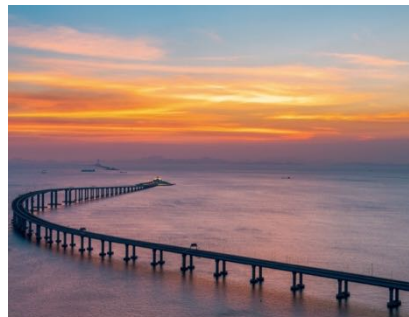


The 2nd **Greater Bay Area** Symposium on **Separation and Purification Technology** and
the 2nd **Greater Bay Area** Symposium on **Membranes and Membrane Processes**



**GBA-SPT 2023 and
2nd GBA-MMP
Symposium**

**Program
Book**



Mode: Online

Date: 19-22 May, 2023

Committee Chairs

Honorary Chair



Congjie Gao

Member of the Chinese Academy of Engineering

Chairs



Chuyang Tang

Professor

The University of Hong Kong (China)



Zhiwei Wang

Professor

Tongji University (China)



Tongwen Xu

Professor

University of Science and Technology of China
(China)



Shouliang Yi

Professor

National Energy Technology Laboratory (USA)



Bart Van der Bruggen

Professor

KU Leuven (Belgium)

Symposium Conveners

Zhe Yang	The University of Hong Kong
Peng-Fei Sun	The University of Hong Kong
Shuang Zheng	The University of Hong Kong
Hao Guo	Tsinghua University Shenzhen International Graduate School
Jianquan Luo	Institute of Process Engineering, Chinese Academy of Sciences
Yan Zhao	KU Leuven

Committee Members (In alphabetic order)

Alicia An	City University of Hong Kong
Quanfu An	Beijing Industry University
Zhimin Ao	Beijing Normal University Zhuhai Campus
Yanguang Chen	Northeast Petroleum University
Yongsheng Chen	Georgia Institute of Technology
Ruobin Dai	Tongji University
Liangliang Dong	Jiangnan University
Xin Gao	Tianjin University
Chao He	Tampere University, Finland
Di He	Guangdong University of Technology
Hongyan He	Institute of Process Engineering, Chinese Academy of Sciences
Tao He	Shanghai Advanced Institute of Chinese Academy of Sciences
Yi Huang	University of Edinburgh
Yuxi Huang	Sun Yat-sen University
Xia Jiang	Sichuan University
Xiaobin Jiang	Dalian University of Technology
Yi Jiang	Hong Kong Polytechnic University
Wanbin Li	Jinan University
Weiyi Li	Southern University of Science and Technology
Xianhui Li	Guangdong University of Technology
Xin Li	Nanyang Technological University

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Shihong Lin	Vanderbilt University
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Xin Liu	Southern University of Science and Technology
Yu Liu	Nanyang Technological University
Jianquan Luo	Institute of Process Engineering, Chinese Academy of Sciences
Baiwen Ma	Chinese Academy of Sciences Eco-Environmental Research Center
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Linbing Sun	Nanjing Tech University
Xin Tong	Tongji University
Yaoming Wang	University of Science and Technology of China
Yong Wang	Nanjing University of Technology
Chongchen Wang	Beijing University of Civil Engineering and Architecture
Jianji Wang	Henan Normal University
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Zhongying Wang	Southern University of Science and Technology
Yanying Wei	South China University of Technology
Chunfei Wu	Queen's University Belfast
Liang Wu	University of Science and Technology of China
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Zongli Xie	Commonwealth Scientific and Industrial Research Organisation (CSIRO)



GBA-SPT 2023 and 2nd GBA-MMP Symposium

The 2nd Greater Bay Area Symposium on Separation and Purification Technology and
the 2nd Greater Bay Area Symposium on Membranes and Membrane Processes

ONLINE, 19-22 May 2023



Xiyan Xu	Beijing Institute of Technology
Shushan Yuan	Huazhong University of Science and Technology
Changyong Zhang	University of Science and Technology of China
Yatao Zhang	Zhengzhou University
Yang Zhang	Qingdao University of Science and Technology
Zhenghua Zhang	Tsinghua University Shenzhen International Graduate School
Qiang Zhao	Huazhong University of Science and Technology
Yangying Zhao	Xiamen University
Junyong Zhu	Zhengzhou University

Day 1 | 19 May, 2023 (Fri)

08:15-08:30

Opening Ceremony

[Plenary 01]

