WCCE12
APCChE 2025

12th World Congress of Chemical Engineering

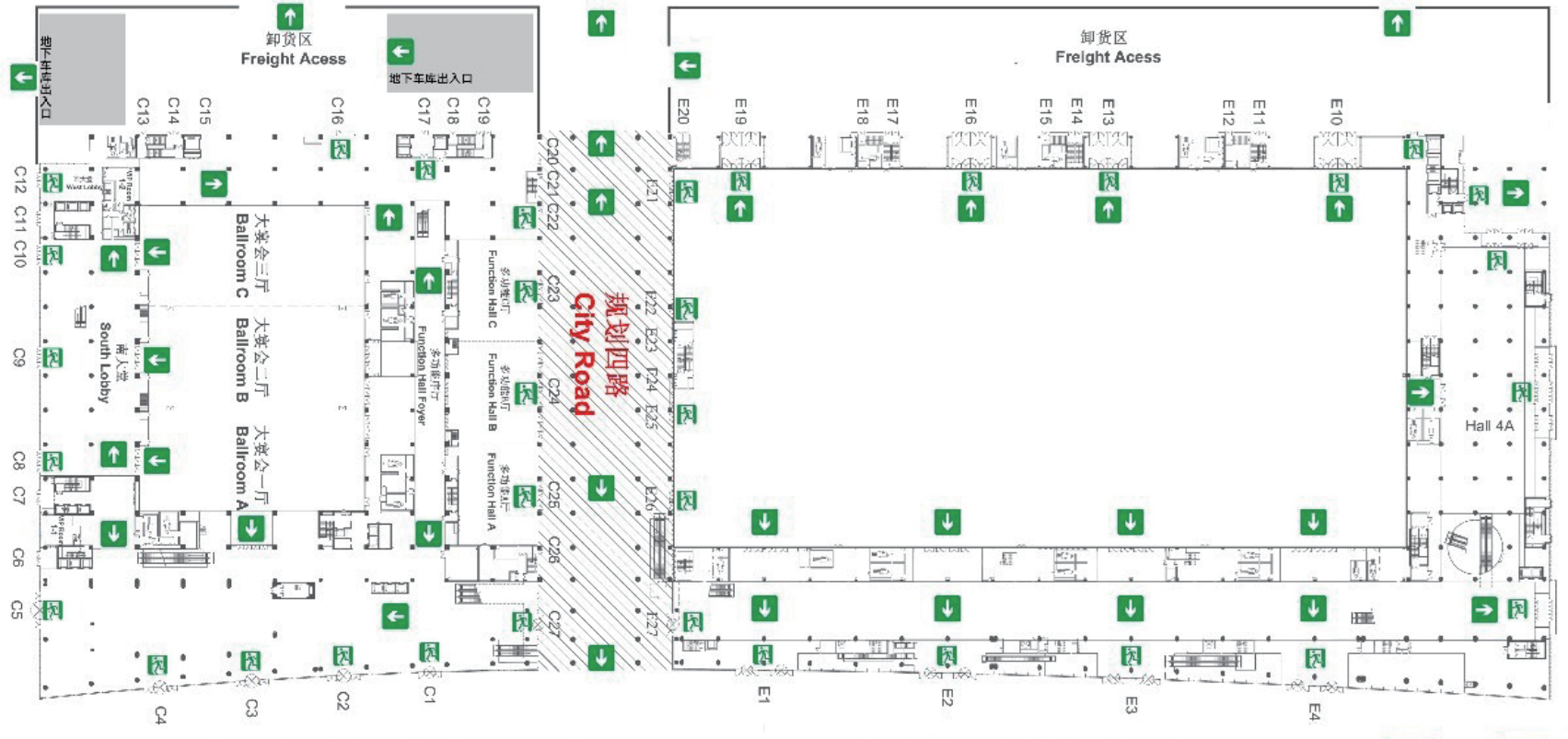
21st Asian Pacific Confederation of Chemical Engineering Congress 2025

PARALLEL SESSIONS HANDBOOK

July 14–18, 2025

China National Convention Center · Beijing, China

EMERGENCY EVACUATION



C2：会议入口，Conference Entrance
C3：会议出口，Conference Exit

E1：展览入口，Exhibition Entrance
E2：展览出口，Exhibition Exit

疏散通道方向

紧急出口

CONTENTS

SCHEDULE OVERVIEW 1

SCHEDULE: KEY EVENTS 3

SCHEDULE: PARALLEL SESSIONS 4

PARALLEL SESSIONS CONTACT INFORMATION 80

VENUE FLOOR PLAN 82

SCHEDULE OVERVIEW

Up to July 7, 2025

<table>
<tr><th>July 13 Sunday</th><th>July 14 Monday</th><th>July 15 Tuesday</th></tr>
<tr><td rowspan="5">On-site Registration
9:00-20:00</td><td>Opening Ceremony
9:00-9:45</td><td rowspan="2">Parallel Sessions
8:00-12:00</td></tr>
<tr><td>Plenary Lecture
9:50-12:00</td></tr>
<tr><td>Lunch
12:00-14:00</td><td>Lunch
12:00-14:00</td></tr>
<tr><td>Plenary Lecture &
Awards Ceremony
14:00-17:50</td><td rowspan="2">Parallel Sessions
14:00-20:00</td></tr>
<tr><td>Beijing Night Gala Dinner
18:00-20:00</td></tr>
</table>

Supporting Events

<table>
<tr><th>July 13 Sunday</th><th>July 14 Monday</th><th>July 15 Tuesday</th></tr>
<tr><td>WCEC Executive Meeting
(Closed-door)</td><td></td><td>APCChE Board Meeting
(Closed-door)</td></tr>
<tr><td></td><td colspan="2">International Chemical Engineering
Innovation EXPO 2025 (IChEIE 2025)</td></tr>
<tr><td></td><td colspan="2">Poster Presentations</td></tr>
</table>

July 16 Wednesday	July 17 Thursday		July 18 Friday
Parallel Sessions 8:00-12:00	Parallel Sessions 8:00-12:00	SDGs Special Event 8:30-12:30	Post-conference Tour 9:00-17:00
Lunch 12:00-14:00	Lunch 12:00-14:00		
Parallel Sessions 14:00-18:00	Plenary Lecture 14:00-16:30		
	Closing Ceremony 16:40-17:30		

July 16 Wednesday	July 17 Thursday
International Chemical Engineering Innovation EXPO 2025 (IChEIE 2025)	
Poster Presentations	

SCHEDULE: KEY EVENTS

Location: China National Convention Center
(No. 7, Tianchen East Road, Chaoyang District, Beijing)

Time	Agenda	Location
July 13, 2025 Sunday		
09:00-20:00	**On-site Registration**	Main Lobby, 1F
July 14, 2025 Monday		
09:00-09:45	**Opening Ceremony**	Plenary Hall A, 4F
09:50-17:20	**Plenary Lecture**	
17:20-17:50	**Awards Ceremony**	
18:00-20:00	**Beijing Night Gala Dinner**	Ballroom A, B and C, 1F
July 15, 2025 Tuesday		
08:00-20:00	**Parallel Sessions (17 Sessions)**	Refer to Next Page
	July 16, 2025 Wednesday	
08:00-18:00	**Parallel Sessions (17 Sessions)**	Refer to Next Page
July 17, 2025 Thursday		
08:00-12:00	**Parallel Sessions (3 Sessions)**	Refer to Next Page
08:30-12:30	**SDGs Special Event**	309B, 3F
14:00-16:30	**Plenary Lecture**	Function Hall A,B, 1F
16:40-17:30	**Closing Ceremony**	
July 18, 2025 Friday		
09:00-17:00	**Post-conference Tour**	

SCHEDULE: PARALLEL SESSIONS

July 15 08:00-20:00 Parallel Sessions Schedule			
Four Main Sections	**No.**	**Parallel Session**	**Venue**
Education and Training	02	Chemical Education and the Cultivation of Outstanding Engineers	306A
Foundational Industry Reengineering	05	Chemical Engineering Thermodynamics and Big Data	307AB
	06	Green Catalysis and Chemical Reaction Engineering	309B
	07	Flow Chemistry and Microreaction Technology	302AB
	08	Advanced Separation Technology & Engineering	311B
	11	Biochemical and Biomanufacturing	306B
	12	Process Industry Innovation and Process Systems Engineering Reengineering	310
	32	Engineering Thermochemistry and Low Carbon Chemical Engineering	309A
	34	High-end Chemical New Material Innovation and Digital Intelligence Empowerment	301AB
Strategic and Emerging Industries	14	Advancements in High-Performance and Intelligent Chemical New Materials	311A
	17	Efficient Manufacturing Engineering of Functional Electronic Chemicals	405
	19	Biomass Materials & Chemicals	308
	21	Chemical Engineering Process for Water, Gas Treatment and Environment Protection	303B
Future Chemical Engineering and Smart Innovation	24	Single Atom Catalysis and Theoretical Chemistry	305
	25	Hydrogen Energy and Hydrogen Energy Industry Chain	402AB
	26	Electrochemical Engineering, Energy Internet, and Energy Storage	303A
	30	Green Energy and Environmental Engineering	401

Up to July 7, 2025

SCHEDULE: PARALLEL SESSIONS

July 16 08:00-18:00 Parallel Sessions Schedule			
Four Main Sections	**No.**	**Parallel Session**	**Venue**
Education and Training	01	Engineering Ethics Education and Sustainable Chemical Industry	306B
	03	International Symposium of Chemical Engineering Departments/Schools from Global Universities	303B
	04	Chemical Engineering Innovation and Entrepreneurship	405
Foundational Industry Reengineering	09	Inherent Safety and Process Intensification of Chemical Processes	311B
	10	Energy Transition Towards a Net-zero Future	302AB
	13	Intelligent Manufacturing Technology and Equipment for the Chemical Industry	301AB
	31	Clean and Efficient Conversion and Utilization of Coal	310
Strategic and Emerging Industries	15	Green Agriculture: A New Paradigm of Seed, Fertilizer and Pesticide Innovation	311A
	16	Biopharmaceutical and Health Engineering	402AB
	18	Waste Resource Conversion and Circular Economy	309A
	20	Preparation Theory and Application of Carbonaceous New Materials	307AB
Future Chemical Engineering and Smart Innovation	22	Carbon Neutrality and Sustainable Development of the Chemical Industry	305
	23	Mesoscience and Artificial Intelligence in Chemical Engineering	401
	27	Innovation and Practice of Industrial Software in Process Manufacturing	303A
	28	Advanced Chemical Materials and Future Chemical Industry	309B
	29	Future Energy and Novel Chemical Process	308
	33	International Symposium of Artificial Intelligence for Chemical Product and Process Innovation	306A

Up to July 7, 2025

SCHEDULE: PARALLEL SESSIONS

July 17 08:00-12:00 Parallel Sessions Schedule			
Four Main Sections	**No.**	**Parallel Session**	**Venue**
Foundational Industry Reengineering	05	Chemical Engineering Thermodynamics and Big Data	307AB
	08	Advanced Separation Technology & Engineering	311B
Future Chemical Engineering and Smart Innovation	33	International Symposium of Artificial Intelligence for Chemical Product and Process Innovation	306A

DINING ARRANGEMENTS

Date	Dining	Location
July 14 12:00-14:00	**Lunch**	Hall 5, B1
July 14 18:00-20:00	**Beijing Night Gala Dinner**	Ballroom A, B and C, 1F
July 15 12:00-14:00	**Lunch**	Hall 5, B1
July 16 12:00-14:00	**Lunch**	Hall 5, B1
July 17 12:00-14:00	**Lunch**	Hall 5, B1

Up to July 7, 2025

01 Engineering Ethics Education and Sustainable Chemical Industry

July 16th, 2025 **Room: 306B**

Time	Topic	Speaker	Institute
09:00-09:30	Upholding Engineering Ethics in Today's Risky World	Shandong Tu	East China University of Science and Technology
09:30-10:00	Innovative Talent Cultivation Models for Green and Sustainable Development	Jun Ma	Harbin Institute of Technology
10:20-10:50	Engineering Ethics Education - The Importance of Getting it Right	David Shallcross	The University of Melbourne
10:50-11:20	Engineering Ethics and Sustainable Development in Chemical Engineering Education	Eva Sorensen	University College London
11:20-11:50	Entrepreneurship education in Institute of Science Tokyo	Toshiaki Kamachi	Institute of Science Tokyo
13:00-13:30	CO_2 Capture and Storage: An Industrial Problem	Frederico W. Tavares	Federal University of Rio de Janeiro
13:30-14:00	Challenges for Sustainability in Mexico and the Training of Professionals in Chemical Engineering	Eduardo Bárzana	National Autonomous University of Mexico
14:00-14:20	Reflections on Chemical Engineering Education in the Context of Sustainable Development in the Chemical Industry and the AI Era	Qingya Liu	Beijing University of Chemical Technology
14:20-14:40	AI+ChE -- A New Interdisciplinary Education Paradigm for Chemical Engineering Students at Tsinghua University	Kai Wang	Department of Chemical Engineering, Tsinghua University
15:00-15:20	Teaching Ethics for Chemical Engineering Undergraduate Students in the Notion of New Engineering Disciplines Education: Global Vision and Local Action	Liyan Liu	College of Chemical Engineering, Tianjin University
15:20-15:40	Design the Future: The Common Ground between Engineering Ethics and Corporate ESG	Yu Guan	Amber Long (China) Co., Ltd.
15:40-16:00	ESG-Driven Innovation in Engineering Ethics: Chemical Recycling of Waste Plastics Towards Circular Economy	Renhu Tang	Beijing SinoCarbon Innovation & Investment Co., Ltd.
16:00-16:20	Ethics and AI: What Chemical Engineers Hope, Think, and Do?	Xiaofeng Tang	Institute of Engineering Education, Tsinghua University
16:20-16:40	The Green Chemistry of Wanhua: Exploration, Practices, and Innovation	Yongzhen Zhang	Wanhua Chemical Group Co., Ltd.
16:40-17:00	Engineering Ethics in the Field of Petrochemical Engineering Construction Practices and Discussion	Peiyou Zhang	Quality, Safety, and Environmental Protection Department, Sinopec Engineering Group

02 Chemical Education and the Cultivation of Outstanding Engineers

July 15th, 2025 **Room: 306A**

Time	Topic	Speaker	Institute
08:35-09:00	Ultra-deep drilling at 10,000 meters: challenges, technology breakthroughs, and implications for outstanding engineers	Jinsheng Sun	National Elite Institute of Engineering, CNPC
09:00-09:25	Ongoing changes and development in c hemical engineering education	Jarka Glassey	Newcastle University
09:25-09:50	Crafting Excellence, Sharpening Skills: The Innovative Path of Outstanding Engineer Cultivation at Southeast University	Youhong Sun	Southeast University
09:50-10:15	Multi-Mode Cultivation Exploration and Practice of Engineering Graduates Based on Industry-Education Deep Integration	Liqun Zhang	Xi'an Jiaotong University
10:15-10:40	Interfacial Science in Chemical Engineering: From Molecular Insights to Training the Next Generation of Engineers	Hongbo Zeng	University of Alberta
10:50-11:05	Outstanding Engineers' Cultivation Drives Industry Sustainable Development	Haijia Su	Beijing University of Chemical Technology
11:05-11:20	Teaching Sustainability in the Chemical Engineering curriculum at the University of Twente, The Netherlands involves assessment of Social & Ecological Impacts	Boelo Schuur	University of Twente
11:20-11:35	Green Design Engineers Facilitate Sustainable Development of the Chemical Industry	Bernd Albert Sachweh	World Green Design Organization
11:35-11:50	An AI Teaching Assistant for chemical engineering thermodynamics	Diannan Lu	Tsinghua University
11:50-12:05	Building Excellence: Sustainable Education and Engineer Training at the Chemical Engineering Department, Técnico	Rui Galhano dos Santos	Instituto Superior Técnico
14:00-14:15	Empowered by AI: Redefining the Ecosystem of Chemical Engineering Education	Xinbin Ma	Xinjiang University
14:15-14:30	Cultivating Talents in Chemical and Industrial Innovation for the Transformative Era	Zhe Guo	China Science and Technology Museum

02 Chemical Education and the Cultivation of Outstanding Engineers

July 15th, 2025 **Room: 306A**

Time	Topic	Speaker	Institute
14:30-14:45	Construction of bridges between university and industry for chemical engineering education at NJtech	Xuehong Gu	Nanjing Tech University
14:45-15:00	Exploration and Practice of a Future-Oriented Outstanding Engineering Talent-Training Model Featuring "Multi-party Collaboration and Triple-chain Integration"	Faquan Yu	Wuhan Institute of Technology
15:00-15:15	Current status and future perspectives of chemistry and chemical engineering education in some US universities	Jin Zhang	University of California, Santa Cruz
15:15-15:30	Sustainable Chemical Processes and Digital Transformation in Chemical Engineering	Haslinda Zabiri	Universiti Teknologi PETRONAS
15:30-15:45	University-enterprise collaboration drives practice-oriented teaching of professional graduate students in chemical engineering discipline at Tianjin University	Guozhu Liu	Tianjin University
15:45-16:00	Deepening Industry-Education Integration and Steadily Advancing the Cultivation of Outstanding Engineers	Long Shi	University of Science and Technology of China
16:00-16:15	Innovation in talent training system for green chemical engineering: Integration of engineering practice and classroom teaching	Xueqing Gong	Shanghai Jiao Tong University
16:25-16:40	Intelligent Molecular Engineering Program Development and Practice	Tao Liu	Dalian University of Technology
16:40-16:55	Teaching Phase Equilibrium Calculations in Engineering Education: Reflections from a PhD Course	Wei Yan	Technical University of Denmark
16:55-17:10	Reflections on the Development of a Smart Chemical Industry under Dual Carbon Goals	Xiangping Zhang	China University of Petroleum, Beijing

03 International Symposium of Chemical Engineering Departments/ Schools from Global Universities

July 16th, 2025 **Room: 303B**

Time	Topic	Speaker	Institute
08:40-09:00	Global Perspectives on Chemical Engineering Research and Education	Guangzhao Mao	University of Edinburgh, UK
09:00-09:20	Discipline construction and talent training of College of Chemical Engineering, Beijing University of Chemical Technology	Daojian Cheng	Beijing University of Chemical Technology
09:20-09:40	Experiential Learning in the Chemical Engineering Curriculum	Michael S. Wong	Rice University, USA
09:40-10:00	Global Drivers Transforming Chemical Engineering Education	Ramin Farnood	University of Toronto, Canada
10:00-10:20	AI Empowers Chemical Engieering Education and Innovation at Tsinghua University	Qiang Zhang	Tsinghua University
10:20-10:40	The Phamaceutical Engineering in the CBE of Zhejiang Univeristy	Youqing Shen	Zhejiang University
10:50-11:10	Innovation in chemical engineering curriculum: A global campus perspective	Huanting Wang	Monash University, Australia
11:10-11:30	Integrating Innovation and Intelligence: Exploration and Practice of Talent Cultivation Models in Chemical Engineering Education at Tianjin University	Xiaobin Fan	Tianjin University
11:30-11:50	Advances and Prospects in Chemical Engineering Discipline at ECUST	Zhi Xu	East China University of Science and Technology
13:30-13:50	Embedding the Development of a Sustainable Future into the Chemical Engineering Core Curriculum	Xianfeng Fan	University of Edinburgh, UK
13:50-14:10	The Future of Chemical Engineering Departments	Minhua Shao	Hong Kong University of Science and Technology
14:10-14:30	The construction of diversified chemical engineering disciplines and talent cultivation in the AI era	Jiatao Zhang	Beijing Institute of Technology
14:30-14:50	Integration of Science, Industry and Education in Membrane Industry College at NJTech	Xuehong Gu	Nanjing University of Technology
14:50-15:10	From Innovation to Global Citizenship: The "1+4" Joint Degree Program for Cultivating Internationally Competent Talent	Jinyou Shen	Nanjing University of Science and Technology
15:20-17:50	Round-table Conference		

04 Chemical Engineering Innovation and Entrepreneurship

July 16th, 2025 **Room: 405**

Time	Topic	Speaker	Institute
08:30-08:50	New Colloids for Health	Martien Cohen Stuart	University of Manchester
08:50-09:10	The Future of Chemical Manufacturing: Decarbonization through Circular Carbon Technologies	De Chen	East China University of Science and Technology
09:10-09:25	Development of Enabling Technologies for Sustainable Synthesis	John Ward	University of Liverpool
09:25-09:40	High-efficiency Clean Production of Cyanamide and Solid Waste Utilization	You Han	Tianjin University
09:40-09:55	Red/NIR photoresponsive dyes	Junji Zhang	East China University of Science and Technology
09:55-10:10	Crystalline organic photocatalysts for solar fuel production	Weiwei Zhang	East China University of Science and Technology
10:10-10:20	Enzymatic-mediated production of bioactive drug compounds	Kirsty McLean	University of Huddersfield
10:40-11:00	Ionic Liquids and Catalytic Processes for NetZero applications	Christopher Hardacre	University of Manchester
11:00-11:15	Hole-Transporting Materials Innovation for Perovskite solar cells	Yongzhen Wu	East China University of Science and Technology
11:15-11:30	Building the Net-Zero Hamlet: An Integrated Waste-to-Energy Village for Global Carbon Reduction and Energy Access	Bo Xu	Nanjing University of Science and Technology
11:30-11:40	Building the Net-Zero Hamlet: An Integrated Waste-to-Energy Village for Global Carbon Reduction and Energy Access	Gina Javanbakht	University of Huddersfield
11:40-11:50	Optimizing Pt Coordination for Enhanced Dehydrogenation: From Laboratory Insights to Practical Applications	Yongxiao Tuo	China University of Petroleum (East China)
11:50-12:00	Modelling speciation and morphology of nanoparticles for enhanced materials performance	Marco Molinari	University of Huddersfield
13:30-13:50	Processable Imine-based 2D Covalent Organic Frameworks: from gels to 3D printing	Felix Zamora	Autonomous University of Madrid
13:50-14:10	Recycling of Spent Catalysts in Petroleum Refining and Chemical Processes	Xinmei Liu	China University of Petroleum (East China)
14:10-14:25	Controlling the Functionality of Hybrid Glasses and their Composites	Lauren N. McHugh	University of Liverpool
14:25-14:40	The functional dyes, Visualizing, Fluid flowing, Biological interface, Biological process	Xiaoqiang Chen	Shenzhen University
14:40-14:55	Novel fibre synthesis from textile waste materials	Chenyu Du	University of Huddersfield

