youth Work Committee, Women Scientific and Technological Workers Committee and Editorial Board. The three consortia are "Science and Technology Innovation in China" Lubricating Oil Innovation Consortium, Engine Carbon Neutrality Innovation Consortium and Engine Special Materials Innovation Consortium. Each branch and the consortium regularly organize rich and colorful academic exchange activities as planned every year.



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# ■ Preparatory Organization

## Organizing Committee

### Director

Jin Donghan, Academician of the Chinese Academy of Engineering, President of CSICE, President of Tianjin University

### Deputy Director

Huang Zhen, Academician of CAE, Vice President of CSICE, Chair Professor of Shanghai Jiao Tong University

Dong Jianfu, Vice President of CSICE, Director of Shanghai Marine Diesel Engine Research Institute

Li Jikai, Vice President of CSICE, Chief Quality Engineer of BAIC Group

Tang Zhongping, Vice President of CSICE, Chief Engineer of PetroChina Lubricant Company

Li Shusheng, Vice President and Secretary-General of CSICE

Shao Yu, Vice President of CSICE, General Manager and Deputy Secretary of CPC Committee of CSSC Power (Group) Co., Ltd.

Wu Zhixin, Foreign Academician of Russian Academy of Engineering, Deputy General Manager of China Automotive Technology and Research Center Co., Ltd.

## Academic Committee

### Director

Huang Zhen, Academician of CAE, Vice President of CSICE, Chair Professor of Shanghai Jiao Tong University

### Executive Deputy Director

Liu Zhigang, Vice President of CSICE, Former President of Harbin Engineering University

### Deputy Director

Zhong Yuwei, Vice President of CSICE, Senior Vice President of Guangxi Yuchai Machinery Co., Ltd.

Zhang Jiujun, Executive Member of the Council of CSICE, Academician of Academy of Science of the Royal Society of Canada, Dean of College of Sciences, Shanghai University

Shuai Shijin, Executive Member of the Council of CSICE, Deputy Director of Institute for Aero Engine, Tsinghua University

Yao Mingfa, Executive Member of the Council of CSICE, Professor of Tianjin University

Feng Huihua, Executive Member of the Council of CSICE; Dean of Xu Teli School, School of Future Technologies, School for Excellent Engineers

Lin He, Member of the Council of CSICE, Director of the Institute of Advanced Energy and Powertrain Technology, School of Mechanical Engineering, Shanghai Jiao Tong University

Xu Hongming, Director of Birmingham CASE Automotive Research and Education Centre, Chair Global Alliance of Overseas Chinese Societies of Automotive Engineers

## Working Committee

### Director

Li Shusheng, Vice President and Secretary-General of CSICE

### Deputy Director

Li Jikai, Vice President of CSICE, Chief Quality Engineer of BAIC Group

Tang Zhongping, Vice President of CSICE, Chief Engineer of PetroChina Lubricant Company

Ding Shuiting, Executive Member of the Council of CSICE, President of Civil Aviation University of China

Wang Tianyou, Member of the Council of CSICE, Vice President of Tianjin University

Wu Zhixin, Foreign Academician of Russian Academy of Engineering, Deputy General Manager of China Automotive Technology and Research Center Co., Ltd.

Sun Liwei, Vice Director of China North Engine Research Institute

# ■ Organizational Structure

### Hosted by

Chinese Society for Internal Combustion Engines  
Tianjin University

### Supported by

Shanghai Marine Diesel Engine Research Institute  
China Automotive Technology and Research Center Co., Ltd.  
Tianjin Internal Combustion Engine Research Institute  
State Key Laboratory of Engines  
Great Wall Motor Co., Ltd.  
China North Engine Research Institute  
Petro China Lubricant Company  
Harbin Engineering University  
National Key Laboratory of Vehicle Power System  
Nanchang Automotive Institute of Intelligence & New Energy  
Shandong Chambroad New Energy Holding Development Co., Ltd.  
CSSC Power (Group) Co., Ltd.  
Weichai Power Co., Ltd.  
National Key Laboratory of Internal Combustion Engine and Power System  
Guangxi Yuchai Machinery Co., Ltd.  
CNPC Jichai Power Equipment Company  
Dongfeng Commercial Vehicle Co., Ltd.  
The Engine Branch of Anhui Jianghuai Automobile Group Co., Ltd.  
Shaanxi Diesel Heavy Industry Co., Ltd.  
Accelleron Turbo Systems (Chongqing) Limited  
Weifang Lichuang Electronic Technology Co., Ltd.  
Sinocat Environmental Technology Co., Ltd.  
Kailong High Technology Co., Ltd.  
Ningbo Rakeforester Machinery Technology Co., Ltd.  
Suzhou ITI Motor Technology Co., Ltd.  
Kunshan Yitai Automobile Technology Co., Ltd.  
Shell (Shanghai) Technology Co., Ltd.  
Suzhou Automotive Research Institute (Wujiang), Tsinghua University  
Intertek Automotive Research  
Anhui Act Blue Environmental Protection Co., Ltd.  
Wuhan Hydrogen and Fuel Cell Industry Technology Research Institute Co., Ltd.  
Jinzhou Kangtai Lubricant Additive Co., Ltd.  
Bank of Communications Co., Ltd.  
Bank of Tianjin  
Global Alliance of Overseas Chinese Societies of Automotive Engineers  
Bluemile Chemical Co., Ltd.  
Beijing SinoHytec Co., Ltd.  
Shandong Shuanggang Piston Co., Ltd.  
Taizhou Saite Fluid Control Co., Ltd.

## ■ 2027 Congress

**April 2027**

**World Congress on Internal Combustion Engines**

**We are looking forward to meeting you.**

**WELCOME**

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