Continuous Biomanufacturing – New Opportunities for Membrane Technology

Professor Andrew Zydney, The Pennsylvania State University

Moderator: Professor Zhiwei Wang

08:30-09:10

Zoom link: <https://elsevier.zoom.us/j/95054810770?pwd=TmN1Rzg3OUdEcVRfZVFOE55VnJvQT09>
Meeting ID: 950 5481 0770 Passcode: 051923



Elsevier Live
(Scan QR code)

09:10-09:40

Coffee Break (30 mins)

Zoom link	https://hku.zoom.us/j/5589696111	https://hku.zoom.us/j/4195256654	https://hku.zoom.us/j/3872089343	https://hku.zoom.us/j/2108924298
Sessions	Parallel 01 A12-1 Bio-inspired Ion Channel	Parallel 02 A3-1 Electro-driven & Ion-exchange Membrane	Parallel 03 B5-1 Adsorptive Separation of Hydrocarbons	Parallel 04 B5-2 Adsorptive Separation of Hydrocarbons
Chairs	Shuang Zheng / Jianquan Luo	Yaoming Wang / Yan Zhao / Jiangnan Shen	Linbing Sun / Jin Shang / Zongbi Bao	Linbing Sun / Jin Shang / Zongbi Bao
09:40-10:05	[KN-1] Covalent Organic Framework Membranes Prof. Zhongyi Jiang Tianjin University	[KN-1] Designing Selective Membranes and Adsorbents for Electrochemical Wastewater Refining Prof. William A. Tarphe Stanford University	[KN-1] Microporous MOFs and HOFs for Gas Separation Prof. Banglin Chen Fujian Normal University	[KN-1] Nanospace Engineering of Metal-Organic Frameworks for Selective Gas Adsorption Prof. Shengqian Ma University of North Texas
10:05-10:30	[KN-2] Bioinspired Multi-Scale Pore/Channel Systems Prof. Hou Xu Xiamen University	[KN-2] Confinement enhanced ionic transport through 2D nanochannels Prof. Xinsheng Peng Zhejiang University	[KN-2] Engineering MOF Pore Structure for Separation of Industrially Important Hydrocarbons via Molecular Sieving Prof. Jing Li Rutgers University	[KN-2] Engineering pore structure and functionality in microporous materials for hydrocarbon separation and carbon capture Prof. Huabin Xing Zhejiang University
10:30-10:50	[INV-1] Bio-inspired ion-selective channels enabled by metal-organic frameworks Prof. Huacheng Zhang RMIT University	[INV-1] Angstrom-scale Confined Ion Separation Membranes Prof. Xinya Li University of Science Technology of China	[INV-1] Light Hydrocarbons Separation in Metal-Organic Framework: Synthesis and Performance Regulation Prof. Libo Li Taiyuan University of Technology	[INV-1] Pore Engineering on Adsorbents for Gas Separations Prof. Jun Wang Nanchang University
10:50-11:10	[INV-2] Bioinspired Nano-confined Channels for Ion Transport Regulation Prof. Xiangyu Kong Technical Institute of Physics and Chemistry, CAS	[INV-2] Miscible polymer blends containing pyrrolidone moiety towards superior anion exchange membranes for diffusion dialysis Prof. Tao Luo Sichuan University	[INV-2] Metal-organic frameworks with 3D aliphatic linkers for effective separation of similar molecules Prof. Qiwei Yang Zhejiang University	[INV-2] Photomodulation on Active Sites of Adsorbents Associate Prof. Peng Tan Nanjing Tech University
11:10-11:20	Morning Break (10 mins)			
Sessions	Parallel 05 A1-1 RO, NF, MF, UF and FO	Parallel 06 A3-2 Electro-driven & Ion-exchange Membrane	Parallel 07 C5-1 Crystallization and Evaporation	Parallel 08 C7-1 Ionic liquid: Novel Separation and Reaction Processes