WCCE 12 & APCChE 2025

04 Chemical Engineering Innovation and Entrepreneurship

July 16th, 2025 **Room: 405**

Time	Topic	Speaker	Institute
14:55-15:10	Photoresponsive Polymer Materials Based on Dynamic Reversible Reaction	Xiaohan Lin	Institute of Zhejiang University-Quzhou
15:10-15:20	Chemical Engineering Innovation for a Circular Water, Energy, and Environment Nexus	Mohammad Reza Alizadehfard	OSMOTEC
15:20-15:30	Enabling Local Technologies in Developing Countries	John Allport	University of Huddersfield
15:30-15:35	Rapid CO_2 reduction into biomethane using natural olivine as an electron donor in oil reservoir production water.	Muhammad Javed	East China University of Science and Technology
15:35-15:40	The Production of Renewable Bio-based Surfactants for Sustainable Cleaning	Homely lsaya Mtui	East China University of Science and Technology
16:00-16:20	Chiral nanoparticle's unique immune effects towards first class medicine development	Chuanlai Xu	Jiangnan University
16:20-16:40	Organic Room-Temperature Phosphorescence	Xiang Ma	East China University of Science and Technology
16:40-16:55	Research and Application Progress of Super-Resolution lmaging Technology	Qinggang Meng	BioTimes Technology Co., Ltd.
16:55-17:10	Construction of soft materials with tunable phosphorescence	Chen Xu	Institute of Zhejiang University-Quzhou
17:10-17:20	Development of gas solid phase reactor for intrinsic safety of oxygen-containing explosive system	Shoutao Ma	SINOPEC Research Insitute of Safety Engineering Co.,Ltd
17:20-17:30	Hydrogen Mirage or Energy Oasis? Algeria's Green Hydrogen Promise for North Africa and Europe	Sulaiman Omer Sulaiman Fadlallah	University of Huddersfield
17:30-17:35	Recycling and Emission Management in Silicon Solar Panel Waste	Sara Khan	East China University of Science and Technology
17:35-17:40	Enhance surfactin production in Bacillus subtilis	Kristina Simon	East China University of Science and Technology
17:40-17:45	Utilization and Conversion of Associated Petroleum Gas into Value-Added Fuel srenewable fuels and Chemicals: From Flaring to Value	Timur Gafurov	East China University of Science and Technology

05 Chemical Engineering Thermodynamics and Big Data

July 15th, 2025 **Room: 307AB**

Time	Topic	Speaker	Institute
08:40-09:00	Recent advances in electrolyte and water thermodynamics	Georgios M. Kontogeorgis	Technical University of Denmark
09:00-09:20	A Multilayer Quasichemical Approach for Modeling Interfaces and Aggregates in Nonionic Solutions	Alexey I. Victorov	Saint Petersburg State University
09:20-09:40	Applications and Current Status of Trusted Data Spaces in China's Electronic Chemicals Industry	Hang Shi	Suzhou Laborator
10:00-10:20	Machine Learning-Accelerated Prediction of Lewis Acid Site Positioning for Long-Chain Mono-olefin Aromatization on Zn2+/HZSM-5 Catalysts	Baojun Wang	Taiyuan University of Technology
10:20-10:40	Innovative Theoretical Framework for Microscopic Reaction-Diffusion Dynamics in Nanoscale Confinement	Shuangliang Zhao	Guangxi University
10:40-10:55	Physical properties of mixtures containing bio-based solvents for green process	Hiroyuki Matsuda	Nihon University
10:55-11:10	Development of slurry gas separation technology based on metal-organic frameworks	Bei Liu	China University of Petroleum, Beijing
11:10-11:25	Development and application of non-equilibrium electrochemical models	Cheng Lian	East China University of Science and Technology
11:25-11:40	Physics-informed neural network for solving the inverse and forward problems of granular flow in the homogeneous cooling state	Bidan Zhao	China University of Petroleum, Beijing
11:40-11:55	Separation Processes with Ionic Liquids/ Deep Eutectic Solvents and Its Molecular Thermodynamic Applications	Gangqiang Yu	TU Dortmund University
11:55-12:10	Experiment and molecular simulation on Solubility and Selectivity of H2S/CO2 in modified green solvents	Zhijun Zhao	Beijing Institute of Petrochemical Technology
14:00-14:20	A Hybrid Density Functional Theory for Heterogeneous Catalysis	Jianzhong Wu	University of California, Riverside
14:20-14:40	Molecular Insight into the Nanoconfined Ionic Liquids and Their Frontier Applications Toward Green Chemistry	Hongyan He	Institute of Process Engineering, Chinese Academy of Sciences
14:40-14:55	Machine learning methods in property predictions and process modeling	Xiaodong Liang	Technical University of Denmark
14:55-15:10	Artificial intelligence for revolutionizing molecular structure-property modelling of ionic liquids and analogues	Zhen Song	East China University of Science and Technology

05 Chemical Engineering Thermodynamics and Big Data

July 15th, 2025 **Room: 307AB**

Time	Topic	Speaker	Institute
15:10-15:25	Mechanism-guided Inverse Engineering Framework to Unlock Design Principles of H-bonded Organic Frameworks for Gas Separation	Yun Tian	Zhengzhou University
15:25-15:40	Phase equilibrium thermodynamics and techno–economic analysis for the solution mining of polyhalite	Huaigang Cheng	Shanxi University
15:40-15:50	Modelling and simulation of absorption-based Carbon Capture with Extended UNIQUAC	Gcinisizwe Dlamini	Technical University of Denmark
15:50-16:00	Structural descriptor bridging the micro-structural feature and catalytic reactivity for rational design of transition metal catalysts	Haoxiang Xu	Beijing University of Chemical Technology
16:00-16:10	Embedding Data-driven Group-Contribution Machine Learning Surrogate Classifier in Solvent Design Optimisation	Lifeng Zhang	Imperial College London
16:30-16:50	Thermodynamics study with implication on marine hydrate-based CO2 sequestration	Guangjin Chen	China University of Petroleum, Beijing
16:50-17:10	Intelligent Maximum Probability Design of Electrocatalysts for Ammonia Synthesis	Yangxin Yu	Tsinghua University
17:10-17:25	Structure and Thermodynamics of IL/DES Mixtures: Insights from Molecular Simulations	Francesca Mocci	University of Cagliari
17:25-17:35	Fine analysis of the effect of NH3 on the microstructure of mixed KCl and NH4Cl aqueous solutions	Fei Li	Hebei University of Technology
17:35-17:45	Generalized Van der Waals-Maxwell equation for the vapor pressure of pure substances	Martin Wendell Cordova Villanueva	Department of Chemical Engineering, University of Trujillo
17:45-17:55	Quantification and Prediction of Ionic Liquid-Solid Interactions via Colloid Probe AFM and Machine Learning	Rong An	Nanjing University of Science & Technology
17:55-18:05	Prediction of Azeotropic Point for Refrigerant Systems Through COSMO-Based Models	Xinyan Liu	Wuhan University of Science and Technology
18:05-18:15	Micro-nano Scale Process Intensification and Development of Novel Processes Based on the Design of Green Media	Weizhong Zheng	East China University of Science and Technology

05 Chemical Engineering Thermodynamics and Big Data

July 17th, 2025 **Room: 307AB**

Time	Topic	Speaker	Institute
08:30-08:50	Insights on cooling, damping, friction, and dispersion from molecular simulations	Philip J. Camp	University of Edinburgh
08:50-09:10	Measurement and Application of Viscosity for Highly Viscous Fluids at High Pressure	Liwen Mu	Nanjing Tech University
09:10-09:25	High-Throughput Screening of Metal-Organic Frameworks for Natural Gas Desulfurization and Purification	Zhi Li	China University of Petroleum-Beijing at Karamay
09:25-09:35	Optical Spectroscopy as a Probe for Photocatalytic Performance in Doped ZnO Nanostructures for Dye Degradation	Chiara Olla	Department of Physics, University of Cagliari
09:35-09:45	Coupling mechanistic and data-driven models for accurately predicting thermochemical conversion of biomass	Hongliang Qian	China Pharmaceutical University
09:45-09:55	Lifetime Assessment and Prediction of Energy Storage Batteries Based on Physics-Informed Neural Networks	Qingwei Gao	Shanghai University of Electric Power
09:55-10:05	Malic acid based natural deep eutectic solvent as entrainer for acetonitrile dehydration	Neetu Singh	Thapar Institute of Engineering & Technology, Patiala, Punjab, India
10:20-10:40	From Reverse Engineering to Inverse Problem Solving in Molecular Technologies	Aatto Ilmari Laaksonen	Department of Chemistry, Stockholm University
10:40-11:00	Molecular aspects of proteins at interfaces	Jian Zhou	South China University of Technology
11:00-11:20	Hybrid modeling of complex fluids	Xiaoyan Ji	Lulea University of Technology
11:20-11:35	Chasing the Nature of Carbon Dots: Understanding the Link Between Precursors/Reaction Conditions and the Structure of Products Through a Combined Experimental and Theoretical Approach	Carlo Maria Carbonaro	Department of Physics, University of Cagliari
11:35-11:50	Theory of Confined Fluid-Solid Dynamic Coupling and Transport Enhancement	Wei Cao	Nanjing Tech University
11:50-12:00	Effects of structural details of a linear polyelectrolyte chain on the structure and osmotic pressure of solution	Kristina Nikiforova	Institute of Chemistry, Saint-Petersburg State University, St Petersburg, Russia
12:00-12:10	Regulating Anion Disorder and Interfacial Phase Evolution in Sulfide Electrolytes via Deep Potential Molecular Dynamics	Nan Xu	Zhejiang University

06 Green Catalysis and Chemical Reaction Engineering

July 15th, 2025 **Room: 309B**

Time	Topic	Speaker	Institute
08:35-08:55	Operando Spectroscopy of Heterogeneous Catalysts: Foundation, Developments and Applications	Bert M. Weckhuysen	Utrecht University
08:55-09:15	Emerging electron crystallographic techniques accelerate the development of green catalysts and adsorbents	Xiaodong Zou	Stockholm University
09:15-09:30	Research Progress in Micro chemical Engineering Technology	Kai Guo	Nanjing Tech University
09:30-09:45	From AGI to ASI: AI + Robotics Empowering Industry Innovation	Jian Ma	XtalPi Holdings Limited
09:45-09:55	Mono-Ligated Phosphine-Metal Complex on Polystyrene-Phosphine Monolith Stabilized by Metal-Arene Interactions	Hikaru Matsumoto	Kyushu University
09:55-10:05	Pt entrapped in zeolite as durable and regenerable catalyst for propane dehydrogenation	Haibo Zhu	Fuzhou University
10:30-10:50	Innovation in polymer reaction engineering for high-end polymer products	Shiping Zhu	The Chinese University of Hong Kong, Shenzhen
10:50-11:10	Carbon dioxide conversion to methanol: Efficient catalysts design and application	Xinbin Ma	Xinjiang University
11:10-11:25	What is the role of Nafion in the electroreduction of CO2 into ethylene	Daniel Curulla Ferre	TotalEnergies S.E.
11:25-11:40	Mesoporous carbon confined metal catalysts towards precise catalysis	Ying Wan	University of Shanghai for Science and Technology
11:40-11:50	Novel Perovskite-based Catalysts in Reverse Water Gas Shift Reaction	Qiang Yu	SINOPEC Shanghai Research Insitute of Petrochemical Technology Co.,Ltd.
11:50-12:00	Low-cost catalysts from biomass rice husk ash for producing ethylene by ethanol dehydration in a pilot-scale reactor	Pitchanan Sriuthai	Suranaree University of Technology
14:00-14:20	Green Hydrogen and Liquid Sunshine	Can Li	Dalian Institute of Chemical Physics, Chinese Academy of Sciences
14:20-14:40	Reversible Molecular and Interfacial Interactions: Advancing Functional Soft Materials for Engineering and Bioengineering	Hongbo Zeng	University of Alberta
14:40-14:55	Commitment to Green Low-Carbon Development	Jun Xue	Sinopec Catalyst Co.,Ltd.
14:55-15:10	Core–shell structured magnesia–silica as next generation catalysts for one-step ethanol-to-butadiene Lebedev process	Sang-Ho Chung	King Abdullah University of Science & Technology
15:10-15:20	Mercury-Free Catalysts for a Green Chlor-Alkali Industry	Qiang Niu	Inner Mongolia Erdos Electric Power and Metallurgy Group Co.,Ltd.

06 Green Catalysis and Chemical Reaction Engineering

July 15th, 2025 **Room: 309B**

Time	Topic	Speaker	Institute
15:20-15:30	Exploring the potential of high entropy oxides as a novel catalyst for the selective catalytic reduction of nitrogen oxides	Sameer Shahid	Donghua University
15:55-16:15	Carbon-based Metal-free Electrocatalysts for Clean Energy Conversion and Green Chemical Reactions	Liming Dai	University of New South Wales
16:15-16:35	Scale-up of Multiphase Reactors and application for industrial manufacturing of high-end chemical products	Chao Yang	Institute of Process Engineering, Chinese Academy of Sciences
16:35-16:50	Ethylbenzene Production Technology with Diversified Feedstock	Yiyan Wang	SINOPEC Shanghai Research Insitute of Petrochemical Technology Co.,Ltd.
16:50-17:05	Green Catalysis in Polymer Chemistry: Sustainable Innovations for a Circular Economy	Clifford Ching-Yu Lee	Lee Plastics Consulting
17:05-17:15	Application of Organo-Catalyzed Atom Transfer Radical Polymerization (O-ATRP) in preparation of dielectric polymer	Xin Hu	Nanjing Tech University
17:15-17:25	Application of Modified Ultra-Stable Zeolite Y in the Catalytic Synthesis of Energy-Rich Fuel Additives	Sanghamitra Barman	Thapar Institute of Engineering & Technology

07 Flow Chemistry and Microreaction Technology

July 15th, 2025 **Room: 302AB**

Time	Topic	Speaker	Institute
08:20-08:40	Microreaction Technology for Controllable Fabrication of Microstructured Functional Materials	Liang-Yin CHU	Sichuan University
08:40-08:55	Mixing and Chemical Reactions in Microreactors	Shusaku Asano	Kyushu University
08:55-09:10	Assessing the Sustainability of Flow Chemistry in Industrial Pharmaceutical Processes	Gianvito Vilé	Politecnico di Milano
09:10-09:25	Accelerated development of synthetic electrochemistry with flow chemistry and automation	Yiming Mo	Zhejiang University
09:25-09:35	Phase separation phenomenon during green synthesis of polyurea microcapsules	Jiupeng DU	Aix Marseille Univ
09:35-09:45	Investigation of the effect of a high-speed valve on generation of gas-liquid segmented flow in microchannels	Chiyuen Leung	Kyoto University
09:45-09:55	Microfluidic based Cell-mimetic Coacervate-Core-Droplets for Guest Molecule Sequestration and Enhanced Enzymic Reaction	Yuhao Geng	Nanyang Technological University
09:55-10:05	Scale-up and commercialization of ultrasonic microreactors and their application in nanomaterial preparation	Zhengya Dong	Shantou University
10:05-10:15	Turning up the heat on flow chemistry	Christopher Tighe	Imperial College London
10:25-10:45	Miniaturization of dye intermediates synthesis	Yangcheng Lu	Tsinghua University
10:45-11:00	Controllable emulsions and functional particles from microfluidics	Wei Wang	Sichuan University
11:00-11:15	The application of microreaction technology in the synthesis of energetic material	Chaoqun Yao	Dalian Institute of Chemical Physics, Chinese Academy of Sciences
11:15-11:30	Microfluidic manipulation of multiphasic liquid-liquid phase-separated (LLPS) systems	Tiantian Kong	Shenzhen University
11:30-11:40	Controllable production of smaller microbubbles via optimizing the operation procedure and structure of the flow-focusing microreactor	Lin Sheng	Tsinghua University
11:40-11:50	Micro-reactor concept with optical access for the in situ characterization of the particle morphology change during a gas-solid heterogeneous reaction	Max Philipp Deutschmann	Karlsruhe Institute of Technology
11:50-12:00	Experimental Investigation on Liquid-Liquid Mass Transfer Characteristics under Slug Flow in Microreactors	Tingting Wang	University of Groningen

07 Flow Chemistry and Microreaction Technology

July 15th, 2025 **Room: 302AB**

Time	Topic	Speaker	Institute
12:00-12:10	Microchannel Catalytic Intensification via Liquid Metal Dynamic Interface Regulation for CO_2 Conversion	Chao Yu	Jiangsu University of Science and Technology
12:10-12:20	Synthesis of glyoxalic acid and reaction kinetics of glyoxal by Fenton oxidation in a capillary microreactor	Han Wang	Tianjin University
13:40-14:00	When continuous flow microreactors meet homogeneous and heterogeneous catalysis: from reaction engineering to process intensification	Jun Yue	University of Groningen
14:00-14:15	Mass Transfer Enhancement and Particle Morphology Regulation in Microfluidics and Their Applications	Dong Chen	Zhejiang University
14:15-14:30	Two-stage microreactor with intensely swirling flows – a tool for fast co-precipitation of nanoparticles: does the swirling really matter?	Rufat Abiev	Saint Petersburg State Institute of Technology
14:30-14:40	Process Intensification of Continuous Flow Biocatalysis	Ziyi Yu	Nanjing Tech University
14:40-14:50	Hydrodynamic and mass transfer study of gas-liquid flow in single pellet string microreactors	Lu Zhang	University of Groningen
14:50-15:00	Formation and regulation of polymeric droplets with complex rheology in capillary microchannels	Wenjun Yuan	Xi 'an Jiaotong University
15:00-15:10	Autonomous and scalable decatungstate-mediated HAT photocatalysis in flow	Zhenghui Wen	Yongjiang Laboratory
15:10-15:20	Convective Heat Transfer Analysis of Hybrid Nanofluids in Porous Channels Featuring Semi-Circular Heating and Cooling Elements	Avinash Chandra	Thapar Institute of Engineering & Technology
15:20-15:30	Overcoming Trade-off Effect in Aromatic Nitration via Kinetic and Thermodynamic Regulation in microreactors	Jing Song	Tsinghua University
15:40-16:00	Sustainable and Scalable Chemistry in Water using Continuous Slurry Flow Technology	C. Oliver Kappe	University of Graz
16:00-16:15	Flash Chemistry in New Drug Development---One-process-fits-all Continuous Process Development	Fanfu Guan	Jiangsu Hengrui Pharmaceutical Co., LTD
16:15-16:30	Preparation of Non-spherical Biobased Polymer Microparticles under Microflow	Takaichi Watanabe	Okayama University

07 Flow Chemistry and Microreaction Technology

July 15th, 2025 **Room: 302AB**

Time	Topic	Speaker	Institute
16:30-16:45	Establishment of Quantitative Correlation of Mixing Efficiency with Fluid Flow Parameters in Microchannel	Faquan Yu	Wuhan Institute of Technology
16:45-16:55	Self-optimization of photocatalytic synthesis of 2-phenylbenzothiazoles in an automated continuous microflow platform	Fang Zhao	East China Normal University
16:55-17:05	Design, Development, Scale-up and Industrial Application of High Performance Microchannel Reactor	Wenpeng Li	Zhengzhou University
17:05-17:15	Micro-Interface Modulation and Process Intensification for Enhanced Ammonia Electrosynthesis in Microreactors	Hengyuan Liu	East China University of Science and Technology
17:15-17:25	Influence of bubbly flow on the ohmic overpotential of electrochemical reactions in microchannel reactors	Kunlun Gao	Tsinghua University
17:25-17:35	Precision Engineering of Lipid Nanoparticle Assembly in Microreactors for Enhanced mRNA Delivery	Zhikai Liu	Dalian Institute of Chemical Physics, Chinese Academy of Sciences
17:35-17:45	Optimization and analysis of flow reactions using Pd-immobilized catalysts driven by machine learning	Xincheng Zhou	Kyushu University
17:45-17:55	Shear Stress Fluctuation in Particulate Water Slurry: Mechanism and Factors Explored via Experiments and Simulations	Tong Wu	Tianjin University
17:55-18:05	Continuous (de)hydrogenation of NEC/12H-NEC in a micro-packed bed reactor for hydrogen storage	Yiwei Fan	Tsinghua University

08 Advanced Separation Technology and Engineering

July 15th, 2025 **Room: 311B**

Time	Topic	Speaker	Institute
08:30-08:55	High-Temperature Air Separation by Oxygen-Vacant Metal Oxide Ceramics: A Comparison of Membrane and Sorption Processes	Jerry Y.S. Lin	Arizona State University
08:55-09:20	Demonstrating viable and complete water decontamination by recovery of valuable resources with membrane processes	Mikel Duke	Victoria University
09:20-09:40	Atom-thin porous graphene membrane for carbon capture: fundamental science-driven scalable fabrication	Kumar Varoon Agrawal	École Polytechnique Fédérale de Lausanne
09:40-10:00	Porous carbons with high density of quantum sieving sites for efficient dynamic hydrogen isotope separation	Guangping Hao	Dalian University of Technology
10:00-10:10	Thermal Dynamics of Evapotranspiration in Pulsed Steam Isolation for Enhanced Essential Oil ExtractionPulsed steam	Alfredo Palomino-Infante	National University of Mayor de San Marcos
10:10-10:20	Material advances for electrochemical lithium extraction	Yang Wang	Tianjin University
10:35-11:00	New Chemical Separation and Purification Technologies and Their Application in High-Quality, and Green Development	Qunsheng Li	Beijing University of Chemical Technology
11:00-11:20	Mesoscale Soft Porous Interfacial Kinetics	Mingshui Yao	Institute of Process Engineering, Chinese Academy of Sciences
11:20-11:40	Ion Hydration, Recognition and Salt Lake Resource Separation	Yongquan Zhou	Qinghai Institute of Salt Lakes, Chinese Academy of Sciences
11:40-11:50	Development of a Digital Twin of Decanter Centrifuges	Ouwen Zhai	Karlsruhe Institute of Technology
11:50-12:00	Fabrication of graphene nanoribbon/carbon nanotube hybrid hydrogels and organic solvent nanofiltration membrane for organic mixture fractionation	Ju Yeon Kim	Yonsei university
13:30-13:55	Lithium Recovery from Geothermal Liquid Lithium Ore for the Production of Electrode-Grade Lithium Hydroxide	Tianlong Deng	Tianjin University of Science&technology
13:55-14:20	Precise engineering and efficient application of confined mass-transfer membranes	Wanqin Jin	Nanjing Tech University
14:20-14:40	Aqueous Two-Phase Systems and Their Use as Advanced Tools for Downstream Processing	Jorge F. B. Pereira	University of Coimbra
14:40-15:00	Development of novel pressure swing cycles for the separation of methane/nitrogen/helium	Guoping Hu	Ganjiang Innovation Academy, Chinese Academy of Sciences

08 Advanced Separation Technology and Engineering

July 15th, 2025 **Room: 311B**

Time	Topic	Speaker	Institute
15:00-15:10	Solids, droplets or bubbles – all are relevant in diverse separation operation but how to choose the right inline sizing system for solids, drops or bubbles?	Sebastian Maaß	SOPAT GmbH
15:10-15:20	Sustainable Design and Global Optimization of Reactive-Extractive Distillation for Separating the Complicated Multiazeotrope Systems	Lv Qi	Changzhou University
15:20-15:30	Pore Engineering in Porous Materials for Efficient Olefin Separation	Jingwen Chen	Nanchang University
15:45-16:10	Enantiomeric separation of chiral pharmaceuticals and process intensification	Junbo Gong	Tianjin University
16:10-16:30	Carbon membranes for high-efficiency gas separations	Xuezhong He	Guangdong Technion-Israel Institute of Technology
16:30-16:50	Ultrathin crystalline MOF membranes towards practical hydrocarbon separations	Guangwei He	Tianjin University
16:50-17:10	Wrinkled MOF Thin Films for Membrane Gas Separations	Junjie Zhao	Zhejiang University
17:10-17:20	Synthesis and Water Vapor Separation Properties of Azine-linked ACOF-1 Membranes	Kailong Jin	Arizona State University
17:20-17:30	Temperature-dependent molecular sieving separation of benzene/cyclohexene/cyclohexane mixture by a flexible chain-like coordination	Lihang Chen	Institute of Zhejiang University-Quzhou
17:30-17:40	Optimising Mini-Hydrocyclones for Enhanced Microplastic Removal	TE BU	Imperial College London
17:40-17:50	Investigation of CO_2 Permeation Across TPMS Polymeric Membrane Incorporated with MOF	Lai Li Sze	UCSI University
17:50-18:00	HiGee-enhanced mass transfer characteristic in removing low-concentration volatile compounds from polymers	Xiaomei Wang	Beijing University of Chemical Technology

08 Advanced Separation Technology and Engineering

July 17th, 2025 **Room: 311B**

Time	Topic	Speaker	Institute
08:30-08:55	Innovative Separation Strategies for a Sustainable Future: A Screening Matrix for Intensified Distillation Technologies	Anton A. Kiss	Delft University of Technology
08:55-09:20	Membrane technologies are key enablers of the energy transition	Ryan P. Lively	Georgia Institute of Technology
09:20-09:40	Multilayer Nanoporous Graphene Membrane for Ultrafast Organic Solvent Nanofiltration	Dae Woo Kim	Yonsei University
09:40-10:00	Microwave Enhanced Separation Technology: Overcoming Mass Transfer Barriers through Molecular Selective Heating	Xin Gao	Tianjin University
10:00-10:10	Functionalization of MOFs for membrane-based gas separation	Wenji Zheng	Dalian University of Technology
10:10-10:20	Process Graph (P-Graph) Approach for Recovering Valuable Fatty Alcohols and Alkanes from Palm Process Residue	Seen Ye Lim	UCSI University
10:20-10:30	Single-Particle Tracking to Probe Transport in Membrane Filtration Processes	Haichao Wu	Shanghai Jiao Tong University
10:45-11:10	Adaptive metal-organic frameworks for adsorptive separarion of xylene isomers	Zongbi Bao	Zhejiang University
11:10-11:30	Design and fabrication of acid resistance nanofiltration membrane based on Tröger's base	Lifen Liu	Zhejiang University of Technology
11:30-11:40	Autonomous Optimization of Enzyme Separation Using Continuous Aqueous Two-Phase Flotation (ATPF)	Kim Carina Lohfink	Karlsruhe Institute of Technology
11:40-11:50	Research on Induced Nucleation and Condensation Mechanism and Enhanced Separation Performance in Supersonic Cyclone Separators	Zhiqiang Ma	Qingdao University of Science and Technology
11:50-12:00	Robust Homochiral Polycrystalline Metal–Organic Framework Membranes for High-Performance Enantioselective Separation	Ting Chen	SouthWest Petroleum University

09 Inherent Safety and Process Intensification of Chemical Processes

July 16th, 2025 **Room: 311B**

Time	Topic	Speaker	Institute
08:30-08:55	Key Technologies for Safety Assurance in Petrochemical Industry Empowered by Digital Intelligence	Lai-Bin Zhang	China University of Petroleum, Beijing
08:55-09:20	Nature-Inspired Process Intensification for Sustainable Development	Marc-Olivier Coppens	University College London (UCL)
09:20-09:35	Study of packings for CO_2 capture columns: Proposal for Rotating Packed Beds	Pascal ALIX	IFP energies nouvelles
09:35-09:50	Manipulating the structure of Ti-containing zeolite catalyst by field enhancement to boost the performance of epoxidation reactions	Xiang Feng	China University of Petroleum, East China
09:50-10:05	Highly efficient hydrogenation of nitrobenzene to Aniline in micropacked bed reactor	Le Sang	Beijing Institute of Technology
10:25-10:45	Micro-flow chemical process intensification technology reconstructs the intrinsically safe chemical process	Jun-Cheng Jiang	Nanjing Tech University
10:45-11:05	"Scaling Down" CO_2 Capture Technology: A focus on chemistry and process fundamentals	Justin Federici	ExxonMobil
11:05-11:20	Inherently safer production and use of energetic intermediates using continuous flow manufacturing	Christopher Tighe	Imperial College London
11:20-11:35	Applications of microwaves in chemical process intensification	Lei Xu	Kunming University of Science and Technology
11:35-11:50	Construction of Safety Diagnosis and Risk Early Warning Capabilities for Chemical Enterprises Based on Industrial AI Large Models	San-Ming Wang	Safirst technology
11:50-12:00	Application of Safety aspects in various stages of Project Implementation	Anil K Saroha	IIT DELHI, INDIA
12:00-12:10	Experimental study of the effect of high-frequency pulsated gas flow on liquid motion behavior in an oscillation tube and the underlying mechanisms	Peng Zhang	Zhejiang University
12:10-12:20	Numerical Simulation of Flow-Field Characteristics in Elliptical Stirred Tanks	Yuan Yao	Chongqing University of Science and Technology

09 Inherent Safety and Process Intensification of Chemical Processes

July 16th, 2025 **Room: 311B**

Time	Topic	Speaker	Institute
14:00-14:20	Microcompartmentalizing Liquid-Liquid Multiphase Systems for Bio-Pharmaceuticals	Ho Cheung Shum	City University of Hong Kong
14:20-14:40	Safe and reliable sustainability: Some experiences in the Nordic countries	Yi-Liu Liu	Norwegian University of Science and Technology
14:40-14:55	Discrete Element Modeling of Particle-Scale Resistive Heating	Yi Ouyang	Ghent University
14:55-15:10	Hydrogen-tolerant Material Design Toward Intrinsic Safety of Hydrogen Energy Utilization	Bin-Han Sun	East China University Of Science and Technology
15:10-15:20	Leveraging Large Language Models to Automate HAZOP Analysis in Chemical Process Plants	Iskandar Halim	Agency for Science, Technology and Research (A*STAR)
15:20-15:30	Multi-Criteria Optimization for the Sustainable Recovery of Palm Process Residue with Safety, Health, Environment, and Economic Considerations	Seen Ye Lim	UCSI University
15:50-16:10	Research on the Enhancement of Fluid Chaotic Mixing by Multi-axis Stirring Reactors	Zuo-Hua Liu	Chongqing University
16:10-16:30	Intelligent Control for Process Safety Risks in Chemical Industry	Wei Xu	SINOPEC Research Institute of Safety Engineering
16:30-16:45	The Modern Development in Safety of Intensified Equipment Technology	Haitem Hassan-Beck	PetroGas Oil Services
16:45-17:00	Application of plasma intensification technology in energy conversion	Shao-Jun Xu	University of Manchester
17:00-17:15	Multiscale Simulation for Advancing Environmental Sustainability and Clean Energy Solutions	Serene Sow Mun Lock	Universiti Teknologi PETRONAS
17:15-17:30	Process intensification of CO_2 desorption by Higee technology: An industrial case study	Yong Cai	China National Petroleum Corporation Petrochemical Research Institute
17:30-17:40	Hazard analysis for accumulated organic solvent peroxides using computational chemistry	Kohei Sasahara	Sumitomo Chemical Co., Ltd.
17:40-17:50	Membrane-based reactive separation process intensification of H_2 production	Huan-Hao Chen	Nanjing Tech University
17:50-18:00	Dual-Objective Design Optimization of High-Pressure Hydrogen Storage Tank Farms Minimizing Total Costs and Overall Risks with Consideration of Domino Accidents	Chen-Xi Cao	East China University of Science and Technology

10 Energy Transition towards a Net-zero Future

July 16th, 2025 **Room: 302AB**

Time	Topic	Speaker	Institute
9:10-9:30	Hydrogenation Catalytic Engineering for the Production of Clean Diesel towards Low-carbon Development	Hong Nie	SINOPEC Research Institute of Petroleum Processing Co., Ltd.
9:30-9:45	Insights & Strategies for Navigating Emission Reduction through Fuel Additives	Jitendra Kandpal	BASF South East Aisa Pte. Ltd.
9:45-10:00	Creating Sustainable Jet Fuel from CO_2 Using Smart Technology	Lim San Hua	Institute of Sustainability for Chemical, Energy and Environment ($ISCE^2$), Singapore
10:00-10:15	Extraction Coupled Oxidation for Clean and High-value Utilization of Diesel	Wenshuai Zhu	China University of Petroleum, Beijing
10:40-11:00	Flow-driven Chemistry: A New Paradigm for Energy-efficient Polymer Manufacturing	Guohua Hu	University of Lorraine, France
11:00-11:15	The Key to the Development of Ammonia Cracking Catalysts – High Throughput Testing at Elevated Pressures and Temperatures	Robert Baumgarten	hte GmbH (BASF Subsidiary)
11:15-11:30	Achieving Net-zero in the Electricity Sector in China by 2050 Considering Environmental and Economic Objectives	Tingfeng Song	University of Manchester
11:30-11:45	Sustainable Fuel Production from Bio-based CO/CO2	Le Zhang	SINOPEC Research Institute of Petroleum Processing Co., Ltd.
14:00-14:20	A Hydrocracking Approach to Optimize Lignin Valorization	Emiel J. M. Hensen	Eindhoven University of Technology
14:20-14:35	Distinction on Acid-catalyzed Reactions between Light Hydrocarbons and Polyolefins	Bo Peng	SINOPEC Research Institute of Petroleum Processing Co., Ltd.
14:35-14:50	Construction of Efficient Fischer-Tropsch Synthesis Catalysts	Xingang Li	Tianjin University
14:50-15:00	Efficient Catalytic Conversion of CO_2 to Chemicals under the Context of Carbon Peak and Carbon Neutrality Goals	Jing Ding	Nanjing Tech University
15:25-15:45	Electro-synthesis of Value-added Products from CO_2: Challenges and Prospects	Jieshan Qiu	Beijing University of Chemical Technology
15:45-16:00	Safe and Reliable Sustainability: Some Experiences in the Nordic Countries	Yiliu Liu	Norwegian University of Science and Technology
16:00-16:10	In-situ Reconstruction of Active Bismuth for Enhanced CO_2 Electroreduction to Formate	Yang Song	SINOPEC Research Institute of Petroleum ProcessingCo., Ltd.
16:10-16:20	Tuning Strong-metal Support Interactions to Facilitate the Direct Deoxygenation of Phenolics to Aromatics	Xinli Zhu	Tianjin University

10 Energy Transition towards a Net-zero Future

July 16th, 2025 **Room: 302AB**

Time	Topic	Speaker	Institute
16:20-16:30	Enhanced Selective Oxidation of Hydrocarbons via Ionic Liquid-driven Catalyst Design and Process Optimization	Ruixia Liu	Institute of Process Engineering, Chinese Academy of Sciences
16:30-16:40	Rational Design of Heterogeneous Catalysts towards the Sustainable Development of Energy	Jiaxu Liu	Dalian University of Technology

11 Biochemical and Biomanufacturing

July 15th, 2025 **Room: 306B**

Time	Topic	Speaker	Institute
08:30-08:45	Lessons learned on how to engineer organic solvent and ionic liquid resistant enzymes	Ulrich Schwaneberg	RWTH Aachen University
08:45-09:00	Minimizing and Reconstructing the yeast genome	Junbiao Dai	Agricultural Genomics Institute at Shenzhen, Chinese Academy of Agricultural Sciences
09:00-09:15	Systems Biology of yeast for biomanufacturing	Jens Nielsen	Chalmers University of Technology
09:15-09:30	Cellulose based materials for biomedical application	Jinguang Hu	University of Calgary
09:30-09:45	Synthetic biology and biomanufacturing: from basic research to application	Anping Zeng	Westlake University
09:45-10:00	Biosynthesis of polysaccharides and synthetic biology	Jinping Li	Uppsala University
10:20-10:35	The new mammalian cell workhorse in biologics manufacturing	Takeshi Omasa	Graduate School of Engineering, The University of Osaka
10:35-10:50	AI for Biomanufacture	Zhanfeng Cui	University of Oxford
10:50-11:00	Approaches to boost carbon yield in yeast	Zihe Liu	Beijing University of Chemical Technology
11:00-11:10	Digital twin to improve process efficiency and sustainability for smart biomanufacturing	Dongqiang Lin	Zhejiang University
11:10-11:20	Biocatalytic substitution of highly toxic cyano-based raw materials for bulk polymer monomer production	Yu Deng	Jiangnan University
11:20-11:30	Abiotic-Biotic Synergy Overcomes Thermodynamic Constraints for Efficient C1-Based Biomanufacturing	Jianming Liu	Westlake University
11:30-11:40	Carotenoid biosynthesis in yeasts: Effects of environmental stress	Valéria de Carvalho Santos Ebinuma	UNESP
11:40-11:50	Biological Lignin Valorization towards High-Value Products	Zhihua Liu	Tianjin University
11:50-12:00	High-throughput Automation Promotes Upgrade the Synthetic Biology Industry	Jianchang Feng	Beckman Coulter Life Sciences
14:00-14:15	Potential of microbial transglutaminase-mediated bioconjugation for biomanufacturing	Noriho Kamiya	Kyushu University
14:15-14:30	Biomanufacturing of Aromatic Compounds	Qipeng Yuan	Beijing University of Chemical Technology
14:30-14:45	Expanding Product Spectrum in Microbial System	Yajun Yan	University of Georgia
14:45-15:00	Photocatalytic Valorization of Lignin and Biomass-Derived Intermediates	Xianfeng Fan	University of Edinburgh

11 Biochemical and Biomanufacturing

July 15th, 2025 **Room: 306B**

Time	Topic	Speaker	Institute
15:00-15:15	Development and future prospects for biorefinery of waste carbon resources	Min Jiang	Nanjing University of Technology
15:15-15:30	Microbial Cell Factories Manufacture Plant Natural Products	Chun Li	Tsinghua University
15:50-16:05	Methanol bioconversion toward carbon-neutrality biomanufacturing	Yongjin Zhou	Dalian Institute of Chemical Physics, Chinese Academy of Sciences
16:05-16:20	Protein Expression Systems — From Intelligent Element Multidimensional Regulation Systems to Industrialization Platforms	Dawei Zhang	Tianjin Institute of Industrial Biotechnology, Chinese Academy of Sciences
16:20-16:30	Mechanism Underlying Cell Factories' Response to Systems Metabolic Engineering	Jiufu Qin	Sichuan University
16:30-16:40	Gene editing in Saccharomyces cerevisiae using PAM-relaxed Cas proteins	Zehua Bao	Zhejiang University
16:40-16:50	Aqueous Two-Phase Separation for Scalable In-Situ Extraction of Lipopeptides	Robert Pott	Stellenbosch University
16:50-17:00	Biomanufacturing of Functional Sugars via Modular Construction and Protein Engineering	Jinsong Gong	Jiangnan University
17:00-17:10	Nutrient Distribution and Oceanographic Parameters in Horseshoe Island Bay, Antarctica	Pablo Araujo-Granda	Universidad Central del Ecuador
17:10-17:20	The synthesis of high-quality fuels and chemicals over multi-functional solid catalysts	Genkuo Nie	Qingdao University of Science and Technology
17:20-17:30	Bioinspired Bi-amino Acid Ce-MOFs Boosting Oxidase-like Activity: Dual-mode Aflatoxin Detection and Antimicrobial Activity Platform	Yilin Zhao	Beijing University of Chemical Technology

12 Process Industry Innovation and Process Systems Engineering Reengineering

July 15th, 2025 **Room: 310**

Time	Topic	Speaker	Institute
08:40-09:00	Process Operations: From Automation to Autonomy	Costas Pantelides	Imperial College London
09:00-09:20	Enabling High-Quality Advancement in Energy & Chemicals Leading New Industrialization in Engineering & Construction Industry	Dejun Jiang	Sinopec Engineering（Group）Co. Ltd（SEG)
09:20-09:40	Sustainable Options for Reduced Carbon Cracking Technologies	Michael Tallman	KBR
09:40-09:55	Open Network Architecture Enables Innovative Practices of Intelligent O&M for Enterprises	Guangpeng Li	Huawei Technologies Co., Ltd.
09:55-10:05	Set Trimming and Smart Enumeration for the Globally Optimal Design of Spiral Plate Heat Exchangers with Physical Properties Varying with Temperature	Chenglin Chang	Chongqing University
10:05-10:20	Modelling of the interaction between NH_3 and H_2O	Hao Huang	DNV
10:40-11:00	Co-innovation of Process Intensification and CCUS	Lili Sun	Sinopec
11:00-11:20	Novel framework for integrated superstructure design and planning optimization of power-to-methanol process	Dat-Nguyen Vo/ Xunyuan Yin	Nanyang Technological University
11:20-11:40	Comprehensive Design Strategies for Implementing Hydrogen and Its Carriers in Energy Storage Systems	Mariano Martin	University of Salamanca
11:40-11:55	Data elements empowering the intelligent retrofitting and digital transformation of process industries	Xiaojun Ye	Tsinghua University
11:55-12:05	Development and Application of Innovative Light Hydrocarbon Recovery Technology	Mengqi Huang	Sinopec Engineering（Group）Co.,Ltd（SEG)
14:00-14:20	Integrating CO_2 capture from flue gas and ambient air with thermal catalytic conversion for efficient CO_2 utilization	Qingfeng Ge	South Illinois University Edwardsville
14:20-14:40	Graph theory of thermodynamically equivalent configurations in thermally coupled distillation	Anqing Wang	Tohoku University
14:40-14:55	Fluid Property Prediction by Theory-Data Fusion-Driven Approach	Diannan Lu	Tsinghua University
14:55-15:10	Globally Optimal Sieve Tray Distillation Column Design with Basic Design of Sieve Trays, Condenser, and the Reboiler using Set Trimming and Smart Enumeration	Miguel Bagajewicz	University of Oklahoma

12 Process Industry Innovation and Process Systems Engineering Reengineering

July 15th, 2025 **Room: 310**

Time	Topic	Speaker	Institute
15:10-15:20	Research on the Dispersion of Liquefied Hydrocarbons Based on CFD and Optimization of Flammable Gas Detector Layout	Shaopeng Li	Sinopec Engineering Incorporation
15:20-15:30	Investigation on the multi-scale interactions in gas-liquid jet bubbling reactor and industrial application	Yong Jin	Guangxi Huayi Energy Chemical Co., Ltd
15:30-15:40	A new paradigm for hydrogen production: Direct electrolysis of biomass waste to produce hydrogen	Wei Liu	Central South University
16:00-16:20	Development of Green and Low-Carbon Ethylene Technology and Industrial Application	Laiyong Zhang	China Petroleum Engineering Corporation (CPEC)
16:20-16:40	Digital Reliability Platform	Rajesh Nair	AVEVA
16:40-16:55	Performance Evaluation and Optimal Operating Conditions for Fouling in a Distillation Towers	Hajeong Park	Inha University
16:55-17:10	Development of heat storage and air separation hybrid process by using Redox reaction of Metal oxide	Yugo Osaka	Kanazawa University
17:10-17:25	Recovery and Utilization of Phenolic Ketone Tar	Jie Chen	China Huanqiu Contracting & Engineering Co., Ltd. (HQC)
17:25-17:35	Optimization and energy-saving design for high-purity carbonates production based on exergy analyses	Qingyue Zhao	Tianjin University of Science and Technology
17:35-17:45	Carbon footprint and decarbonization pathways of nitrogen fertilizers and polymers	Yunhu Gao	Shanghai Advanced Research Institute, Chinese Academy of Sciences
17:45-17:55	Innovative Cooling Process with Energy Recovery in Chemical Engineering Industry	Guohua Kuang	Beijing Huahang Shengshi Energy Technology Co., Ltd
17:55-18:05	Comprehensive Application of Green and Low-Carbon Technologies in the Refining & Chemical Industry	Cunli Feng	China Kunlun Contracting & Engineering Corporation (CKCEC)

13 Intelligent Manufacturing Technology and Equipment for the Chemical Industry

July 16th, 2025 **Room: 301AB**

Time	Topic	Speaker	Institute
08:40-09:10	Self-healing Technology Pioneers a New Paradigm of Autonomous Health Management in Smart Chemical Manufacturing	Jinji Gao	Beijing University Of Chemical Technology
09:10-09:30	Surrogate Model Optimization: A Comparison Case Study with Pooling Problems with CO_2 Point Sources	Lorenz Biegler	Carnegie Mellon University
09:30-09:50	Digitalized Ethylene Plant Engineering and Construction	Zizong Wang	China Petrochemical Corporation
09:50-10:10	AI Development Accelerates the Intelligentization of Process Industries	Jian Chu	SUPCON TECHNOLOGY CO., LTD.
10:25-10:40	Distillation Process Coupling for Reducing Carbon Emission – a challenge and opportunity for intelligent manufacturing	Xigang Yuan	Tianjin University
10:40-10:55	Superstructure-Based Optimal Design for Sustainable Separation and Distribution Systems	Jian Du	Dalian University of Technology
10:55-11:10	Data-Driven Multivariable Piecewise Linear Surrogate Models with Applications in Natural Gas Transport Optimization	Xiang Li	Zhejiang University
11:10-11:25	Research and application of process fault diagnosis for intelligent manufacturing implementation in complex chemical processes	Xiaolong Gai	Tianjin University of Science and Technology
11:25-11:40	A Robotic AI-Chemist Integrating Theory and Practice	Jun Jiang	University of Science and Technology of China
11:40-11:55	AI-driven design of chemical materials and processes	Xiaonan Wang	Tsinghua University
11:55-12:10	AI-driven Chemical Information Extraction and Chemical Reaction Prediction	Hanyu Gao	The Hong Kong University of Science and Technology
13:30-13:50	Practices and Reflections on AI Integration in Process Manufacturing for the Chemical Industry	Zhiyu Xiao	Huawei
13:50-14:10	Decarbonization Exploration and Smart Manufacturing to Create an IA2IA Future	Hasegawa Takashi	YOKOGAWA
14:10-14:30	Industrial AI in Asset-Intensive Companies Brings Agility, Guidance & Automation	Ary Bressane	AspenTech
14:30-14:50	Reducing LCOx through Process Optimization	Rajesh Mehta	Honeywell
14:50-15:10	Execute Intelligent and Sustainable Chemical Industry Manufacturing	DR. MURIEL RAKOTOMALALA	SAP