Chairs	Zhe Yang / Hao Guo / Ruobin Dai	Yaoming Wang / Yan Zhao / Jiangnan Shen	Xiaobin Jiang / Xin Gao	Jianji Wang / Hongyan He / Shaojuan Zeng / Zhen Song
11:20-11:45	[KN-1] Application of cellulose nanomaterials in water treatment membranes Prof. Langming Bai / Prof. Heng Liang Harbin Institute of Technology	[KN-1] Selective electrodialysis: a promising technology for waste acid recovery Prof. Yaoming Wang University of Science Technology of China	[KN-1] Enantiomeric separation of chiral pharmaceuticals and process intensification Prof. Junbo Gong Tianjin University	[KN-1] Highly adhesive ionic liquids Prof. Shiguo Zhang Hunan University
11:45-12:10	[KN-2] Thermodynamic mechanisms of membrane fouling and fabrication of new membranes for membrane-based water treatment process Prof. Hongjun Lin Zhejiang Normal University	[KN-2] Target Mono-valent Cation (Li+/K+) Separation via Electrodialysis with Selective Ion-Exchange Membranes Prof. Jiangnan Shen Zhejiang University of Technology	[KN-2] Study on Evaporation Process Enhanced by microwave Energy Prof. Shaohua Ju Kunming University of Science and Technology	[KN-2] Design and Applications of Ionic Liquid-based Materials for gas Separation and Recovery Prof. Shaojuan Zeng Institute of Process Engineering, CAS
12:10-12:30	[INV-1] Nanofiltration-based Membrane Bioreactor Operated under Ultra-low Flux: Fouling Behavior and Feasibility Toward a Low-Carbon System for Municipal Wastewater Reuse Dr. Shao Senlin Wuhan University	[INV-1] Novel membrane coating electrode for defluorination from groundwater via capacitive deionization Prof. Longfei Ren Shanghai Jiaotong University	[INV-1] New technology for intelligence management of solar-driven interfacial evaporation process Associate Prof. Qing-Yun Wu Sun Yat-sen University	[INV-1] Light switchable ionic liquids systems for reaction-separation coupling Associate Prof. Zhiyong Li Henan Normal University
12:30-12:50	[INV-2] Antibiofouling microfiltration membranes modified by antimicrobial peptides: antibacterial mechanisms and fabrication strategies Dr. Xingran Zhang Donghua University	[INV-2] Electro-membrane processes and engineering systems: from lab to factory Prof. Weiming Zhang Wenzhou University	[INV-2] Fluorescence-based mechanistic study on microwave induced enhancement of flash separation Dr. Zhenyu Zhao Tianjin University	[INV-2] Mechanism of Efficient Gas Separation by Ionic Liquids Associate Prof. Yanlei Wang Institute of Process Engineering, CAS
12:50-14:30	Lunch Break (100 mins)			
Zoom link	https://hku.zoom.us/j/5589696111	https://hku.zoom.us/j/4195256654	https://hku.zoom.us/j/3872089343	https://hku.zoom.us/j/2108924298
Sessions	Parallel 09 A1-2 RO, NF, MF, UF and FO	Parallel 10 A3-3 Electro-driven & Ion-exchange Membrane	Parallel 11 A2-1 Membrane Transport Phenomena and Process Simulation	Parallel 12 A11-1 Membrane-based Water and Energy Applications
Chairs	Zhe Yang / Hao Guo / Ruobin Dai	Yaoming Wang / Yan Zhao / Jiangnan Shen	Weiyei Li / Li Wang / Feiyun Sun / Xianhui Li	Xin Tong / Yangying Zhao
14:30-14:55	[KN-1] Sequential Ultrafiltration-Catalysis Membrane Prof. Jiansheng Li Nanjing University of Science & Technology	[KN-1] A new approach of using electrodialysis: colloidal adjustment and removal in aqueous phase Prof. Yang Zhang Qingdao University of Science and Technology	[KN-1] Theory of reverse osmosis of single salt solutions and the question: Which model is right, solution-diffusion, or solution-friction? Prof. Maarten Biesheuvel Wetsus, Leeuwarden, Netherlands	[KN-1] Low-carbon Integrated membrane process for ammonia recovery from waste water Prof. Le Han Chongqing University
14:55-15:20	[KN-2] Recent Advance in the Preparation of Interlayered Thin Film Nanocomposite (i-TFN) Membranes Prof. Q. Jason Niu Shenzhen University	[KN-2] Electro-driven membranes for sustainable ion-resource recovery Dr. Yan Zhao KU Leuven	[KN-2] Revisiting the pore blocking laws for membrane fouling Prof. Kang Xiao University of Chinese Academic of Science	[KN-2] Developing high performance composite membranes for water treatment Prof. Liang Shen Southwest University