13 Intelligent Manufacturing Technology and Equipment for the Chemical Industry

July 16th, 2025 **Room: 301AB**

Time	Topic	Speaker	Institute
15:10-15:30	Schneider Electric - Best Practices in Digital Transformation and Intelligent Upgrading for the Chemical Industry	Wen Liu	Schneider Electric
15:45-16:05	Digital and intelligent technologies empower high-quality development of oil and gas equipment	Xiaowei Jing	China National Petroleum Corporation
16:05-16:25	The digital and intelligent transformation drives the high-quality development of CNOOC's refining and chemical business	Tongliang Wang	China National Offshore Oil
16:25-16:45	An Intelligent Scheduling System for Chemical Production Using Multi- Scale Modeling and Deep Reinforcement Learning	Huan Sun	Sinochem Group
16:45-17:00	AI-Driven Transformation: Case Studies and Insights for Petrochemical Industry Advancement	Jiahang Han	Petro-CyberWorks Information Technology Co.,Ltd.
17:00-17:15	Practices in the Digital Transformation of the Chemical Industry with AI	Yiming Zhu	HollySys
17:15-17:30	Robust-IPC Full-Process Intelligent Control Technology Empowers the Transformation and Upgrading of Refining and Chemical Enterprises for High-Quality Development	Yang Jiao	Beijing Century Robust Technology Co.,Ltd.
17:30-17:45	Towards Autonomous Synthesis of Al-Doped ZnO Nanoparticles: Model-Based Control and Real-Time UV-Vis Monitoring	Guohui Yang	Karlsruhe Institute of Technology

14 Advancements in High-Performance and Intelligent Chemical New Materials

July 15th, 2025 **Room: 311A**

Time	Topic	Speaker	Institute
08:00-08:30	Melt-Spun High Performance Fibers and Their Diverse Applications	Meifang Zhu	Donghua University
08:30-09:00	Advanced Anion Exchange Membranes for High Performance Fuel Cells and Electrolyzers	Young Moo Lee	Hanyang University
09:00-09:20	Reflections and Practices on the Sustainable and High-quality Development of Polymer Materials	Xianbo Huang	Kingfa Sci.&Tech. Co.,Ltd.
09:20-09:40	3D printing nanoporous separation materials – towards scalable and sustainable membrane production	Ludovic Dumee	Element Zero
09:40-09:50	Artificial Intelligence-Enabled Design and Fabrication of Polyamide NF Membranes	Lin Zhang	Zhejiang University
09:50-10:00	Controllable polymerization strategies for bio-based polycarbonates driven by mechanism and kinetics of transesterification reactivity with asymmetric hydroxyls	Zhenhao Xi	East China University of Science and Technology
10:20-10:50	Engineered membranes and materials for molecular and ionic separations	Huanting Wang	Monash University
10:50-11:20	Frameworks for Transport and Separation Applications	John Wang	National University of Singapore
11:20-11:40	Interfacial manipulation and optimization for well structured membrane design	Lingxue Kong	Deakin University
11:40-12:00	The critical role of membrane material design and structure optimization in pressure-retarded osmosis membranes for renewable osmotic energy harvesting	Qianhong She	Nanyang Technological University
12:00-12:10	Boron-nitride Nanosheets: Membrane Building Blocks for Efficient Separation Applications	Nicholas Ze-Xian Low	Nanjing Tech University
12:10-12:20	The technology of propylene-based elastomers (PBE) based on a new catalyst	Yuanyuan Fang	Sinopec BRICI
13:30-14:00	Carbon-based materials for catalytic reactions	Shaobin Wang	The University of Adelaide
14:00-14:30	Interactions between moving particles in a fluid and light or magnetic fields: liquid metamaterials, active matter and responsive materials	Alain Celzard	University of Lorraine
14:30-14:50	Development of catalysts and reaction processes for liquefied hydrocarbon production via CO_2 direct hydrogenation in Power-to-Liquid technology	Jeong-Rang Kim	Korea Research Institute of Chemical Technology

14 Advancements in High-Performance and Intelligent Chemical New Materials

July 15th, 2025 **Room: 311A**

Time	Topic	Speaker	Institute
14:50-15:10	Exploring Green Materials and Technologies for Molecular Separations	Wai Fen Yong	Xiamen University Malaysia
15:10-15:20	Two-dimensional carbon-based membranes for unprecedent molecular sieving	Xiaofang Chen	East China Normal University
15:20-15:30	Design and Development of Polyimide Materials for Gas Separation Based on Molecular Language Models	Yuhao Chu	Sinopec BRICI
15:30-15:40	CO_2 hydrogenation to liquid fuel: Efficient Fe-based catalysts and green processes	Chundong Zhang	Nanjing Tech University
16:00-16:30	Advanced Flexible Polymer Light-Emitting Diode Device: Concept and Design	Li Li	Jiangsu University
16:30-16:50	Photoregeneration-Enhanced Catalysis for Efficient Biomass Conversion	Jun Zhao	Hong Kong Baptist University
16:50-17:10	Integrating Descriptors and Dynamics for Rational Design of Molten Alloy Catalysts	Seok Ki Kim	Ajou University
17:10-17:30	Porous Crystalline Platform: The Preparation of High-Performance Biocatalysts	Yao Chen	Nankai University
17:30-17:40	Fabrication of polyamidoamine (PAMAM) dendrimers based adsorbents for the selective adsorption of Hg(II)	Yuzhong Niu	Ludong University
17:40-17:50	A High-Performance Medical Adhesive for Non-Pressure-Based Hemostasis and Tissue Regeneration	Liya Qi	Sinopec BRICI
17:50-18:00	MBenes and MXenes: 2D Nanomaterials for bioimaging, drug delivery, therapies, biosensing, tissue engineering, antibacterial, antiviral & antifungal reagents	Yasin Orooji	Zhejiang Normal University
18:00-18:10	High Molecular Weight Polybenzimidazole-Based High-Temperature Proton Exchange Membrane	Ailian Wang	Sinopec BRICI

15 Green Agriculture: a New Paradigm of Seed, Fertilizer and Pesticide Innovation

July 16th, 2025 **Room: 311A**

Time	Topic	Speaker	Institute
09:00-09:25	Advancements in Green Pesticides: Innovative Research and Applications	Baoan Song	Guizhou University
09:25-09:50	Food security and the agritech revolution	Camilla Corsi	Head of Research and Development for Crop Protection, Syngenta Group
09:50-10:05	From Structural Diversity to Bioactivity Diversity Exploration: Development of cis-Neonicotinoid Insecticides	Zhong Li	East China University of Science and Technology
10:05-10:20	QSAR as an integral tool to assess safety in the R&D process of crop protection active ingredients	Kersten Mewes	Head of Global Product Safety CP R&D, Syngenta
10:20-10:35	Comparative Chemical Genomics Approach for Agrochem Design	Zhen Xi	Nankai University
10:55-11:20	Love and hate are in the air	Qingxiao Li	University of Hawai'i System
11:20-11:35	Artificial Intelligence-assisted Pesticide Discovery	Guangfu Yang	Central China Normal University
11:35-11:50	The discovery of PLINAZOLIN® technology : a novel isoxazoline insecticide	Myriem El Qacemi	Senior Principal Scientist, CP Research Chemistry, Syngenta
11:50-12:05	Target-based and ML-driven Strategies Advance the Discovery of Peptide Mimic as Eco-friendly IGR for Pest Management in Agriculture	Xinling Yang	China Agricultural University
13:30-13:55	Green weed control technologies in rice fields	Lianyang Bai	Hunan Academy of Agricultural Sciences
13:55-14:20	Advancing Seed Innovation for Crop Productivity, Food Security and Climate Resilience	Gusui Wu	Head of Seeds Research, Syngenta Group
14:20-14:35	Orphan Crops Serving as Prime Models for Crop Stress Tolerance Research	Qi Xie	China National Seed Group Co., Ltd
14:35-14:50	Accelerating Biologicals - Syngenta's Technology Platforms	Douglas Hodgson	Microbial Bioprocessing team leader, CP Research Biologicals, Syngenta
14:50-15:05	Biodiversity theory for pest management	Nianfeng Wan	East China University of Science and Technology
15:25-15:50	Green Efficiency Fertilizers in China	Bingqiang Zhao	Chinese Academy of Agricultural Sciences
15:50-16:05	Development of an efficient genome editing system for elite maize lines by double approve approve haploid process	Jianping Xu	China National Seed Group Co., Ltd
16:05-16:20	Activity and Resistance-Related Point Mutations in Target Protein ORP1 of OSBPI fungicides in Phytophthora spp.	Xili Liu	China Agricultural University
16:20-16:35	Plant Biotech Pipeline: From Gene to Product	Xi Chen	China National Seed Group Co., Ltd

15 Green Agriculture: a New Paradigm of Seed, Fertilizer and Pesticide Innovation

July 16th, 2025 **Room: 311A**

Time	Topic	Speaker	Institute
16:35-16:50	Research Progress and Development Prospect of Nanopesticides	Lidong Cao	Chinese Academy of Agricultural Sciences
17:00-17:05	Application of Crystal Engineering in Pesticide Performance Optimization: Comprehensive Regulation from Molecules to Formulations	Jingxiang Yang	Nankai University
17:05-17:10	Kinetics and Mechanism of Brackish Mud Snail (Cerithidea cingulate) Mortality Induced by Alipata (Excoecaria agallocha) Tree Extracts: Implicating for Biopesticide Design in Aquaculture	Chamaigne Jamandre	Philippine Institute of Chemical Engineers (PIChE)
17:10-17:15	Screening Surface-Defective Graphene Quantum Dots: Promoting Plant Growth and Combating Phytovirus	Shengxin Guo	Guizhou University
17:15-17:20	The Exploration of S-Methoprene Based Novel Biochemical Pesticides	Jinsheng Yu	East China Normal University
17:20-17:25	Target-Specific Synergists as a Novel Approach for Insecticide Development: A Case of Neonicotinoid-Specific Synergist	Yixi Zhang	Nanjing Agricultural University
17:25-17:30	Boron nitride nanosheets sustained-release system towards synergistic control of bacterial wilt disease	Li Hao	Zhongkai University of Agriculture and Engineering
17:30-17:35	Energy and Water Sufficiency in Brazilian Food Production: Challenges and Opportunities	Enrique Gutierrez	Federal University of Rio de Janeiro
17:35-17:40	Design, synthesis and bioactivity of β-ketonitrile fungicide	Liangliang Cheng	East China University of Science and Technology
17:40-17:45	Development of Novel Pesticide Molecules via Precision Synthesis Involving Carbene Intermediates	Lu Liu	East China Normal University
17:45-17:50	What Happens after Spraying Pesticides? – A Study Towards Sustainable Agrochemicals	Teng Dong	University College London
17:50-17:55	Discovery of Spirocyclic Tetronic Acid Bioactive Molecules Driven by Novel Synthetic Methodologies	Wulin Yang	East China University of Science and Technology
17:55-18:00	CFD-DEM Simulation of Drag Force Behavior in Pneumatic Conveying of Controlled-Release Fertilizer Granules	Liang Li	Brunel University of London

16 Biopharmaceutical and Health engineering

July 16th, 2025 **Room: 402AB**

Time	Topic	Speaker	Institute
08:30-08:55	Development of integrated continuous downstream process of monoclonal antibody based on the process understanding and its evaluation	Shuichi Yamamoto	Yamaguchi University
08:55-09:20	Biomimetic Materials Controlling Cellular Activity	Alan E. Rowan	The University of Queensland
09:20-09:35	Biomaterials for Prevention of Esophageal Stenosis after Endoscopic Submucosal Dissection	Taichi Ito	The University of Tokyo
09:35-09:50	Supercritical Fluid Technology-based Decellularized Extracellular Matrix for Biomedical Application	Chen Aizheng	Huaqiao University
09:50-10:00	Strengthening the process of pharmaceutical biomanufacturing	Tian Xiwei	East China University of Science and Technology
10:00-10:10	Development and applications of position-specific labeling of RNA	Liu Yu	Shanghai Jiao Tong University
10:10-10:20	Machine Learning–Based Design of Enzymes and Fibrous Proteins	Fei Xu	Jiangnan University
10:20-10:40	Leveraging Quantum Computing for Accelerating Drug Discovery: A Framework for Advancing Pharmaceutical Innovation in the Face of Emerging Global Health Threats	Jed M. Bellen	De La Salle University
10:40-11:05	Biomanufacturing and its biological efficacy of rare ginsenoside RK3	Fan Daidi	Northwest University
11:05-11:20	Sustainability of biomanufacturing	Alois Jungbauer	BOKU University
11:20-11:35	Model Based Process Optimization for Purification of Lactoferrin	Lukas Gerstweiler	The University of Adelaide
11:35-11:45	A Mechanistic Modeling Approach for Rapidly Predicting Protein Purification Conditions in Flow-Through Hydrophobic Interaction Chromatography	Wang Mengfan	Tosoh corporation
11:45-11:55	Experimental investigation of dynamic drying in single pharmaceutical granules using synchrotron X-ray micro computed tomography	Zhang Lifeng	University of Saskatchewan
11:55-12:05	Design and optimization of JO-IEX process for highly efficient quaternary separation of 5'-ribonucleotides	Wu Jinglan	Nanjing Tech University
12:05-12:15	Purification of mRNA from in vitro transcription system by ammonium sulphate precipitation at room temperature	Zhang Songping	Institute of Process Engineering, Chinese Academy of Sciences

16 Biopharmaceutical and Health engineering

July 16th, 2025 **Room: 402AB**

Time	Topic	Speaker	Institute
12:15-12:25	Affinity chromatography for the purification of CoVID-19 vaccines: Ligand screening and performances	Shi Qinghong	Tianjin University
13:30-13:55	Uniform polymer particles enabled new developments of biopharmaceutical engineering	Ma Guanghui	Institute of Process engineering, Chinese Academy of Sciences
13:55-14:20	Cell-Biomaterial Mechanics: Fundamentals for Healthcare Engineering Innovation	Zhang Zhibing	University of Birmingham
14:20-14:35	Advancing nanomedicines towards clinical translation	Zhao Chunxia	The University of Adelaide
14:35-14:50	From Bench to Bioreactor: Scalable, Single-Use Solutions for Biologic Drug Substance Manufacturing in Australia	Wang Hui	Thermo Fisher Scientific, Brisbane, Australia
14:50-15:00	Functional design and precise delivery research of peptides	Zhang Lei	University of Waterloo
15:00-15:10	Consumer-friendly Dual-shell Fungal Chitosan-Silica Microcapsules for Potential Skin Care Applications	Daniele Baiocco	University of Birmingham
15:10-15:20	Atomic Insights into Storage Stability of mRNA-Lipid Nanoparticles	Feng Shaojun	Beijing University of chemical technology
15:20-15:30	Patient clusters and inflammation in the immune response to sepsis, trauma and major surgery	Melaz TAYAKOUT	University of LYON
15:50-16:15	Delivery of Nucleic Acid	Chen Pu	University of Waterloo/ Ningbo University of Technology
16:15-16:30	Biomimetic drug delivery system	Gu Zhen	Zhejiang University
16:30-16:45	Cost-effective and rapid 3D printing of microfluidic devices for biomedical applications	Michael Xianfeng Chen	The University of Edinburgh
16:45-17:00	Enzyme-Metal Hybrid Catalysts	Ge Jun	Tsinghua University
17:00-17:10	Engineering of Bio-hybrid Catalysts	Lv Yongqin	Beijing University of Chemical Technology
17:10-17:20	Evaluating Tmax Variability and Its Relationship with Pharmacokinetic Metrics and Formulation Parameters in Drug Delivery Systems	Nathaniel Dugos	De La Salle University
17:20-17:30	NanoAOX as a Breakthrough Gut-Targeted Antioxidant: Treating Depression and Inflammation Without Systemic Absorption	Yukio Nagasaki	University of Tsukuba
17:30-17:40	Synthesis and evaluation of chemically modified silk fibroin coated chitosan nanoparticles and micro particles for controlled and targeted drug release	Himali Horo	Thapar Institute of Engineering and Technology, Patiala

17 Efficient Manufacturing Engineering of Functional Electronic Chemicals

July 15th, 2025 **Room: 405**

Time	Topic	Speaker	Institute
08:30-09:00	Electro-catalysis for Advanced Fuel Cells and Hydrogen Production from Seawater Electrolyser	Wen-Feng Lin	Loughborough University
09:00-09:30	Computationally Aided Design of Functional Fluorophores	Xiaogang Liu	Singapore University of Technology and Design
09:30-09:50	Design of block copolymer photoresist for advanced nanolithography	Ning Zhu	Nanjing Tech University
09:50-10:10	Industrialization of High-Temperature Proton Exchange Membrane Fuel Cells	Yan Xiang	Beihang University
10:40-11:00	Aggregation-Induced Emission Probes and Devices	Zheng Zhao	The Chinese University of Hong Kong, Shenzhen
11:00-11:15	Graphitic Armor: A Natural Molecular Sieve for Robust Hydrogen Electroxidation	Yao Zhou	Xiamen University
11:15-11:30	Narrowband Organic Multi-Resonance Emitters: Efficient Synthesis and OLED Application	Zhongyan Huang	Shenzhen University
11:30-11:45	Upcycling of Polyolefin Wastes: From the Perspective of Reaction Mechanism Investigated by Operando Spectroscopy	Qingyue Wang	Zhejiang University
14:00-14:20	Beyond Binding: Design of Functional Binders for Lithium Ion Battery with High-energy Density	Juntao Li	Xiamen University
14:20-14:40	NO-Controlled Release Biomedical Materials and Their Applications	Yang Zhou	Hainan University
14:40-15:00	Fluorescent Probes for Reactive Oxygen Species in Disease Diagnosis and Treatment	Peng Wei	Donghua University
15:00-15:20	Synergistic effect of polar group, covalent network and hydrogen bonding enables high energy density for polymer dielectrics	Xin Hu	Nanjing Tech University
15:20-15:35	Multi-color and Multi-band Engineering of Organic Electrochromics	Xing Xing	Northwest University of Industry, Shenzhen
15:35-15:50	Development and Application Exploration of Unconventional Photoswitchable Dyes	Yahui Chen	Shenzhen University
16:10-16:25	Development of a Fluorescent Probe with High Selectivity based on Thiol-ene Click Nucleophilic Cascade Reactions for Delving into the Action Mechanism of Serotonin in Depression	Lizhou Yue	Shenzhen University
16:25-16:40	Porous organic cages as artificial membrane channels for proton transport in bioprotonics	Le Luo	Shenzhen University

17 Efficient Manufacturing Engineering of Functional Electronic Chemicals

July 15th, 2025 **Room: 405**

Time	Topic	Speaker	Institute
16:40-16:50	Effect of the Structure of Thiol-Based Nitrogen Heterocyclic Levelers on the Filling Performance for Advanced Interconnects	Yaokun Sun	University of Electronic Science and Technology of China
16:50-17:00	Study on the Effects and Applications of Electrodeposited Conductive Polymers on the Surface of Copper Foil for LIBs	Yijun Wu	University of Electronic Science and Technology of China
17:00-17:10	Nitric Oxide Releasing Ecologically Friendly Tannic Acid Based Antibacterial Hydrogel with Flexible Electronics	Yuxing Ma	Hainan University

18 Waste Resource Conversion and Circular Economy

July 16th, 2025 **Room: 309A**

Time	Topic	Speaker	Institute
08:40-09:00	Chemical technologies for closed-loop recycling of thermoset plastics	Troels Skrydstrup	Aarhus University, Denmark
09:00-09:20	Cyclone Separation: Past, Present, and Future	Hualin Wang	East China University of Science and Technology
09:20-09:40	Value-added and functionalized cellulosic materials as advanced materials	Huining Xiao	University of New Brunswick, Canada
09:40-10:00	The hunt for new plastic-degrading enzymes: a systematic and productive approach	Daniel Otzen	Aarhus University, Denmark
10:00-10:20	Recycling and utilization of coal based industrial waste: emission reduction, pollution control, and product engineering	Fangqin Cheng	Shanxi University
10:35-10:50	Latest Development in Microalgae Biorefinery	Pau-Loke Show	Khalifa University, Abu Dhabi, United Arab Emirates
10:50-11:05	Green Recycling of Strategic Metal Resources	Huiquan Li	Institute of Process Engineering, Chinese Academy of Sciences
11:05-11:20	Co-upcycling of polyethylene terephthalate and polyoxymethylene into valuable chemicals	Ding Ma	Peking University
11:20-11:35	Engineering Marine Bacterium Halomonas for Biopolymer PHA Production	Guoqiang Chen	Tsinghua University
11:35-11:50	Heterogeneous Catalytic Cofactor Recycling	Xiaodong Wang	Lancaster University, UK
11:50-12:00	Vanadium Recovery with Barium Slag as A Roasting Additive: A Novel Waste-to-Value Approach	Hongrui Yue	University of Alberta, Canada
13:30-13:45	Collaborative Sequestration of CO2 and Industrial Solid Waste through CO2 Mineralization Reaction with Solid Waste	Bin Liang	Sichuan University
13:45-14:00	From Bio-Based Development to Controlled Chemical Degradation	Xiaoqing Liu	Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences
14:00-14:15	Research Perspectives on Solid Waste Recycling and Utilization	Guanyi Chen	Tianjin University
14:15-14:30	High Value Transformation and Recycling of Polyolefins	Changle Chen	University of Science and Technology of China
14:30-14:45	Selective Upcycling of Polyolefins into High-Value Nitrogenated Chemicals	Ning Jiao	Peking University
14:45-15:00	Development of high performance functional products from lignocellulose waste for a circular bioeconomy	Feng Jiang	University of British Columbia, Canada
15:00-15:15	Biomass Valorization for Bio-fuels/ chemicals	Jinguang Hu	University of Calgary, Canada

18 Waste Resource Conversion and Circular Economy

July 16th, 2025 **Room: 309A**

Time	Topic	Speaker	Institute
15:15-15:30	Value-Added Utilization of Waste PVC Plastics: From Small-Molecule Products to Functional Materials	Yanqin Wang	East China University of Science and Technology
15:30-15:45	High-Quality Plastic Recycling and Biomanufacturing Technologies	Jianjun Li	Kingfa Sci. & Tech. Co., Ltd
15:45-16:00	Regulation mechanisms of catalytic performance and products selectivity for photocatalytic CO_2 reduction reaction	Yuechang Wei	China University of Petroleum, Beijing
16:00-16:15	Origin of chirality of metal halide perovskite magic sized clusters and ligand-assisted molecular clusters	Jinzhong Zhang	University of California
16:15-16:30	Ultra-high-performance biomass plastics and biodegradable plastics derived from vanillin	Yukiko Enomoto	The University of Tokyo, Japan
16:45-16:55	Improving the Recycling System to Promote Efficient Resource Utilization	Jianying Xiong	Sichuan Yingu Carbon Sink Renewable Resources Co., Ltd.
16:55-17:05	Preparation, Modification and Catalytic Performance of Zeolite X Based on Fly Ash by Process Intensification	Weizhou Jiao	North University of China
17:05-17:15	Process coupling enhancement in catalytic hydrogenation reactions	Junting Feng	Beijing University of Chemical Technology
17:15-17:25	The Synthesis of Functional Polyamides from Plant Oils and Their Application	Zhongkai Wang	Anhui Agricultural University
17:25-17:35	Electrochemical Reduction of CO_2 to Ethylene and Reaction Mechanism	Hui Xu	Jiangsu University
17:35-17:45	Carbon sequestration prospects and life cycle assessment of high calcium solid waste mineralization: an example of nano calcium carbonate production from carbide slag	Huaigang Cheng	Shanxi University
17:45-17:55	Transforming Waste Biomass into Value-added Functional Materials	Chaoji Chen	Wuhan University
17:55-18:05	Development and Application of Analysis Technology for Waste Plastics Chemical Recycling	Qundan Zhang	Sinopec Research Institute of Petroleum Processing
18:05-18:15	Superstructured biobased materials for broadband light management and CO_2 capture	Bin Zhao	Aalto University, Finland
18:15-18:25	Circular Polyolefin Materials Made De Novo from Ethylene and Alfa-olefins	Yanshan Gao	Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences

19 Biomass Materials and Chemicals

July 15th, 2025 **Room: 308**

Time	Topic	Speaker	Institute
08:40-09:00	Prebiotic oligosaccharides chemically synthesized from underutilized monosaccharides, disaccharides and polysaccharides	Xuejun Pan	University of Wisconsin-Madison, USA
09:00-09:20	New Biobased Valued-Added Chains: From Carbohydrates to Amines and Aromatics	Marcus Rose	Darmstadt University of Technology
09:20-09:30	Extraction of C-lignin and its decolorization & applications	Lei Wang	Westlake University
09:30-09:40	Sustainable Biomass Conversion: Uniting Electrocatalysis and Chemical Innovation	Zhenhao Lin	City University of Hong Kong
09:40-09:50	Catalytic refining lignin-derived monomers: seesaw effect between nanoparticle and single-atom Pt	Weiyan Wang	Xiangtan University
09:50-10:00	Efficient cascade fractionation of lignocellulosic biomass for bio-based co-production	Santi Chuetor	King Mongkut's University of Technology North Bangkok
10:00-10:10	Tough and UV-resistant biodegradable polyurethane elastomers from waste wood flour	Dongyu Zhu	Guangdong University of Technology
10:30-10:50	Biomass Derived Circular Materials	Ning Yan	University of Toronto
10:50-11:00	Boosting biomass conversion to biochemicals via multidisciplinary approaches	Xuebing Zhao	Tsinghua University
11:00-11:10	Low-carbon resource utilization of waste biomass	Yuanpeng Wang	Xiamen University
11:10-11:20	Design of bifunctional catalysts and product selectivity modulation in catalytic pyrolysis of fatty acids	Guowu Zhan	Huaqiao University
11:20-11:30	Metal-acid bifunctional catalysts for efficient hydrogenolysis of lignin to phenolic monomers	Yongsheng Zhang	Zhengzhou University
11:30-11:40	High-Efficiency Dual-Site Biomimetic Catalyst for Lignin Depolymerization	Zhixian Li	South China University of Technology
11:40-11:50	Preparation of biomass derived carbon-based catalysts for energy catalysis	Hao Sun	Institute of Chemical Industry of Forest Products, CAF
11:50-12:00	Interfacial Regulation of Cellulose for Composite Materials Design	Tao Shui	Southeast University
13:30-13:50	The conversion of silicon contained in biomass to alkoxysilanes	Changwei Hu	Sichuan University
13:50-14:10	Bio-based Carbon Materials at the Heart of the Energy Transition	Vanessa Fierro	University of Lorraine
14:10-14:20	Enhanced Catalytic Oxidation of Biomass to Formic Acid Using Modified MnOx-based Catalysts	Jun Zhao	Hong Kong Baptist University

19 Biomass Materials and Chemicals

July 15th, 2025 **Room: 308**

Time	Topic	Speaker	Institute
14:20-14:30	Lignin-based films improved soil productivity through sustainable degradation	Shaolong Sun	South China Agricultural University
14:30-14:40	Preparation of Bio-based Dicarboxylic Acids via Carbonylation Strategy	Weiran Yang	Nanchang University
14:40-14:50	Mechanism of natural rubber-lignin interface based on multi-scale molecular dynamics simulation	Qingang Xiong	South China University of Technology
14:50-15:00	Research on High-Gravity Technology for Improving and Upgrading Marine Polysaccharides	Yucheng Yang	Huaqiao University
15:00-15:10	Techno-economic assessment of lignocellulosic biomass to ethanol and lignin extracted from lignocellulosic biomass to different value-added products: A comparative study	Souvik Kumar Paul	Birla Institute of Technology, Dubai Campus
15:10-15:20	Research on the Precise Activation and Selective Regulation Mechanisms of Biomass C-C/C-O Bonds	Renfeng Nie	Zhengzhou University
15:20-15:30	Biomass conversion based on micro-scale effect	Wei He	Nanjing University of Technology
15:50-16:10	Green Conversion of Biomass Sugar-Based Compounds	Zhanhua Huang	Northeast Forestry University
16:10-16:20	Regulating ZIF-8 Defect Sites and Active Groups via Solvent-Assisted Ligand Exchange Strategy Coupled with Lignosulfonate for Superior Pollutant Removal in Wastewater	Zhili Li	Guangxi University
16:20-16:30	Lignin-based anticorrosive coatings with excellent metal protection performance	Huan Wang	Guangzhou University
16:30-16:40	Constructing robust, flexible and anti-freezing gel electrolyte via regulating hydrogen bonding for high performance aqueous zinc-ion battery	Wei Liu	Tianjin University of Science & Technology
16:40-16:50	Revealing the C-C Bonds Cleavage Mechanism of Hydrothermal Catalytic Biomass into Oxygenated Chemicals	Lingzhao Kong	Suzhou University of Science and Technology
16:50-17:00	Barrier coating integrated with lignin nanotube and polyvinyl alcohol for variety packaging film	Man Jiang	Southwest Jiaotong University
17:00-17:10	From disorder to order: Design, preparation, and application of lignin-based functional materials with ordered supramolecular structures	Jingyu Wang	Sichuan University
17:10-17:20	Non-Covalent Interaction of Cellulose Nanofiber: Towards Homogeneous PEDOT Polymerization and Enhanced Electrical Properties	Lim Khak Ho	Zhejiang University

19 Biomass Materials and Chemicals

July 15th, 2025 **Room: 308**

Time	Topic	Speaker	Institute
17:20-17:30	Structural regulation and energy storage application of lignin-based functional carbon materials	Yuebin Xi	Qilu University of Technology
17:30-17:40	Green Extraction of Bioactives from Eclipta alba Stems via Ultrasound-Assisted Process Optimization for Dermaceutical Applications	Hla Myo	College of Public Health Sciences, Chulalongkorn University
17:40-17:50	Identifying Key Intermediates in Photocatalytic Lignin Conversion via Ab Initio Molecular Dynamics: Insights from Oxygen Evolution Reaction Studies	Shuai Xu	Chang'an University

20 Preparation Theory and Application of Carbonaceous New Materials

July 16th, 2025 **Room: 307AB**

Time	Topic	Speaker	Institute
08:30-08:40	The Speech by the Chinese Chairperson	Shaohui Ge	PetroChina Petrochemical Research Institute
08:40-09:00	Synthesis, Structure Control, and Functionalization of Nanocarbons Ranging from 0D to 3D Morphologies	Rikizo Hatakeyama	Tohoku University
09:00-09:15	Fluorination of Carbon Materials: Methods and Applications	Young-Seak Lee	Chungnam National University
09:15-09:30	Advances in high-performance carbon nanotube fibers technology and its applications	Norio Tomotsu	Wisdom Pool Research Institute
09:30-09:40	Synthesis and Functionalization of Carbon Black – Silica Hetero-Aggregates: How to assess the Mixing Quality?	Simon Buchheiser	Karlsruhe Institute of Technology
09:40-09:50	TBD-Grafted Activated Carbon as an Efficient Solid Base Catalyst for Continuous Knoevenagel Reaction	Yi Chen	Tsinghua University
09:50-10:00	Isotropic Coke-Derived Porous Carbon for Enhanced Aqueous Zinc-Ion Capacitor Performance	Xiaohan Jin	China University of Petroleum (East China)
10:30-10:50	Preparation and Application of Petroleum Pitch based Carbon Materials	Weiwei Pang	PetroChina Petrochemical Research Institute
10:50-11:05	Surface modification of carbon fibers: properties and their applications	Rida Gallyamova	Ufa Institute of Chemistry
11:05-11:20	Concurrent development and assessment of carbon nanotube and battery technologies for sustainability	Suguru Noda	Waseda University
11:20-11:35	Design, synthesis and electrochemical performance of porous carbons	Xiaojun He	Anhui University of Technology
11:35-11:45	Research on the Preparation of Spherical Hard Carbon and Electrochemical Energy Storage	Lantao Liu	PetroChina Petrochemical Research Institute
11:45-11:55	How AI Lights-out Laboratories Empower Advanced Materials Development	Haipeng Chi	Dynaflow Lab Solutions Co., Ltd.
14:00-14:20	Structure control and mass production of carbon nanotube	Fei Wei	Tsinghua University
14:20-14:35	Preparation of Graphene and Its Application Research	Yongfeng Li	China University of Petroleum (Beijing)
14:35-14:50	Preparation of carbon-based materials by spray pyrolysis	Huaihe Song	Beijing University of Chemical Technology
14:50-15:00	Extraordinary stability of RGO supported α-FeOOH/Fe2O3 nanorods catalysts in Fischer-Tropsch synthesis	Juan Zhang	Institute of Coal Chemistry, Chinese Acadamy of Sciences
15:00-15:10	Graphene-based materials: green process and energy management	Junzhong Wang	Anhui University

20 Preparation Theory and Application of Carbonaceous New Materials

July 16th, 2025 **Room: 307AB**

Time	Topic	Speaker	Institute
15:10-15:20	Microstructural Control of Petroleum Asphalt-Derived Hard Carbon for Enhanced Sodium Storage Performance	Tianfeng Cai	China University of Petroleum (East China)
15:20-15:30	Size-selected graphene oxide flakes as effective promoters for solid state methane storage via enhanced gas hydrate formation	Huiquan Liu	Dalian University of Technology
16:00-16:20	Sieving is believing: carbon design rational for sodium storage	Quan-Hong Yang	Tianjin University
16:20-16:35	Construction and Application of Functional Carbon Materials from Heavy Oil	Mingbo Wu	Qingdao University of Science & Technology
16:35-16:50	Development and Industrial Application of Petroleum-Based Carbon Materials to Support Petrochemical Industry Transformation	Yongyi Song	SINOPEC (Dalian) Research Institute of Petroleum & Petrochemicals Co., Ltd
16:50-17:05	Molecular chemical regulation methods of carbon materials and their applications in aqueous zinc-ion batteries	Qi Yang	Beijing University of Chemical Technology
17:05-17:15	Polymer-based Porous Carbon Materials: Structural Design, Functional Modification, and Applications in New Energy Devices	Shaohong Liu	Sun Yat-Sen University
17:15-17:25	Synergistic Innovation in Reaction Engineering and Carbon Materials: From Process Optimization to Structural Design to Energy Applications	Yin Yang	China University of Petroleum (Beijing)
17:25-17:35	Applications of inorganic membranes in the petrochemical industry	Quanhong Tang	Jiangsu SaraMike Technology Co. ,Ltd.

21 Chemical Engineering Process for Water, Gas Treatment and Environment Protection

July 15th, 2025 **Room: 303B**

Time	Topic	Speaker	Institute
08:00-08:20	Ceramic-based composite NF membranes: preparation, progress and perspectives	Rong Wang	Nanyang Technological University
08:20-08:40	Development and Performance Study of Anti-biofouling Membrane Materials for Wastewater Treatment	Zhiwei Wang	Tongji University
08:40-09:00	Tailoring polyamide thin-film composite membranes for improved removal of toxic micropollutants from water	Chuyang Tang	The University of Hong Kong
09:00-09:15	Plasma-catalysis system for water treatment and energy production	Choe Earn Choong	Kwangwoon University
09:15-09:30	Sabatier principle on highly CO_2-philic yet rejective membranes for hydrogen purification	Leiqing Hu	Zhejiang University
09:30-09:40	Utilization of Li-ion mobile battery waste for adsorptive removal of hazardous methylene blue (MB) dye from waste water	Anmol Pandey	INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR
09:40-09:50	Asymmetric capacitive deionization based on electrode configurations for industrial wastewater treatment	Yang Wang	Tianjin University
09:50-10:00	Sustainable synthesis of commercially valuable Mg^{2+}/Ca^{2+}-based nanomaterials through simultaneous utilization of desalination reject brine and CO_2 sequestration	Nafis Mahmud	Qatar University
10:20-10:40	Design and application of multi-stage membrane processes for the separation and recovery of low concentration gases	Gaohong He	Dalian University of Technology
10:40-11:00	Selective Electrodialysis for Lithium Extraction Using LATP-PDMS Composite Membrane	Alicia Kyoung Jin AN	The Hong Kong University of Science and Technology
11:00-11:20	Construction of ultra-microporous crystalline adsorbents and gas adsorption separation application	Guangjin Chen	China University of Petroleum, Beijing
11:20-11:35	On the stability of metal-organic frameworks and the impacts on their environmental applications	Harvey Yi Huang	The University of Edinburgh
11:35-11:50	Cytostatic drugs quantification and removal from urban wastewater: challenges and perspectives	Angeles Blanco	Universidad Complutense de Madrid
11:50-12:00	Understanding Water-Nanobubble Interactions with and without the Electric Fields: Implications for Industrial and Scientific Advancements	Parisa Naeiji	School of Chemical and Bioprocess Engineering, University College Dublin, Belfield, Dublin, Ireland

21 Chemical Engineering Process for Water, Gas Treatment and Environment Protection

July 15th, 2025 **Room: 303B**

Time	Topic	Speaker	Institute
13:30-13:50	Organic Molecular Sieve Membranes	Zhongyi Jiang	Tianjin University
13:50-14:10	Membrane technology for the circular value chain of fluorinated refrigerants	Ane Urtiaga	Universidad de Cantabria
14:10-14:25	Membrane intens`ification of chemical processes	Volkov Alex	A.V. Topchiev Institute of Petrochemical Synthesis, Russian Academy of Sciences
14:25-14:40	Assessment of disinfection and energy efficiency of tertiary treatment technologies for wastewater reclamation	Javier Marugán	Universidad Rey Juan Carlos
14:40-14:50	Template-directed strategy synthesis of CoNi-layered double hydroxide nanosheet coated with polypyrrole for enhanced capacitive deionization	Shunjiang Huang	Tianjin University
14:50-15:00	CH_4 and N_2O Fluxes in Horseshoe Island Bay, Antarctica: Biogeochemical Processes and Climate Relevance	Pablo Araujo-Granda	Universidad Central del Ecuador
15:20-15:40	Preliminary Study on the Mechanisms of Advanced Purification of Micro-polluted Water	Sihui Zhan	Tianjin University
15:40-16:00	The Progress, Challenges, and Prospects of Petrochemical Environmental Protection Technologies	Xuehai Wang	SINOPEC (Dalian)Research Institute of Petroleum and Petrochemicals Co, Ltd.
16:00-16:15	Electrification of CO2 capture process with radiofrequency heating	JAVIER FERNANDEZ GARCIA	IQS SCHOOL OF ENGINEERING
16:15-16:30	Micro/nano hybrid structure membrane for high saline water distillation	Xiaobin Jiang	Dalian University of Technology
16:30-16:40	Simulation and Optimization Studies on the Application of Rotary Pressure Conversion Device in Mine Cooling System	Junqi Wang	Tianjin University
16:40-16:50	Evaluation of Solar Photo-Fenton for the Removal of Micropollutants in Urban Wastewater	Núria López Vinent	Universitat de Barcelona
16:50-17:00	Occurrence, bioaccumulation and ecotoxicological risks due to antibiotic residues in the Bay of Lake Titicaca and drinking waters of the city of Puno, Peru	Walter Zamalloa Cuba	National University of the Altiplano of Puno, Peru
17:00-17:10	Innovative microchannel-engineered alumina beads for transformative diffusional mass transfer inside porous substrates: A case study on water treatment	Jiaojiao Zheng	Aston University
17:10-17:20	Dehardening of carbon dioxide: A highly efficient chemical precipitant used for the dehardening of deep coalbed methane produced water	Wu Chen	Yangtze University

21 Chemical Engineering Process for Water, Gas Treatment and Environment Protection

July 15th, 2025 **Room: 303B**

Time	Topic	Speaker	Institute
18:30-18:40	Scaling up of air-lift loop reactors wet air oxidation (WAO) for saline spent caustic: Effect of initial binary-scale bubble	Xiao Xu	East China University of Science and Technology
18:40-18:50	The crucial role of transition metal argentum in the adsorption selectivity of nitrous oxide and carbon dioxide on the biomass porous carbon	Yongchao Zhu	Guangxi University
18:50-19:00	Determination of polycyclic aromatic hydrocarbons (PAHs) in soils from the eastern-northern zone of the inner bay of Lake Titicaca (Puno, Peru) using QuEChERS and UHPLC-FLD	WALTER ALEJANDRO ZAMALLOA CUBA	Universidad Nacional del Altiplano Puno Peru
19:00-19:10	Experimental Investigation and Process Modelling of Osmotically Assisted Reverse Osmosis for Energy-Efficient Zero Liquid Discharge Systems	Mattia Turetta	University of Padova
19:10-19:20	Effect of concentration of nitric acid in absorbent (water, sodium hydrogen and hydrogen peroxide) on NOx absorption	Haruumi Takeda	Osaka Metropolitan University
19:20-19:30	Comparison of Laboratory and Semi-Operational Membrane Contactors for Ammonia Removal from Biogas Plant Digestate	Jiří Lindovský	Brno University of Technology / Faculty of Chemistry / Institute of Chemistry and Technology of Environmental Protection
19:30-19:40	Closed-loop recyclable membranes for circular membrane industry	Bofan Li	Institute of Sustainability for Chemicals, Energy and Environment (ISCE2), Agency for Science, Technology, and Research (A*STAR), Singapore
19:40-19:50	Barrier Analysis on the Policy Implementation for Antibiotic and AMR Management in the Philippine Water Environment	Johara Capingian	De La Salle University

22 Carbon Neutrality and Sustainable Development of the Chemical Industry

July 16th, 2025 **Room: 305**

Time	Topic	Speaker	Institute
08:45-09:15	Progress of Carbon Capture, Utilization, and Storage (CCUS) in China	Yang Li	SINOPEC
09:15-09:45	Advancing Sustainability at BASF Petrochemicals: Methodologies and Measures for Carbon Reduction	Jelan Kuhn	BASF
09:45-10:15	CO_2 into Chemicals for Upstream Applications	Xuan Zhang, Bader Alharbi	Aramco Beijing Research Center, Aramo Asia
10:45-11:05	Design and Application of Metal-modified MOFs for CO_2 Photo-reduction to Value-added Chemicals	Chunshan Song, Xiaowa Nie	The Chinese University of Hong Kong, The Pennsylvania State University, Dalian University of Technology
11:05-11:25	Progress on CCUS Technologies and Green Chemical Technologies in FRIPP	Gang Wang	SINOPEC Dalian Research Institute of Petroleum and Petrochemicals Co., Ltd.
11:25-11:45	Utilization of COx Based on the Coupling Strategy and Multi-functional Catalysis	Chang Liu	Sinopec Shanghai Research Institute of Petrochemical Technology Co., Ltd.
11:45-12:05	Some Insight in Carbon Dioxide Capture and Conversion	Shihan Zhang	Zhejiang University of Technology
13:00-13:20	Sinopec's Advances in Upstream CO_2 Geological Utilization and Storage Technologies	Guangfu Wang	Sinopec Petroleum Exploration & Production Research Institute
13:20-13:40	Low-Carbon Energy Development and Air Quality Management Policies	Xi Lu	Tsinghua University
13:40-14:00	Ionic Liquid-based Solvents for CCUS	Guokai Cui	Zhejiang University of Technology
14:00-14:20	CO_2 in Heat Extraction from Geothermal Formations, Fracturing, and Storage in Aquifer Formations: Higher-order Numerical Modeling	Abbas Firoozabadi	Rice University
14:35-14:55	Key Considerations for Energy System Development under Dual Carbon Goals	Lei Tian	Institute of Energy Research, National Development and Reform Commission
14:55-15:15	Applications of Organometallic Compounds in Molecular Catalysis and Molecular Medicine	Fritz E. Kühn	Technical University of Munich
15:15-15:35	Advances in U.S. CO_2-EOR and Carbon Sequestration Technologies （online）	Birol Dindoruk	Texas A&M University
15:35-15:55	The Coupling of Amine with CO_2/H_2 by Heterogeneous Catalysts	Xinjiang Cui	State Key Laboratory of Low Carbon Catalysis and Carbon Dioxide Utilization, Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences
15:55-16:05	Chemical Looping Technology Enables Carbon Neutrality	Qingjie Guo	Qingdao University of Science and Technology