15:20-15:40	[INV-1] Investigation on the positive role of modification and structural construction of the skin layer in membrane materials for the separation performance Prof. Changkun Liu Shenzhen University	[INV-1] Ion Selective Polymeric Nano-based Membranes Modified with Confined Growth of Zeolitic Imidazolate Frameworks Prof. Yanli Ji Zhejiang University of Technology / KU Leuven	[KN-3] Pyro-layering Heterostructured Nanosheets as Molecular Sieving Membrane for Selective Hydrogen Transport Dr. Ze-Xian Low Monash University	[KN-3] Superhydrophobic membrane from double co-crystallization for high-performance separation of water-in-oil emulsion Prof. Sen Qiao Dalian University of Technology
15:40-16:00	[INV-2] Porous polymer networks incorporated PTMSP membrane with enhanced selectivity for organic solvent nanofiltration (OSN) Dr. Qin Liu Jimei University, Xiamen	[INV-2] Ionic control of functional zeolitic imidazolate framework-based membrane for selectivity towards target ion Dr. Lei Xia KU Leuven	[INV-1] Membrane Fouling Prediction Based on Curvelet Support Vector Machine Optimized by Improved Moth Flame Optimization Algorithm Dr. Bin Zhao Liaoning Petrochemical University	[INV-1] Construction of high-performance nanofiltration membranes by two-dimensional metal-porphyrin frameworks Assistant Prof. Yanling Liu Tongji University
16:00-16:20	Afternoon Break (20 mins)			
Sessions	Parallel 13 C7-2 Ionic liquid: Novel Separation and Reaction Processes	Parallel 14 A1-3 RO, NF, MF, UF and FO	Parallel 15 A2-2 Membrane Transport Phenomena and Process Simulation	Parallel 16 C7-3 Ionic liquid: Novel Separation and Reaction Processes
Chairs	Jianji Wang / Hongyan He / Shaojuan Zeng / Zhen Song	Zhe Yang / Hao Guo / Ruobin Dai	Weiyi Li / Li Wang / Feiyun Sun / Xianhui Li	Jianji Wang / Hongyan He / Shaojuan Zeng / Zhen Song
16:20-16:45	[KN-1] Recent Progress on Processing and Functionalization of Cellulose with Ionic Liquids Prof. Jun ZHANG Institute of Chemistry, CAS	[KN-1] Temporary retention of disinfection byproducts in RO membrane: an overlook phenomenon harming long-term performance Prof. Baiyang Chen Harbin Institute of Technology	[KN-1] MXene-PVA-TiO ₂ -based photothermal-catalytic membrane with high structural stability for efficient desalination and photodegradation Prof. Alicia An City University of Hong Kong	[KN-1] Electrodialysis for the separation and purification of active ingredient from the saline eluent of Traditional Chinese Medicine Prof. Haiyang Yan Anhui University of Chinese Medicine
16:45-17:10	[KN-2] Ionic Liquid Based lignocellulosic biomass Separation and Conversion Prof. Jian Sun Beijing Institute of Technology	[KN-2] Boron Nitride Nanosheets Based Membrane for Molecular Separation Prof. Cheng Chen Auhui Agricultural University	[KN-2] Water and ion transport in electrodialysis: implications for osmotic electrolysis Asst. Prof. Qianhong She Nanyang Technological University	[KN-2] Tailoring the structure of ionic functional materials for separation Dr. Xian Suo Zhejiang University
17:10-17:30	[INV-1] Porous ionic liquids for extractive desulfurization of fuel oils Associate Prof. Peiwen Wu Jiangsu University	[INV-1] Desalination performance enhanced by in-situ growing ordered mesoporous ZIF-8 nanoparticles into thin-film composite reverse osmosis membranes Dr. Zhuo Fan Gao Changjiang River Scientific Research Institute	[INV-1] Design and preparation of the high ion conductivity film for Li ⁺ screening Honglong Zhan Qinghai Institute of Salt lakes, CAS	[INV-1] Gas capture and separation by ionic liquid-based functional green solvents Associate Prof. Guokai Cui Zhejiang University of Technology
17:30-17:50	[INV-2] Ionic liquids-assisted construction of Prussian blue for cesium recovery from aqueous solutions Dr. Shangqing Chen Institute of Process Engineering, CAS	[INV-2] Guanidinium manipulated interfacial polymerization for Polyamide Nanofiltration Membranes with high Permselectivity Dr. Shuting Xu Chinese Academy of Sciences	[INV-2] Initial fouling behavior on the pressure-driven membrane surface with 2D and 3D patterns Dr. Wentao Shang Jinan University	[INV-2] Computer-aided screening and design of ionic liquids as advanced solvents for separation process Prof. Zhen Song East China University of Science and Technology
19:00-20:00	<p>[Plenary 02] [Co-organized with HKU Civil Engineering Distinguished Lectures]</p> <p style="text-align: center;">Membrane-Based Minus Approach to Minimize Safety Risks in Treated Drinking Water Professor Yongsheng Chen, Georgia Institute of Technology Moderator: Professor Chuyang Tang</p> <p>Zoom link: https://hku.zoom.us/j/99618966690</p>			

Day 2 | 20 May, 2023 (Sat)

08:30-09:10	[Plenary 03] Development of Anti-fouling Methods in MBRs Professor How Yong Ng, Beijing Normal University Moderator: Professor Zhiwei Wang Zoom link: https://elsevier.zoom.us/j/95054810770?pwd=TmN1RzQ3OUdEcVRFZVFvOE55VnJvQT09 Meeting ID: 950 5481 0770 Passcode: 051923					 Elsevier Live (Scan QR code)
09:10-09:40	Coffee Break (30 mins)					
Zoom link	https://hku.zoom.us/j/6963304751	https://hku.zoom.us/j/8255481112	https://hku.zoom.us/j/8023365568	https://hku.zoom.us/j/5526676348	https://hku.zoom.us/j/4061787789	
Sessions	Parallel 17 C1-1 Data Science/Artificial Intelligence	Parallel 18 C4-3 Ions Separation	Parallel 19 B1-1 Biomass, Bioproduct, and Bioenergy	Parallel 20 A4-1 Two-dimensional Membrane Materials and Processes	Parallel 21 A Membrane-based Separation	
Chairs	Yongsheng Chen / Xiaonan Wang	Yong Wang / Shihong Lin / Yan Zhao	Benkun Qi / Ranil Wickramasinghe / Xiaoqing Lin	Yanying Wei / Kaige Zhou / Xin Li	Zhe Yang / Peng-Fei Sun	
09:40-10:05	[KN-1] Modeling environmentally relevant chemical reactions with machine learning Prof. Judy Zhang Case Western University	[KN-1] Design of polyamide membranes for precise ion separation Prof. Jian Jin University of Science and Technology of China	[KN-1] Model-assisted process development of ion-exchange chromatography for protein separation Prof. Dongqiang Lin Zhejiang University	[KN-1] Responsive 2D Membranes for Liquid Gating and Smart Molecular Separation Prof. Yong Zhao Beihang University	[KN-1] Study on continuous preparation of membranes for bioseparation with nips+vips integrated process Prof. Hongchen Song Guangzhou Institute of Advanced Technology	
10:05-10:30	[KN-2] Generative Artificial Intelligence and It's Potential Environmental Applications Prof Ming Xu Tsinghua University	[KN-2] Nanofiltration membranes for Mg ²⁺ /Li ⁺ separation Prof. Qiang Zhao Huazhong University of Science and Technology	[KN-2] Designing green processes for efficiency fractionation and transformation of lignocellulosic components Prof. Zhimin Xue Beijing Forestry University	[KN-2] Mass transport at nanoscale for osmotic power generation Prof. Sheng Hu Xiamen University	[KN-2] Fermentation coupled with pervaporation membrane separation for bioalcohols production--from fundamental to pilot Prof. Senqing Fan Sichuan University	
10:30-10:50	[INV-1] Exploring the Knowledge Attained by Machine Learning on Organics and Ion Transport across Polyamide Membranes Using Explainable Artificial Intelligence Assistant Prof. Tiezheng Tong Colorado State University	[INV-1] A novel positively charged nanofiltration membrane stimulated by amino-functionalized MXene Ti3C2Tx for high rejection of water hardness ions Prof. Jianfeng Zhang Hohai University	[INV-1] Separation and purification of glabridin from a deep eutectic solvent extract of Glycyrrhiza glabra residue by macroporous resin and its mechanism Prof. Jun Zhou Nanjing Tech University	[INV-1] MXene stacks with adjustable interlayer distance for precise molecular separation Prof. Jian Li Jiangnan University	[INV-1] Hybrid capacitive deionization for superior lithium recovery from brine Dr. J. Si Xinjiang University	
10:50-11:10	[INV-2] Computer-aided solvent design combining computational chemistry and machine learning method Prof. Lei Zhang	[INV-2] Preparation of Adsorptive Membranes for Cesium Adsorption Prof. Zhiqian Jia	[INV-2] Comprehensive reutilization of Herbal Extraction Residues (HERs) for high value-added chemical production Associate Prof. Caixia Wang	[INV-2] Reduced graphene oxide and its membrane for highly-efficient gold recovery Prof. Yang SU	[INV-2] Ionic liquid-Induced Deep Grafting of Polyelectrolyte to Reform Polyamide Layer of Nanofiltration Membrane Dr. Lulu Liu	