22 Carbon Neutrality and Sustainable Development of the Chemical Industry

July 16th, 2025 **Room: 305**

Time	Topic	Speaker	Institute
16:05-16:15	Continuous Decarbonization of Flue Gas by Integrated Carbon Capture and Conversion to Methane	Deng Hu	Shanghai Advanced Research Institute, Chinese Academy of Sciences
16:15-16:25	Synergistic Modulation of Surface Hydroxyls via Nitrogen Doping and Oxygen Vacancies in In_2O_3 for Enhanced Electrocatalytic CO_2 Reduction to Formate	Anyu Zhang	Tianjin University
16:25-16:35	Sustainability Assessment o Solar Thermochemical Hydrogen Production Technologies in China	Xiaoyu Huang	The University of Manchester
16:35-16:45	Techno-economic Analysis and Life-cycle Assessment of Integrated Carbon Capture and Utilization Process for Coal-fired Power Plant	Muhammad Saddam Hussain	Tsinghua University

23 Mesoscience and Artificial Intelligence in Chemical Engineering

July 16th, 2025 **Room: 401**

Time	Topic	Speaker	Institute
08:30-08:50	Development of Machine Learning Models for Thermophysical Properties Required for Process Modeling and Optimization of Carbon Capture Processes	Peter Cummings	Heriot-Watt University
08:50-09:10	Cross-Scale Fluid Transfer: Exploring Innovative Model Development and Cutting-Edge Applications	Shuangliang Zhao	East China University of Science and Technology
09:10-09:25	LBM-DEM Model for Fast Simulation of Gas-solid Fluidization and LMFD Software	Limin Wang	Institute of Process Engineering, CAS
09:25-09:40	Artificial Intelligence Empowered Multiscale Investigation of Biomass/ Plastic Fluidized Pyrolizer	Xi Gao	Guangdong Technion-Israel Institute of Technology
09:40-09:50	Machine Learning Approaches for Predicting Axial Dispersion Model Performance in Continuous Pulp Digesters	Sharad Saxena	Thapar Institute of Engineering and Technology
09:50-10:00	Physics-constrained dynamic mode decomposition for fast data and theory fusion computation	Shengkun Jia	Tianjin University
10:00-10:10	Multi-objective optimization of protein crystallization based on crystal morphology simulation	Guangzheng Zhou	Beijing Institute of Petrochemical Technology
10:30-10:50	CFD-DEM simulation of filtration: from single-particle interactions to multiphase modeling of compressible filter cake behavior	Sergiy Antonyuk	University of Kaiserslautern
10:50-11:10	Bridging mesoscale reactors and molecular insights for sustainable processes mediated by single-atom catalysts	Gianvito Vile	Politecnico di Milano
11:10-11:30	Multi-Scale Modelling of Transport Phenomena in Fixed Bed Reactors with Porous Particles	J.A.M. Kuipers	Eindhoven University of Technology
11:30-11:45	Catalytic conversion of biomass-derived saccharides over zeolite	Chenguang Wang	Guangzhou Institute of Energy Conversion, CAS
11:45-11:55	Machine learning for three-phase flow prediction in upstream oil and gas pipes and fittings	Muhammad Waqas Yaqub	Shanghai Jiao Tong University
11:55-12:05	Efficient Computer-Aided Molecular and Process Design Driven by Bayesian Optimization	Zihao Wang	Max Planck Institute for Dynamics of Complex Technical Systems
13:30-13:50	Multiscale Modelling of Stratum Corneum Lipids	Clare McCabe	Heriot-Watt University
13:50-14:10	Multi-scale application of machine learning in crystallization	Jingtao Wang	Tianjin University

23 Mesoscience and Artificial Intelligence in Chemical Engineering

July 16th, 2025 **Room: 401**

Time	Topic	Speaker	Institute
14:10-14:25	Multiscale Simulation of Silicon-based Nanostructures, Devices and Circuits	Chaofeng Hou	Institute of Process Engineering, CAS
14:25-14:40	A Reinforcement Learning-Based Approach for Automated Shell-and-Tube Heat Exchanger Configuration: Minimizing Effective Area Under Comprehensive Design Constraints	Yuan Yao	National Tsing Hua University
14:40-14:55	Cross-scale Quantitative Correlation Analysis of Agglomerations in a Liquid-containing Gas-solid Fluidized Bed Reactor	Yefeng Zhou	Xiangtan University
14:55-15:10	Data-driven discovery of the governing equation of granular flow in the homogeneous cooling state using sparse regression	Bidan Zhao	China University of Petroleum, Beijing
15:10-15:25	Enhancing the Purity of Cooling Crystallization Products through Mechanical Methods	Bo Kong	Guangdong Technion-Israel Institute of Technology
15:25-15:35	The role of filter type in the performance of filtered mesoscale drag model for gas-solid flow	Hairui Lin	Zhejiang University
15:35-15:45	Classifying and Sizing Marine Clams Using Imaging and Machine Learning Techniques	Wenyang Lyu	Auckland University of Technology
16:00-16:15	Triboelectric charging of rough polyolefin particles: experiments and modelling	Juraj Kosek	University of Chemistry and Technology Prague
16:15-16:30	Investigation of pyrolysis process for plastic polymers by using reactive molecular dynamics and machine learning based reaction classification method	Mo Zheng	Institute of Process Engineering, CAS
16:30-16:45	Multi-scale study on industrial crystallization	Weiwei Tang	Tianjin University
16:45-17:00	Recent advances in smart chemical reactor engineering	Litao Zhu	Shanghai Jiao Tong University
17:00-17:10	Physics-Informed Neural Networks for Spatiotemporal Modeling of a Heat Transfer System	Mei-Yu Lin	National Tsing Hua University
17:10-17:20	Modelling turbulent multiple fragmentation behavior of droplets and bubbles with a novel breakup constraint	Shenggao Gong	Hunan Institue of Technology
17:20-17:30	Traffic Flow-Inspired Reactor Design	Anqi Li	Chongqing University
17:30-17:40	Modeling biomass pyrolysis and char conversion process of large particles with corrected zero-dimensional models featured intra-particle inhomogeneity	Hao Luo	Wuhan University of Science and Technology

23 Mesoscience and Artificial Intelligence in Chemical Engineering

July 16th, 2025 **Room: 401**

Time	Topic	Speaker	Institute
17:40-17:50	Vibration dynamics and hydrodynamic interactions of elastic Fiber: A CFD-DEM simulation	Shi-Jiao Li	NingXia University
17:50-18:00	A hybrid pressure drop coefficient model for a conical diffuser	Emmanuel Okon Ene	University of Uyo

24 Single Atom Catalysis and Theoretical Chemistry

July 15th, 2025 **Room: 305**

Time	Topic	Speaker	Institute
08:30-09:00	Single atom catalysts in thermal catalysis and electrocatalysis	Ferdi Schüth	Max-Planck-Institut für Kohlenforschung
09:00-09:30	Catalytic activity of single atom and anionic vacancy : Pt-atom anchored $C_{12}A_7$ surface and anionic electron in electride	Hideo Hosono	Institute of Science Tokyo & National Institute for Materials Science
09:30-09:50	Mechanistic Insights into catalytic conversion of methane from DFT computational studies	Qingfeng Ge	Southern Illinois University Carbondale
09:50-10:10	Theoretical Development in Hybrid QM/MM for Calculating Anharmonic Vibrational Signatures of Catalytic Systems	Jingcheng Guan	University College London
10:40-11:10	Fundamental Tuning of Catalytic Activity, Selectivity and Stability - from Single Atoms to Triadic Active Sites	Zhengxiao GUO	University of Hong Kong
11:10-11:30	Exploring Chemical Reactivity in the Age of Artificial Intelligence	Alberto ROLDAN Martinez	Cardiff University
11:30-11:50	Bridging Theory and Experiment via X-ray Spectroscopy in Single Atom Catalysis	Feng Ryan Wang	University College London
11:50-12:10	Theoretical Studies on Fullerene-Supported Single-Atom Catalysts	Tao Yang	Xi'an Jiaotong University
13:30-14:00	Modeling single-atom catalysts	Gianfranco Pacchioni	Università di Milano-Bicocca
14:00-14:30	Theoretical Understanding of Static and Dynamic Active Sites in Single Atom Catalysis	Jun Li	Tsinghua University
14:30-14:50	Active Site Details in Single-Atom and Heterogeneous Catalysts Revealed by EPR Spectroscopy	Andrea Folli	Cardiff University
15:10-15:40	Identifying active single sites for CH_4 and CO_2 conversion using operando spectroscopy	Andrew Beale	University College London
15:40-16:00	Preparation of single atom Au/C catalysts and the influence of surface functionalities	Nicholas Dummer	Cardiff University
16:00-16:20	Dynamic restructuring of single atom catalyst	Bing Yang	Dalian Institute of Chemical Physics
16:35-16:43	Seeding Atomic Silver into Internal Lattice Sites of Transition Metal Oxide for Advanced Electrocatalysis	Yifei Yuan	Wenzhou University
16:43-16:51	Computational design of novel single-atom-modified Ti-MOFs for photocatalytic CO_2 reduction to value-added chemicals	Xiaowa Nie	Dalian University Of Technology

24 Single Atom Catalysis and Theoretical Chemistry

July 15th, 2025 **Room: 305**

Time	Topic	Speaker	Institute
16:51-16:59	Ru single atom catalyst with enhanced chlorine poisoning-resistance for o-dichlorobenzene low-temperature oxidative removal	Haiwei Guo	Hebei University of Technology
16:59-17:07	Unveiling the Mysterious Catalytic Performance of Copper-Based Catalysts for Ammonia Combustion: The Crucial Role of Adjacent Cu Atom Pairs	Zhengqing Huang	Xi'an Jiaotong University
17:07-17:15	Single-atom-driven dynamic carburization over Pd_1–FeO_x catalyst boosting CO_2 conversion	Pengfei Du	Dalian Institute of Chemical Physics
17:15-17:23	Elucidating the Reactivity of Oxygenates on Single-Atom Alloy Catalysts	Weitian Li	University of Oxford
17:23-17:31	Pushing the limits of Kinetic Monte Carlo simulations for complex systems: Exploring single-cluster catalysts	Hector Prats Garcia	Technical University of Vienna
17:31-17:39	Pt-based single-atom alloy/intermetallic catalysts for propane dehydrogenation to propylene	Yanan Xing	SINOPEC (Beijing) Research Institute of Chemical Industry Co., Ltd
17:39-17:47	Study on the Leaching Resistance and Regeneration Mechanisms of Rh Single Atoms in Hydroformylation Reactions	Zhounan Yu	SINOPEC (Beijing) Research Institute of Chemical Industry Co., Ltd
17:47-17:55	Heterogeneous Carbonylation of Alcohols on Mo-Ni Dual Sites Localized at Edge Sulfur Vacancies	Qiao Yuan	Dalian Institute of Chemical Physics
17:55-18:03	Stable and recyclable palladium single atoms entrapped on a covalent organic framework for the selective reduction of nitroarenes	Jiachengjun Luo	Politecnico di milano
18:03-18:11	Reactive Molecular Simulation and Machine Learning of Polymerization Kinetics	Xinwei Chen	Shanghai Jiao Tong University
18:11-18:19	Research on Ionic Liquid-Assisted Synthesis of single atom catalysts and their application in energy devices	Zhenye Zhu	Harbin Institute of Technology, Shenzhen

25 Hydrogen Energy and Hydrogen Energy Industry Chain

July 15th, 2025 **Room: 402AB**

Time	Topic	Speaker	Institute
08:30-08:55	China Hydrogen Energy Industry Outlook	Caineng Zou	China National Petroleum Corporation
08:55-09:10	Recent Development on Green Hydrogen Production via Seawater Electrolysis	Xiaoming Sun	Beijing University of Chemical Technology
09:10-09:25	Progress on Advanced PEM Water Electrolysis Technology	Junliang Zhang	Shanghai Jiao Tong University
09:25-09:40	Hydrogen Production by High-Temperature Steam Electrolysis Based on Solid Oxide Electrolysis Cells	Jianqiang Wang	Shanghai Institute of Applied Physics Chinese Academy of Sciences
09:40-09:50	Study of H_2 Crossover in PEM Water Electrolysis for High-Pressure Hydrogen Production up to 20 MPa	Yubin Chen	Xi'an Jiaotong University
09:50-10:00	Optimization of Flow Channel by a Two-Dimensional Multiphysics Model in an Alkaline Water Electrolysis Cell	Ze Sun	East China University of Science and Technology
10:00-10:10	Optimization of the Alkaline Electrolysis Process: A Multiphysics Modeling Approach	Valeria Juárez-Casildo	Instituto Politécnico Nacional
10:30-10:55	The Hydrogen and Power-to-X Economy in Germany: Insights on Generation, Imports, Storage and Demands and How We Developed the Power-to-X Concept	Michael Sterner	Regensburg University of Appied Sciences
10:55-11:10	Anion Exchange Membrane Water Electrolysis for Renewable Energy Conversion in Green Chemical Engineering	Baoguo Wang	Tsinghua University
11:10-11:25	Overcoming the Corrosion Challenge of Water Electrolyzers Powered by Unstable Renewable Energy: The Key to Scale-Up Green Hydrogen Production in Industry	Junlei Tang	Southwest Petroleum University
11:25-11:40	The Development of AEM Electrolysis in the World and Its Industry Application Cases	Jan-Justus Schmidt	Enapter S.r.l.
11:40-11:50	Technical Practice and Prospects of Hydrogen Production via Water Electrolysis Using Intermittent Renewable Energy	Tingzhao Du	China Petroleum Engineering & Construction Corporation North China Branch
11:50-12:00	Key Challenges and Countermeasures in Hydrogen-Electricity Coupling System	Song Hu	University of Science and Technology Beijing
14:00-14:25	Hydrogen and Magnesium: Pioneering New Cultivation	Wenjiang Ding	Shanghai Jiao Tong University
14:25-14:40	Liquid Hydrogen Storage and Transportation	Gang An	CASC Aerospace Hydrogen Energy Technology Co., Ltd.
14:40-14:55	Recent Advances on Solid-State Hydrogen Storage Technology	Haiwen Li	Sun Yat-sen University

25 Hydrogen Energy and Hydrogen Energy Industry Chain

July 15th, 2025 **Room: 402AB**

Time	Topic	Speaker	Institute
14:55-15:10	Hydrogen Energy Facilitates Green and Low-Carbon Transformation of Oil and Gas Enterprises	Hangzhou Wang	PetroChina Shenzhen New Energy Research Institute Co., Ltd.
15:10-15:20	Dynamic Scheduling of Mg Solid-State Green Hydrogen Storage via Hydrogen-Thermal Coordination	Le Wu	Northwest University
15:20-15:30	Liquid Organic Hydrogen Carriers: from Fundamental Research to Engineering Scale-up	Tao Fang	Xi'an Jiaotong University
15:30-15:40	Characterization of Membrane Electrode Assemblies with Different Loading of IrO_2 and RuO_2 Electrocatalysts Integrated into a New Redesigned PEM Electrolyzer	Carlos Ruben Navarro Castillo	Instituto Politécnico Nacional
16:05-16:30	Energy Storage and Power Generation via Ammonia-Hydrogen Technologies	Lilong Jiang	Fuzhou University
16:30-16:45	Sustainable Hydrogen Production from Palm Biomass	Taufiq Yap Yun Hin	Universiti Putra Malaysia
16:45-17:00	In-situ Heavy Crude Oil Upgrading Inspired by Ex-situ Hydrogen Addition-Based Technologies	Jorge Ancheyta Juarez	National Polytechnic Institute (Mexico)
17:00-17:10	For Efficient Basic Oxygen Evolution Reaction of Oxygen Vacancy Control Mo Doped Nickel Ferrous Oxide Rush Inhibitor	Bin Dong	China University of Petroleum（East China）
17:10-17:20	High-Efficiency Solar-to-Hydrogen Conversion Through an Integrated Concentrator Photovoltaic Electrolysis	Qingran Zhang	Fudan University
17:20-17:30	Exploiting Emerging Electrochemistry: From Bipolar Hydrogen Production to Dual Hydrogenation	Guanqun Han	Sun Yat-sen University

26 Electrochemical Engineering, Energy Internet, and Energy Storage

July 15th, 2025 **Room: 303A**

Time	Topic	Speaker	Institute
08:30-08:55	Charging dynamics in nanoporous electrodes: A multiscale ion transport perspective	Dan Li	Hong Kong University of Science and Technology
08:55-09:15	Perspective of Electrochemical Engineering: Application for both Energy Conversion and Chemical Production	Baoguo Wang	Tsinghua University
09:15-09:25	From Cell Level Insights to System Level Prevention Strategies: Thinking Thermal Runaway Modelling on Multiple Scales	Niklas Weber	Karlsruhe Institute of Technology
09:25-09:35	Host-Guest Engineering of Carbon-Based Materials for Aqueous Energy Storage	Tieqi Huang	Central South University
09:35-09:45	Electrochemical Reduction of CO_2 to Formate/Formic Acid: From Laboratory Research to Large-Scale Applications	Muhammad Arsalan	Qatar University
09:45-09:55	Exploring Mechanical Degradation in Phase-Separating Active Materials Using Novel PINN Architectures	Nikolai Erhardt	Karlsruhe Institute of Technology
09:55-10:05	Enhancing electrocatalysis by carbon-based catalysts and multichannel monolith electrodes design	Guangping Hao	Dalian University of Technology
10:05-10:15	Feasibility Analysis of Commercial PV-Battery Microgrids in the Philippines with SAM-Based Financial Modeling	Ma Cristina Joyce Manalo-Sta Maria	University of Santo Tomas
10:30-10:55	Battery Innovation Inspired by Lithium Bond and Artificial Intelligence	Qiang Zhang	Tsinghua University
10:55-11:10	Covalent Organic Polymers Directly for Oxygen Electrocatalysis	Zhonghua Xiang	Beijing University of Chemical Technology
11:10-11:20	The N, S co-doped activated carbon prepared from solubles for high-performance supercapacitor applications	Tippapon Tocuweang	The Joint Graduate School of Energy and Environment. King Mongkut's University of Technology Thonburi
11:20-11:30	Catalyst engineering and mechanism studies of oxygen reduction to green synthesis hydrogen peroxide	Shanyong Chen	Central South University
11:30-11:40	Harnessing Energy in Catalysis: Advancements in Photocatalytic Methane Conversion and Photothermal CO_2 Reduction	Yicheng Li	Tianjin University
11:40-11:50	Sources, Corrosion Mechanisms and Control Technologies of Microorganisms in Unconventional Gas Fields	Yanran Wang	Research Institute of Natural Gas Technology
11:50-12:00	A novel zinc free binary CuAlOx@AC catalysts for efficient methanol steam reforming	Shen Zhan	Shanghai Jiao Tong University
14:00-14:20	Aqueous Organic Flow Battery	Zhenxing Liang	South China University of Technology

26 Electrochemical Engineering, Energy Internet, and Energy Storage

July 15th, 2025 **Room: 303A**

Time	Topic	Speaker	Institute
14:20-14:35	Investigation of Hard Carbon from the Pyrolysis of Locally-Sourced Subbituminous Coal from Semirara, Philippines as an Anode Material in Sodium-ion Batteries	Joey D. Ocon	University of the Philippines Diliman
14:35-14:45	Modeling Ni1-x-yFexMny$(OH)_2$ Particle Evolution in Co-Precipitation for Sodium-Ion Batteries	Luo Pengsen	Shanghai Jiao Tong University
14:45-14:55	Silver-doped Prussian White as Novel Cathode Materials for Sodium-ion Batteries	Mecaelah Palaganas	University of the Philippines Diliman
14:55-15:05	Microreactor-Enabled Continuous-Flow Engineering of High-Entropy Na_3V_2 M $(PO_4)_2F_3$ Cathodes: Synergistic Nanoconfinement and Lattice Distortion for Ultrahigh-Rate Sodium-Ion Storage	Zhicheng Tian	Tsinghua University
15:05-15:15	High-Performance Sodium-Ion Anodes from CO_2-Assisted Sorghum-Derived Hard Carbon	Chanthawat Chieowanitcha	Kasetsart University
15:15-15:25	Li-modulated chemistry energizing high-performance layered Na-ion oxide cathodes	Chenlong Dong	Tianjin University of Technology
15:25-15:35	Sustainable pyrolytic carbon negative electrodes for sodium-ion batteries	Xiaoxin Li	Shanghai Jiao Tong University
15:45-16:10	Reinventing Batteries through Nanoscience	Yi Cui	Stanford University
16:10-16:25	Artificial Intelligence Design of Lithium Battery Electrolytes	Chen Xiang	Tsinghua University
16:25-16:40	Creation of electrochemical nanoreactor for lithium secondary battery	Quanbing Liu	Guangdong University of Technology
16:40-16:50	Key materials and fundamental mechanisms for rechargeable Mg metal batteries	Zhonghua Zhang	Qingdao University of Science and Technology
16:50-17:00	Solvent-Mediated Effects in Magnesium Metal Batteries	Wanyu Zhao	Shanghai Jiao Tong University
17:00-17:10	Suppression and Regulation of Li Plating for Fast-charging Li-ion Batteries	Xu Xuejiao	Shanghai Jiao Tong University
17:10-17:20	A comprehensive numerical study on hydrogen dispersion and gas-sensitive detection for early safety warning of lithium-ion battery energy storage cabins	Jin Xisheng	East China University Of Science and Technology
17:20-17:30	Preparation and Stability Study of Sulfide Solid-State Electrolytes	Yaru Shi	Shanghai University
17:30-17:40	Engineering electrode interface microstructures for high-performance all-solid-state lithium batteries	Ruizhi Yu	Ningbo University of Technology

26 Electrochemical Engineering, Energy Internet, and Energy Storage

July 15th, 2025 **Room: 303A**

Time	Topic	Speaker	Institute
17:40-17:50	Recent Development of Halides, Oxides and Sulfides Solid State Electrolytes for Li-ion Batteries	Yi Pan	The City College of New York
17:50-18:00	Spherical tailing atom doping for the preparation of high-performance anode materials for lithium-ion batteries	Liu Yuehua	Taiyuan University of Technology

27 Innovation and Practice of Industrial Software in Process Manufacturing

July 16th, 2025 **Room: 303A**

Time	Topic	Speaker	Institute
08:30-09:00	Molecular Systems Engineering for Product and Process Design	Claire Adjiman	Imperial College London
09:00-09:30	A new set of computer-aided methods and associated tools for chemical product and process engineering in the era of AI	Rafiqul Gani	East China University of Science and Technology
09:30-10:00	What expectations might a polymer researcher have of AI in polymer product development?	Guo-Hua Hu	University of Lorraine - CNRS
10:20-10:50	Process systems engineering in pharmaceutical manufacturing: Opportunities and challenges	Fabrizio Bezzo	University of Padova
10:50-11:20	Bioreactor digital twins: process and biocatalyst intelligence using the latest developments of AI and ML	Antonis Kokossis	National Technical University of Athens
11:20-11:35	Artificial intelligence-assisted small molecule drug design	Lei Zhang	Dalian University of Technology
11:35-11:50	A Novel Unsupervised Learning Scheme for Efficiently Solving Batch Process Scheduling Problems	Chao Shang	Tsinghua University
11:50-11:55	DEM-VOF simulation on gas-solid-liquid flows for large-scale mixer	Ryosuke Mitani	the University of Tokyo
11:55-12:00	Improved COSMO-SAC model for predictions of CO_2 solubilities in deep eutectic solvents	Qilei Liu	Dalian University of Technology
14:00-14:30	A Digital Twin Platform for Decarbonization of Industrial Process Heat and Flexibilization	Brent Young	University of Auckland
14:30-15:00	Global robust optimisation of non-convex continuous problems: Open-source solution package & chemical engineering applications	Vassilis M. Charitopoulos	Department of Chemical Engineering, University College London
15:00-15:15	Adaptive sampling Bayesian algorithm for constrainedblack-box optimization problems	Zuwei Liao	Zhejiang University
15:15-15:30	Artificial Intelligence based Multiple-Scale Optimization for complex Distillation Systems	Weifeng Shen	Chongqing University
15:30-15:35	Ai4Energy: An Open-Source Community for Energy System Digitalization and Smart Transition	Mingtao Li	Xian Jiaotong University
15:35-15:40	Monitoring and Control of Integrated Post Combustion Carbon Capture Facilities	Jaleel Valappil	Bechtel Energy
15:40-15:45	On Accelerating Granular Flow Simulations with Graph Neural Networks	Shuo Li	The University of Tokyo

27 Innovation and Practice of Industrial Software in Process Manufacturing

July 16th, 2025 **Room: 303A**

Time	Topic	Speaker	Institute
16:00-16:30	Report on the Advances in the use of Set Trimming and Smart/Supersmart Enumeration for the Globally Optimal Design of Clusters of Chemical Process Equipment	Miguel Bagajewicz	University of Oklahoma
16:30-17:00	Modelling, scale-up, optimization and analysis of CO_2 utilisation system for renewable fuel production	Eni Oko	Newcastle University
17:00-17:15	Multi-time scale integration of chemical energy systems	Yufei Wang	China University of Petroleum, Beijing
17:15-17:20	Strategies and Recommendations to Build Open-Source Ecosystem for China's Process Industrial Software	Libing Gao	Petro-Cyberworks Information Technology Company , Limited.
17:20-17:25	A fast data and theory fusion modeling method for dynamic distillation systems based on the Physics-constrained dynamic mode decomposition	Xing Qian	Beijing University of Chemical Technology
17:25-17:30	OpenCV-Driven Intelligent Recognition and Data Extraction for Chemical Engineering Graphical Data	Xia Yang	Qingdao University of Science and Technology

28 Advanced Chemical Materials and Future Chemical Industry

July 16th, 2025 **Room: 309B**

Time	Topic	Speaker	Institute
08:30-09:00	Critical challenges for a sustainable chemical and petroleum industry	Johannes A. Lercher	Technical University of Munich
09:00-09:20	Shaping The Future Through Technology and Innovation	Philip Pyman	LyondellBasell Industries Holdings
09:20-09:40	Transforming Plastic Waste Into Innovate Products	Harold Boone	The Dow Chemical Company
09:40-10:00	Developing High-speed Impact Resistant Thermoplastic Composites	Xuedong Li	Starlight (Shanghai) Advanced Materials Research Co., Ltd.
10:00-10:20	Covestro - Toward Climate Neutrality	André Rittermeier	Covestro
10:35-10:55	Polarization Analysis and Humidity/ Water Absorption Dependence of Dielectric Properties of Polyimides for 5G/6G Communications	Shinji ANDO	Institute of Science Tokyo
10:55-11:15	Research and development of high-performance polyimide materials based on hydrogenated pyromellitic dianhydrides	Xi Ren	RAYITEK Hi-Tech Film Company, Ltd., Shenzhen
11:15-11:35	Cabot's Evolving Sustainability Journey	Tao Han	Cabot (China) Investment Co., Ltd.
11:35-11:55	Novel Butadiene-based Materials from Fundamental Research to Industrialization	Xuequan Zhang	Qingdao University of Science and Technology
11:55-12:15	Green Preparation and New Applications of High Performance Microcellular Polymer Materials	Ling Zhao	East China University Of Science and Technology
14:00-14:30	Sustainable Materials Science Innovation	Julia Woertink	Dow Chemical Pacific (Singapore) Pte. Ltd.
14:30-14:50	Silicon carbide ceramic membrane development and its application in wastewater	Guanghui Li	Shanghai University of Engineering Science
14:50-15:10	Silicon carbide ceramic membrane development and its application in wastewater	Rufan Zhang	Tsinghua University
15:10-15:30	Olefin Metathesis: From Catalyst Design to Advanced Materials	Quan Gan	Petrochina Shanghai Advanced Materials Research Institute Co., Ltd.
15:45-16:05	Learning from nature and collective wisdom for a brighter future	Qiong Yuan	CAS, A Divison of the American Chemical Society
16:05-16:25	Advances of Metallocene-Catalysts and Metallocene-Polyolefins in Petrochina	Shixuan Xin	Petrochemical Research Institute (PRI), CNPC
16:25-16:45	Few layer MoS_2 as a catalyst for the hydrodeoxygenation of fatty acids to alkanes	Ruixue Zhao	Technical University of Munich
16:45-17:05	Boosting the Circular Plastics Economy by Establishing Structure-Processing-Property Relations	Joachim Loos	South China University of Technology
17:05-17:25	Catalyzing a Sustainable Future: Speeding up Innovations at BASF	Wolfram Stichert	BASF SE

29 Future Energy and Novel Chemical Process

July 16th, 2025 **Room: 308**

Time	Topic	Speaker	Institute
08:40-09:00	PeroCycle – a novel in-process carbon recirculation approach for energy-and-carbon-intensive industry decarbonization	Yulong Ding	University of Birmingham Centre for Energy Storage, UK
09:00-09:20	Blockchain Principles: A Sustainable Biofuture Perspective	Janusz A. Koziński	Lakehead University
09:20-09:35	Functional lignin incorporated coal water slurry with improved properties	Pedram Fatehi	Lakehead University
09:35-09:50	Biomass Photorefinery for Sustainable Bioeconomy	Jinguang Hu	University of Calgary
09:50-10:00	Design and Multi-Scenario Application of Gel-State Proton Exchange Membranes with Wide Temperature Range	Fei Huang	Zhejiang University of Technology
10:00-10:10	Cu_7S_4 nanosheet shell-encapsulating Cu_2O nanocube enabling exclusive carbon dioxide reduction to formate	Dong Xia	Wuhan Institute of Technology
10:40-11:00	What opportunities can clathrate hydrates bring to the future energy and new chemical processes?	Shuanshi Fan	South China University of Technology
11:00-11:20	Design and fabrication of nanofiltration membranes for high salinity wastewater treatment	Yinhua Wan	Chinese Academy of Sciences
11:20-11:35	Three-in-one polyimide-based blended membrane for Upgrading helium separation performance and physical aging resistance	Liangliang Dong	Jiangnan University
11:35-11:50	Biochar Engineering for Metal Recycling and Repurposed Applications	Kang Kang	Lakehead University
11:50-12:00	Visualization of spatio-temporal evolutions of temperature within thermochromic zeolite catalysts at work	Mingbin Gao	Xiamen University
13:30-13:50	Plasma-Driven Catalytic Valorization of CO_2	Ying Zheng	Western University
13:50-14:10	Development of Zeolite Catalysts for Utilization of CO_2 and Plastic Waste: Production of Light Olefins and BTpX from Polyethylene and Methanol	Norikazu Nishiyama	Osaka University
14:10-14:30	Development of Zeolite-Encapsulated Metal Nanoparticle Catalysts for CO_2 Utilization	Teruoki Tago	Department of Chemical Science and Engineering, Institute of Science Tokyo Japan
14:30-14:50	Sustainable Hydrogen and Ammonia Production from Produced Water in West Texas	Vahid Taghikhani	Physics and Engineering Department, University of St. Thomas
14:50-15:05	Advances in Aquaculture: Onsite Oxygen Production & Secure Storage	Steven McDougall	Benchmark International

29 Future Energy and Novel Chemical Process

July 16th, 2025 **Room: 308**

Time	Topic	Speaker	Institute
15:05-15:20	New technologies for carbon dioxide capture from the air	Grazia Leonzio	University of Cagliari
15:20-15:30	A redox-mediated zinc electrode for ultra-robust deep-cycle redox flow batteries	Shiqiang Huang	École Polytechnique Fédérale de Lausanne (EPFL)
16:00-16:20	Experiments, Modeling and Simulation of Chemical Reactions for Thermal Sealing of Oil Wells	Marcelo de Lemos	Instituto Tecnológico de Aeronáutica
16:20-16:35	Development and industrial practice of fluidized bed catalytic cracking technology for waste plastics	Xiaobo Chen	State Key Laboratory of Heavy Oil Processing, China University of Petroleum
16:35-16:50	Process for Cracking of Crude Oil to Light Olefins/Aromatics in the Presence of Acid-Base Bifunctional Catalysts	Hui Wang	The Institute of Process Engineering, Chinese Academy of Sciences
16:50-17:05	Numerical and experimental investigation of fluidized beds intensified with volatiles distributors for biomass chemical looping combustion	Qingang Xiong	South China University of Technology
17:05-17:15	Directly heating fine magnetic particles in a bubbling fluidized bed by electromagnetic induction	Hanbin Zhong	Xi'an Shiyou University
17:15-17:25	Solid Particles Suspension in Laminar Elliptical Stirred Tank Reactors	Xin Zhang	Chongqing University
17:25-17:35	Development of non-noble metal based protective coatings for Ti bipolar plates of proton exchange membrane water electrolyzer	Hongwu Zhao	North China Electric Power University
17:35-17:45	Exploration of a Novel Chemical Cycle of Hydrogen Production from Sulfur Emissions	Xiaoling Li	Taiyuan University of Technology
17:45-17:55	Life cycle assessment of solar-assisted sorption-enhanced gasification of PET waste for a circular economy	Shouzhuang Li	Ghent University

30 Green Energy and Environmental Engineering

July 15th, 2025 **Room: 401**

Time	Topic	Speaker	Institute
08:35-09:00	AI as Partner: Enhancing Science, Advancing Technology, But Human Judgment Stays Essential	Guohua Hu	Université de Lorraine
09:00-09:25	Polymer Coatings to Reduce Hydrogen Embrittlement	Sandra Kentish	The University of Melbourne
09:25-09:40	Evaluation of Energy Requirement and Carbon Balance in Hydrothermal Synthesis of Formic Acid Integrated with CO_2 Capture Using Alkali Carbonate Absorbents	Nobuhide Takahashi	Shinshu University
09:40-09:55	Conversion of Bio-syngas to C2+ Alcohols by CuCo Bimetallic Catalyst	Xianhai Zeng	Xiamen University
09:55-10:05	Taguchi-based Optimization of Biodiesel Production Via Sub-Sequent in Situ Transesterification of Swietenia Macrophylla Seed Lipid Using Supercritical CO_2	Juvyneil Cartel	Eastern Visayas State University
10:05-10:15	Decoding Catalytic Pathways: Integrating Rational Design and In-Situ Techniques	Lu Chen	Chinese Academy of Sciences Shanghai Advanced Research Institute
10:25-10:50	A Nature-Inspired Journey to Self-Powered Wearables	TAN Swee Ching	College of Design and Engineering National University of Singapore
10:50-11:15	Catalytic Conversion of Alternative Carbon Resources Using Green and Lowcarbon Technologies	Anton Lvovich Maximov	Russian Academy of Sciences
11:15-11:30	Photocatalytic Degradation of Benzene, Toluene and Xylene (BTX) in Petroleum Processing Wastewater using Flourine-doped TiO_2 on Activated Carbon Under Visible Irradiation	Joseph Auresenia	De La Salle University
11:30-11:45	Machine Learning Assisted Design of Multi-component Molten Salt: Achieving Extended Temperature Energy Storage	Ze Sun	East China University of Science and Technology
11:45-11:55	2D MXene-based Mo Catalyst for Efficient Deep Oxidative Desulfurization	Azam Akbari	Chemistry and Chemical Engineer Research Center of Iran
11:55-12:05	Key Technologies and Applications of Hydrogen Energy Production and Storage	Yanrong Liu	Chinese Academy of Sciences Institute of Process Engineering
13:30-13:55	New Generation Ion Exchange Membranes: Driving the Double Carbon Agenda	Tongwen Xu	University of Science and Technology of China
13:55-14:20	Strain Catalysis for Hydrogen Generation and Utilization	Shaojun Guo	Peking University
14:20-14:35	Carbon-Based Transparent Electrodes with Tunable Nanoporous Architecture	Hiroshi Yuzawa	Tohoku University

30 Green Energy and Environmental Engineering

July 15th, 2025 **Room: 401**

Time	Topic	Speaker	Institute
14:35-14:50	Towards a Carbon Neutral Future with the Halide Perovskite Technology	Farzaneh Arabpour Roghabadi	Tarbiat Modares University
14:50-15:00	Process Optimization and Carbon Footprint Assessment of Green Methanol Production	Aroonsri Nuchitprasittichai	Suranaree Univerisity of Technology
15:00-15:10	Studies of Cerium Oxide Nanoparticles Aggregation and Dissolution Mechanisms from Nuclear Fuel Debris	Cong Chao	University College London
15:10-15:20	Self-powered Hydrogen Peroxide Photoelectrochemical Cell Toward the Detection of Heavy Metal Ions	Huan Wang	Northeast Petroleum University
15:20-15:30	Two Catalyst Beds in Single Reactor: Pre-hydrogenation and Deoxygenation of Oleic Acid for Green Diesel Production	Tharawan Kanokwatpaisal	Kasetsart University
15:30-15:40	Electrocatalytic Conversion of CO_2 to Formic Acid	Xue Liu	Henan University
15:50-16:15	Development of High Performance and Durable Fuel Cell Electrocatalysts	Minhua Shao	The Hong Kong University of Science and Technology
16:15-16:40	Electrochemical View of Active Materials Towards Sustainability	Hyacinthe Randriamahazaka	Université Paris Diderot
16:40-16:55	Optimization of Jet Fuel from Palmitic Acid and Glycerol as Hydrogen Donor	Paweena Prapainainar	Kasetsart University - Bangkhen Campus
16:55-17:10	Mechanistic Study and Performance Enhancement of CO_2 Absorption Using DEHA as a Viscosity Modifier in Biphasic Solvent Systems	Shijian Lu	China University of Mining and Technology
17:10-17:20	Feasibility and Challenges of Low-carbon Transition of China's Power System	Huimin Yun	Beijing University of Chemical Technology
17:20-17:30	Research on Carbon Emission Accounting and Carbon Reduction Strategies for Heavy Oil Produced Water Treatment Systems	Ming Qiao	China National Petroleum Corporation Liaoning River Engineering Co., Ltd.
17:30-17:40	Electrochemical Reduction of CO_2 for Formic Acid Production in the Cement Industry: Experimental Assessment of Reactor Configurations	Guillermo Diaz-Sainz	University of Cantabria
17:40-17:50	Green Catalytic Procedures for the Valorisation of Low-Value Resources	Gang Xiao	Beijing University of Chemical Technology
17:50-18:00	Sustainable Desalination and Ocean Farming From Thermal Gradient Fabrics to Repurposed Face Masks	Shuai Guo	National University of Singapore
18:00-18:10	Decarbonizing Coal-to-liquid Process: Energy and CO_2 Emission Assessment of a Novel Strategy Integrating with Solid Oxide Co-Electrolysis	Yanli Wu	Shanxi University

31 Clean and Efficient Conversion and Utilization of Coal

July 16th, 2025 **Room: 310**

Time	Topic	Speaker	Institute
08:30-08:50	Catalyzing Green Innovation: How Science Translates into Industrial Energy Systems	Frank Behrendt	Academician of the German Academy of Engineering and the Swiss Academy of Engineering Sciences
08:50-09:10	Integration Process for Fuels and Chemicals: Fischer-Tropsch Synthesis	Zhuowu Men	National Institute of Clean-and-Low-Carbon Energy
09:10-09:25	Catalytic conversion of light alkanes into olefins and aromatics	Weibin Fan	Institute of Coal Chemistry Chinese Academy of Sciences
09:25-09:40	Technological Innovations and Application Practices in Direct Coal Liquefaction	Shansong Gao	China Shenhua Coal to Liquid and Chemial Co. Ltd
09:40-09:50	Carbon chain growth controlling in C1 chemistry	Xiaohao Liu	Jiangnan University
09:50-10:00	Efficiently converting syngas to liquid fuels with reduced CO_2 emission	Mingyue Ding	Wuhan University
10:30-10:50	Hybrid Energy Systems: Innovative Research Pathways for Alleviating Global Energy Poverty	Joseph D. Smith	AIChE
10:50-11:10	Phase-pure Fe-carbide catalysts research and development for high-carbon efficiency syngas conversion	Emiel J.M. Hensen	Eindhoven University of Technology
11:10-11:25	Research and Industrial Application of Coal-to-Gas Methanation Catalysts	Heng Zheng	Southwest Research & Design Institute of the Chemical Industry
11:25-11:40	Relay catalysis for selective conversion of syngas into liquid fuels and building-block chemicals	Ye Wang	Xiamen University
11:40-11:50	H_2O saving preparation of Fe based catalyst for Fischer-Tropsch Synthesis	Jiangang Chen	Institute of Coal Chemistry Chinese Academy of Sciences
11:50-12:00	Study on structural modification and resource utilization of carbon-rich fraction from entrained-flow coal gasification fine slag	Qinghua Guo	East China University of Science and Technology
14:00-14:20	Hydrodynamics and Mass Transfer in Slurry Bubble Column Reactors for Fischer-Tropsch Synthesis	Badie I. Morsi	University of Pittsburgh
14:20-14:40	CO_2-conversion – an essential step in the conversion of coal to aviation fuel	Eric van Steen	University of Cape Town
14:40-14:55	One step synthesis of aromatic hydrocarbons from syngas	Fei Wei	Tsinghua University
14:55-15:10	Fischer-Tropsch synthesis to olefins/alcohols with low selectivity to C1 byproducts	Liangshu Zhong	Shanghai Advanced Research Institute, Chinese Academy of Sciences
15:10-15:20	Relevant policies and development trend of comprehensive utilization of coal gangue	Weichun Hu	China Association of Circular Economy

31 Clean and Efficient Conversion and Utilization of Coal

July 16th, 2025 **Room: 310**

Time	Topic	Speaker	Institute
15:20-15:30	Anthracene-based solar thermal fuels: Molecular design and energy storage	Xingtang Xu	Taiyuan University of Technology
16:00-16:20	Catalyst design and process development of carbonylation	Xinbin Ma	Tianjin University / Xinjiang University
16:20-16:30	Low-Carbon Processes for Enhanced Treatment and Reuse of Coal-to-Chemical Wastewater: Technology Development and Demonstration	Xi Lu	NJTECH Environment Technology Co.,Ltd
16:30-16:40	Construction and dynamic coupling mechanism of near zero carbon system in coal chemical industry driven by multi energy complementarity and synergistic substitution of green hydrogen and calcium-based adsorption	Liping Wei	Northwest University
16:40-16:50	Enhanced C_2+ alcohol synthesis directly from syngas over carbon-silica composite supported Co_2C-based catalysts	Zhuoshi Li	Shanghai University
16:50-17:00	Coal-to-Liquids in a Net-Zero World: Breakthroughs, Bottlenecks and a Practical Roadmap	Omar Basha	ONB Engineering Research and Technical Services LLC
17:00-17:10	A Comparative Study on Covalent Bond Cleavage and Free Radical Generation Behavior in Direct Coal Liquefaction of Naomaohu and Shangwan Coals	Xiaodong Zhou	Xinjiang University
17:10-17:20	Insight into the role of heavy coke in incomplete regeneration process of MTO industry from the diffusion perspective	Guida Li	Dalian Institute of Chemical Physics, Chinese Academy of Sciences
17:20-17:30	The resource utilization of CO/CO_2-H_2S species into sulfur-containing chemicals in the clean utilization process of coal	Jichang Lu	Kunming University of Science and Technology

32 Engineering Thermochemistry and Low Carbon Chemical Engineering

July 15th, 2025 **Room: 309A**

Time	Topic	Speaker	Institute
09:00-09:20	Simulation and modelling of particulate systems	Aibing Yu	Monash university
09:20-09:40	From Material Structural Design to System Optimization: A Multi-Scale Coupling Mechanism Study of Thermochemical Heat Storage Materials and Mass Transfer Performance	Qiang Yao	Tsinghua University
09:40-10:00	Catalytic upgrading of ethanol to value-added chemicals	Anhui Lu	Dalian University of Technology
10:00-10:10	Exploring sustainable alternatives to traditional working fluids in absorption refrigeration systems	Gabriel Zarca	Universidad de Cantabria
10:10-10:20	Investigation of CO2 on Pyrolysis of rye straw at different temperatures	Liang Wang	SINTEF Energy Research
10:40-11:00	Advancing Circular Economy through Catalytic Microwave-Assisted Pyrolysis of Solid Waste	Roger Ruan	University of Minnesota
11:00-11:20	Engineering oxygen carriers and reaction kinetics for chemical looping processes	Jinlong Gong	Tianjin Normal University
11:20-11:40	Chemical Looping and Its Applications at University of Kentucky	Kunlei Liu	University of Kentucky
11:40-11:50	Fundamentals and pilot demonstration of coal directional pyrolysis to high quality tar and gas products based on process intensification and reaction regulation	Xi Zeng	Beijing Technology and Business University
11:50-12:00	Innovative Application of Supercritical Water Gasification Technology in Low-Carbon, High-Value Conversion of Plastic Waste	Hui Jin	Xi'an Jiaotong University
12:00-12:10	Neural Ordinary Differential Equations for Hydrocracking Kinetics: A Data-Driven and Interpretable Approach to Reaction Modeling	Liu Tianlong	Western University
13:50-14:10	Nanocomposite membranes for clean energy applications	Huanting Wang	Monash University
14:10-14:30	Rethink of biomass to liquid fuels after decades of development	Sai Gu	University of Warwick
14:30-14:50	Reaction synergy of bimetallic catalysts on ZSM-5 support in tailoring plastic pyrolysis for hydrogen and value-added product production	ChiHwa Wang	National University of Singapore
14:50-15:00	Synthesis of advanced catalyst for water splitting from residual carbon in gasification fine slag	Baiqian Dai	Monash university

32 Engineering Thermochemistry and Low Carbon Chemical Engineering

July 15th, 2025 **Room: 309A**

Time	Topic	Speaker	Institute
15:00-15:10	Surface-Enhanced Infrared Spectroscopic Studies of Hydrogen Evolution/Oxidation Reaction Mechanisms	Shangqian Zhu	Southeast University
15:10-15:20	Study on the effect of air oxygen concentration on laminar combustion velocity of n-dodecane/ammonia flame	Jun Li	Guangzhou Institute of Energy Conversion, Chinese Academy of Sciences
15:40-16:00	Chemical Looping Technology Enables Carbon Neutrality	Qingjie Guo	Qingdao University of Science and Technology
16:00-16:20	Thermochemistry enabled by deformation of elastic nanoporous materials	Hirotomo Nishihara	Tohoku university
16:40-16:50	Efficient Co-production of Hydrogen and High-Value Carbon via Microwave Plasma-Assisted Methane Pyrolysis: Process Optimization and Performance Evaluation	Ziliang Wang	Shandong University
16:50-17:00	Real-Time Tracking of Reactive Intermediates in Energy Conversion via Synchrotron Photoionization Mass Spectrometry	Zhandong Wang	University of Science and Technology of China
17:00-17:10	Multi-strategy collaborative design of MOFs drives CO_2 hydrogenation to methanol: structural innovation and performance breakthrough	null	Shenyang University of Chemical Technology
17:10-17:20	Theoretical insights into the effect of metal co-substituted CeO_2(111) surfaces on oxygen vacancy formation and chemical looping CO_2 assisted CH_4 conversion to synthesis gas	Dong Tian	Kunming University of Science and Technology
17:20-17:30	Exploring the thermal repolymerization of mono-phenolics by characterization of lignin-derived organic aerosols	Liangyuan Jia	Hefei University of Technology
17:30-17:35	Sustainable biomass-derived activated carbon fibers for efficient direct air capture	Dengguo Lai	University of Edinburgh
17:35-17:40	Disentangling the reaction mechanism of lignin catalytic pyrolysis using photoelectron photoion coincidence spectroscopy	Zeyou Pan	Paul Scherrer Institute
17:40-17:45	The Role of MXene as a Catalyst Support in the Oxidation of Biomass-Derived Furanic Compounds	Sabah Karimi	Xiamen University
17:45-17:50	NH_3-Induced Challenges in CO_2 Hydrogenation over $Cu/ZnO/Al_2O_3$ Catalyst	Xuan Bie	Tsinghua University

32 Engineering Thermochemistry and Low Carbon Chemical Engineering

July 15th, 2025 **Room: 309A**

Time	Topic	Speaker	Institute
17:50-17:55	Discussion on bond cleavage and free radical reactions during direct lignite liquefaction	Wang Li	Shanxi Research Institute Huairou Laboratory
17:55-18:00	Research on chemical looping reforming of methane based on in-situ regeneration of oxygen carrier	Xinfei Chen	Guangzhou Institute of Energy Conversion, Chinese Academy of Sciences
19:00-19:10	Numerical study on heat-mass transfer and reaction characteristics during coal particles pyrolysis in a riser reactor	Guochang Wang	Taiyuan University of Technology
19:10-19:20	Designing and Optimization of Ni_2P Catalysts for Efficient Denitrogenation of Biomass-Derived Bio-oil: Insights and Challenges	Fanghua Li	Harbin Institute of Technology
19:20-19:30	The wide activity of magnesia: application requirements and calcination adjustment	Liangliang Fu	Shenyang University of Chemical Technology
19:30-19:40	Carbon Control Mechanisms of Oxygen Species over Ca-Ni bifunctional materials for efficient chemical looping CO_2 capture and in-situ conversion	Bo Jin	Hunan University
19:40-19:50	High-Entropy Alloy Catalysts for Continuous Flow Selective Hydrogenation of Maleic Anhydride	Xiao Chen	Dalian University of Technology
19:50-20:00	Plasma-Coupled Transition Metal Catalysis Enables Efficient Ammonia-to-Hydrogen Conversion for Sustainable Energy Systems	Yu Miao	East China University of Science and Technology
20:00-20:05	Investigation of the hydrogen generation mechanism of lignin pyrolysis in molten salt thermal treatment	Jing He	Huazhong University of Science and Technology

33 International Symposium of Artificial Intelligence for Chemical Product and Process Innovation

July 16th, 2025 **Room: 306A**

Time	Topic	Speaker	Institute
08:40-09:05	Scalable AI Robotic Chemist System	Yi Luo	University of Science and Technology of China
09:05-09:30	ML/AI for Fundamentals of Chemical Engineering	Jiang De-En	Vanderbilt University
09:30-09:55	AI molecular catalysis: Data，Intelligence and Modelling	Sanzhong Luo	Tsinghua University
09:55-10:10	Auto-adaptive process optimization of Heterogeneous Catalytic Systems	Thomas W. Chamberlain	University of Leeds
10:10-10:25	Atomly, matchat, and a couple of things we do for science using AI	Miao Liu	Institute of Physics，Chinese Academy of Sciences
10:25-10:35	Open-loop simulation copilot to converge sequential modular simulations via Bayesian Optimization	Dion Jakobs	ETH Zurich
11:00-12:00	Pannel Discussion: Opportunities and Challenges for Chemical Engineering in the Era of AI Panelists: Feng Qian, Jesse Zhu, Yi Luo, David Fairen-Jimenez, De-en Jiang, Thomas Chamberlain		
13:30-13:55	Machine learning and materials discovery of metal-organic frameworks for industrial applications	David Fairen-Jimenez	University of Cambridge
13:55-14:20	Intelligent Multi-Agent Systems for Advancing Polyolefin Catalytic Processes	Zhenghong Luo	Shanghai Jiao Tong University
14:20-14:45	AI-based understanding and prediction of fluidized bed phenomena	Jia Wei Chew	Chalmers University of Technology
14:45-15:00	Human-AI Collaboration for Accelerated Discovery of Promising Oxygen Evolution Electrocatalysts with On-Demand Elements	Ken Sakaushi	National Institute for Materials Science
15:00-15:15	FT catalysts AI Laboratory	Jihong Cheng	National Institute of Clean-and-Low-Carbon Energy
15:15-15:25	PaddleMaterial: A Data-Mechanism Dual-Driven Materials Development Platform	Xuwei Liu	Baidu Company
15:45-16:10	Advancing Chemical Reaction Design through the Integration of Quantum Chemical Simulation and Machine Learning	Satoshi Maeda	Hokkaido University
16:10-16:35	Leveraging Machine Learning for Metal–Organic Frameworks	Jianwen Jiang	National University of Singapore
16:35-16:50	A Community-Driven Open Process Towards the Future of AI for Chemical Science and Engineering	Linfeng Zhang	DP Technology
16:50-17:50	Pannel Discussion: AI-Driven Paradigm Shift in Chemical Product Development		

33 International Symposium of Artificial Intelligence for Chemical Product and Process Innovation

July 17th, 2025 **Room: 306A**

Time	Topic	Speaker	Institute
08:30-08:55	Autonomous Continuous Processing using Real-Time Process Analytics for Data-Rich Experimentation	C. Oliver Kappe	University of Graz
08:55-09:20	Embodied AI for Science: AI Driven Chemical Innovation	Wenjing Hong	Xiamen University
09:20-09:45	From Micro to Macro: Uncovering the Key Factors Bridging the Gap between Periodic Domains and Fluidized Beds via ANN+CFD	Wei Wang	Institute of Process Engineering, Chinese Academy of Sciences
09:45-10:00	Integrating Autonomous Manufacturing Platforms of Tailored Nanoparticle Medicines via Predictive Computational Design	Dong pyo Kim	Pohang University of Science and Technology
10:00-10:15	Autonomous Lab Accelerates Co-Optimization of Carbon Capture Materials and Processes	Teng Zhou	The Hong Kong University Science and Technology
10:35-11:00	Rational Design of Catalysts Accelerated by AI assisted Computational Chemistry	Zhi-Jian Zhao	Tianjin Unversity
11:00-11:25	From human-in-the-loop to LLM-in-the-loop Bayesian optimisation for design of experiments	Ehecatl Antonio del Rio Chanona	Imperial College London
11:25-11:40	AI Empowers the Intensification of Chemical Reaction Processes	You Han	Tianjin University
11:40-11:55	Polynomial Neural Networks for Transparent Artificial Intelligence in Chemical Engineering	Donovan Chaffart	Eastern Institute of Technology, Ningbo
11:55-12:05	Utilizing Molecular Similarity for Accurate and Reliable Computer-aided Molecular Design	Youquan Xu	Zhejiang University

34 High-end Chemical New Material Innovation and Digital Intelligence Empowerment

July 15th, 2025 **Room: 301AB**

Time	Topic	Speaker	Institute
08:40-09:00	Innovation and Commercialization of Key Catalytic Materials and Downstream Technologies in the Hydrogen Energy Value Chain	Jimmy Yun	University of New South Wales
09:00-09:15	Development of Hydrogen technology under the Dual Carbon Strategy	Xiao Gang	CNOOC New Energy Investment Co., Ltd.
09:15-09:30	Combination of digital and traditional methods for the focused development of new materials	Wolfgang Ruettinger	BASF New Materials Co., Ltd.
09:30-09:40	CSPC Polycarbonate Project	Rots Arthur	CNOOC and Shell Petrochemicals Co., Ltd.
09:40-09:50	New materials for low-cost carbon dioxide capture and utilization and its industrialization	Yu Yunsong	Xi'an Jiaotong University
09:50-10:00	Case study on process optimization and quality stabilization in new material production process	Liu Huihong	CNOOC Chemical Co., Ltd.
10:00-10:10	AI-driven Material Development Technology	Peng Chao	Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences
10:30-10:50	Gold nanorods for switchable singlet or triplet oxygen release	Engin U. Akkaya	Dalian University of Technology
10:50-11:05	CNOOC ICAM's Achievements on Carbonyl Technology	Zhao Fujun	CNOOC Institute of Chemicals & Advanced Materials
11:05-11:20	Machine Learning-Driven Catalyst Structural Design	Zhang Xin	Beijing University of Chemical Technology
11:20-11:30	Construction ideas and practices of smart factories	Gao Yuan	CNOOC Petrochemical Engineering Co., Ltd.
11:30-11:40	Advances in Lummus Advanced Polymeric Materials R&D	Wang Hongying	Lummus Engineering Technology (Beijing) Co., Ltd.
11:40-11:50	AI-enabled advanced coating material design and service evaluation	Zhang Dawei	Beijing University of Science and Technology
11:50-12:00	Development of Innovative Technologies for the Monomer Industry of Downstream Chemical New Materials from Aromatics Based on Green Chemistry	Liu Hangyu	CNOOC Tianjin Chemical Research and Design Institute Co., Ltd.
14:00-14:20	Role of interfacial materials on wetting processes and 3D liquid-in-liquid printing	Hossein Hejazi	University of Calgary
14:20-14:40	Complete conversion of enzymatic hydrolysis lignin to liquid fuels in fuel compatible solvents	Li Yongdan	Aalto University

34 High-end Chemical New Material Innovation and Digital Intelligence Empowerment

July 15th, 2025 **Room: 301AB**

Time	Topic	Speaker	Institute
14:40-14:55	Research and practice of oil refining transformation under carbon neutrality constraints	Tian Yuanyu	China University of Petroleum (East China)
14:55-15:10	Fabrication of Specific Wetting Membranes and Their Application in Oil-Water Separation	Li Wangliang	Institute of process engineering, Chinese Academy of Sciences
15:10-15:20	Research on One-Step Production Technology of Aviation Kerosene Fraction from Carbon-Rich Natural Gas	Wu chongchong	CNOOC Institute of Chemicals & Advanced Materials
15:20-15:30	Research and Manufacture Development of New Materials in Phosphorous & Fluorous Industry	Bian Shi	Wuhan Advanced Technology Institute
15:50-16:10	Regulating Redox Kintetics for Room-Temperature Sodium-Sulfur Batteries	Wang Yunxiao	University of Shanghai for Science and Technology
16:10-16:25	New Era of Environmentally-friendly Ships: Onboard Carbon Capture and Storage Systems	Lim Youngsub	Seoul National University
16:25-16:40	Research on the Process Technology of Preparing High-Value-Added Oxygenated Compounds via Olefin OXO-reaction	Li Chen	CCNOOC Tianjin Chemical Research and Design Institute Co., Ltd.
16:40-16:50	AVEVA Process Simulation Technology: Fueling the Chemical Industry's Sustainable Revolution	Gregor Fernholz	AVEVA Group Limited
16:50-17:00	Spin Regulation of New Energy Materials	Hu Han	China University of Petroleum (East China)
17:00-17:10	Research and development of new high-performance polymer materials for the electronic information industry	Dong Haifeng	Institute of Process Engineering, Chinese Academy of Sciences
17:10-17:20	Special lubricating oil production technology	Song Junhui	CNOOC Institute of Chemicals & Advanced Materials
17:20-17:30	Membrane technology for natural gas CO_2 capture on offshore platform	Yuan Biao	CNOOC Tianjin Chemical Research and Design Institute Co., Ltd.

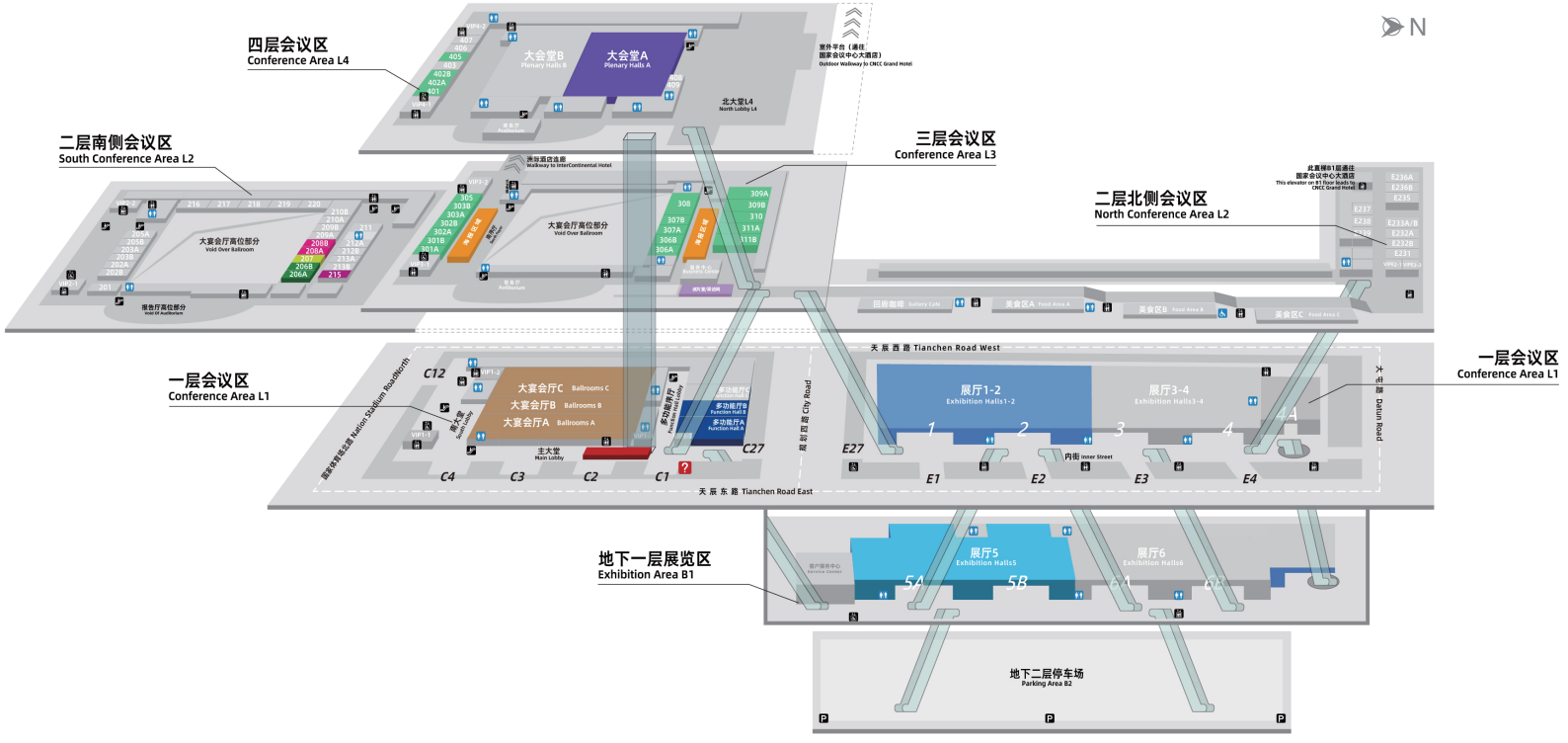
PARALLEL SESSIONS CONTACT INFORMATION

No.	Parallel Session	Contact Person	Tel.	Email
1	Engineering Ethics Education and Sustainable Chemical Industry	Wang Wanying	18649020686	wangwanying@tsinghua.edu.cn
2	Chemical Education and the Cultivation of Outstanding Engineers	Zhang Zhenli Xia Shuqian	13693041697 13752041388	djhdream2015@163.com shuqianxia@tju.edu.cn
3	International Symposium of Chemical Engineering Departments/Schools from Global Universities	Hu Chuangang Tang Junlei	13776401360 18608039391	chuangang.hu@mail.buct.edu.cn tangjunlei@126.com
4	Chemical Engineering Innovation and Entrepreneurship	Ma Liangwei	18621286641	liangweima@ecust.edu.cn
5	Chemical Engineering Thermodynamics and Big Data	Mu Liwen	18502522366	lwmu@njtech.edu.cn
6	Green Catalysis and Chemical Reaction Engineering	Su Junjie	18018562476	sujj.sshy@sinopec.com
7	Flow Chemistry and Microreaction Technology	Wang Kai	13811997208	kaiwang@tsinghua.edu.cn
8	Advanced Separation Technology & Engineering	Yang Qiwei	13868067514	yangqw@zju.edu.cn
9	Inherent Safety and Process Intensification of Chemical Processes	Li Yanbin	18810869015	liyb@mail.buct.edu.cn
10	Energy Transition Towards a Net-zero Future	Han Lu	18910492332	hanlu.ripp@sinopec.com
11	Biochemical and Biomanufacturing	Liu Zihe	18301233614	zihe@mail.buct.edu.cn
12	Process Industry Innovation and Process Systems Engineering Reengineering	He Qingsheng	13939728134	heqingsheng.segr@sinopec.com
13	Intelligent Manufacturing Technology and Equipment for the Chemical Industry	Zhao Xueliang Ren Jiao	13810084662 15001187795	zhaoxl@sinopec.com
14	Advancements in High-Performance and Intelligent Chemical New Materials	Pan Jianming	15952850631	pjm@ujs.edu.cn
15	Green Agriculture -- A New Paradigm of Seed, Fertilizer and Pesticide Innovation	Yang Youjun	13761361907	youjunyang@ecust.edu.cn
16	Biopharmaceutical and Health Engineering	Chen Kequan	13814180652	kqchen@njtech.edu.cn
17	Efficient Manufacturing Engineering of Functional Electronic Chemicals	Li Mingle	13252981106	limingle@szu.edu.cn
18	Waste Resource Conversion and Circular Economy	Li Defu	13880727699	lidefu@scu.edu.cn

PARALLEL SESSIONS CONTACT INFORMATION

No.	Parallel Session	Contact Person	Tel.	Email
19	Biomass Materials & Chemicals	Lin Xuliang	18620894227	xllin@gdut.edu.cn
20	Preparation Theory and Application of Carbonaceous New Materials	Liu Yindong	13701130315	Liuyindong@petrochina.com.cn
21	Chemical Engineering Process for Water, Gas Treatment and Environment Protection	Jiang Xiaobin	15904965752	xbjiang@dlut.edu.cn
22	Carbon Neutrality and Sustainable Development of the Chemical Industry	Xu Ting	13801211396	xuting.syky@sinopec.com
23	Mesoscience and Artificial Intelligence in Chemical Engineering	Guan Xiaoping	18810865282	xpguan@ipe.ac.cn
24	Single Atom Catalysis and Theoretical Chemistry	Li Xuning	15898162291	lixn@dicp.ac.cn
25	Hydrogen Energy and Hydrogen Energy Industry Chain	Wei Zhaoxiang	18138818263	wzx01@petrochina.com.cn
26	Electrochemical Engineering, Energy Internet, and Energy Storage	Yang Xiaowei	13585566895	yangxw@sjtu.edu.cn
27	Innovation and Practice of Industrial Software in Process Manufacturing	Lu Jingyi	13052509676	jylu_cise@ecust.edu.cn
28	Advanced Chemical Materials and Future Chemical Industry	He Lianghao	18801611071	helianghao@petrochina.com.cn
29	Future Energy and Novel Chemical Process	Lan Xingying	18610962527	lanxy@cup.edu.cn
30	Green Energy and Environmental Engineering	He Hongyan	18601334250	hyhe@ipe.ac.cn
31	Clean and Efficient Conversion and Utilization of Coal	Lyu Yijun	18911251308	yijun.lv@chnenergy.com.cn
32	Engineering Thermochemistry and Low Carbon Chemical Engineering	Yuan Xiangzhou	18252006838	yuanxz@seu.edu.cn
33	International Symposium of Artificial Intelligence for Chemical Product and Process Innovation	Cui Xili	15700079801	cuixl@zju.edu.cn
34	High-end Chemical New Material Innovation and Digital Intelligence Empowerment	Zhang Yongkun	18810286593	zhangyk21@cnooc.com.cn

Venue Floor Plan



注册区 Registration Area
开幕式/大会报告会 Opening Ceremony/Plenary Lecture
北京之夜 Beijing Night Gala Dinner
展览区 Exhibition Area
分会场 Parallel Session
媒体间 Media Room
医疗室 Medical Room
闭幕式/大会报告会 Closing Ceremony/Plenary Lecture
工作间 Staff Lounge
海报区 Poster Area
参会代表用餐区 Delegates Dining Area
试片室 Speaker Ready Room
志愿者之家 Volunteer Room

WCEC
World Chemical Engineering Council

APCChE
ASIAN PACIFIC CONFEDERATION OF CHEMICAL ENGINEERING

中国化工学会 IESC

PARADIGM SHIFTING IN CHEMICAL ENGINEERING FOR GLOBAL CHALLENGES

Scan the QR Code to Check the Latest Agenda & Poster List

Photo Live

WCCE 12 & APCChE 2025 Official Website

Registration QR Code

Exhibition Guide (WeChat Mini Program)

Contact Information

+86-10-64434811

Official Website

www.wcce12.com

E-mail

info@wcce12.com