	Dalian University of Technology	Beijing Normal University	Institute of Chinese Materia China Academy of Chinese Medical Sciences	Tsinghua University	Institute of Process Engineering, CAS
11:10-11:20	Morning Break (10 mins)				
Sessions	Parallel 22 C2-1 Electrochemical Separations	Parallel 23 C4-2 Ions Separation	Parallel 24 A4-4 Two-dimensional Membrane Materials and Processes	Parallel 25 A4-2 Two-dimensional Membrane Materials and Processes	Parallel 26 A Membrane-based Separation
Chairs	Jinxing Ma / Changyong Zhang / Xiaowei Yang / Xiaogang Hao	Yong Wang / Shihong Lin / Yan Zhao	Yanying Wei / Kaige Zhou / Xin Li	Yanying Wei / Kaige Zhou / Xin Li	Zhe Yang / Peng-Fei Sun
11:20-11:45	[KN-1] Transport selectivity of like-charged ions in hydrophobic-polymer-modified ion-exchange membranes Prof. Xitong Liu George Washington University	[KN-1] Separation: fast and slow Prof. Tao He Shanghai Advanced Research Institute, CAS	[KN-1] Electrically Modulated Smart Nanofiltration Membrane Based on Reduced Graphene Prof. Kaige Zhou Tianjin University	[KN-1] Monolayer and laminar 2D membranes for challenging separations Prof. Sui Zhang National University of Singapore	[KN-1] Catalytic membrane with enhanced purification and anti-fouling performance Dr. Yu Yang Beijing Normal University
11:45-12:10	[KN-2] Supported ionic liquid membrane contactor for Mg ²⁺ /Li ⁺ selective separation from aqueous solution Prof. Jianxin Li Tiangong University	[KN-2] Ensemble machine learning reveals key features governing ion selectivity of polyamide nanofiltration membranes Prof. Lin Zhang Zhejiang University	[KN-2] Lamellar membranes with regular channels for highly efficient solvent permeation Prof. Jingtao Wang Zhengzhou University	[KN-2] Mass Transport Based on Covalent Organic Frameworks Prof. Xiao Feng Beijing Institute of Technology	[KN-2] Hierarchically oriented anode with open, straight pores for efficient protonic ceramic fuel cell Dr. Tong Liu Wuhan Institute of Technology
12:10-12:30	[KN-3] Development of membrane capacitive deionization technology for desalination and water reclamation: From Fundamental Investigation onto pilot-scale demonstration Prof. Chia-Hung Hou National Taiwan University	[INV-1] Development of Highly Selective Monovalent Ion Transport Enabled by Self-assembled High-performance Cation Exchange Membrane Prof. Yuqing Lin East China University of Science and Technology	[INV-1] Constructing a Hierarchical hydrophilic Crosslink Network on the Surface Of a polyvinylidene Fluoride Membrane for Efficient Oil/Water Emulsion Separation Dr. Ruixian Zhang Guangxi Minzu University	[INV-1] Design and construction of two-dimensional channels for sieving strategic element Prof. Zhan Li Lanzhou University	[INV-1] Superior performance C 9N7 nanosheets for CO ₂ /C ₂ H ₂ separation by combining charge and strain strategy Dr. Xue Li China University of Petroleum-Beijing
12:30-12:50	[INV-2] Defect engineering in effective photoelectrode design Dr. Zhiliang Wang The University of Queensland	[INV-2] Mono-valent Anion Selective Ion-Exchange Membranes: From Heterogeneous Structure to Homogeneous Structure Prof. Junbin Liao Zhejiang University of Technology	[INV-2] Fast hydrogen purification through graphitic carbon nitride nanosheet membranes Dr. Jian Xue South China University of Technology	[INV-2] Two-dimensional covalent organic framework nanosheets for advanced gas separation membranes Prof. Guangwei He Tianjin University	[INV2] Constructing Ultra-robust Confined Nanochannels in Graphene oxide Membranes using Intercalation Ionic Liquid for Ultrafast Desalination Associate Prof. Shanshan Liang East China University of Science and Technology
12:50-14:30	Lunch Break (100 mins)				
Zoom link	https://hku.zoom.us/j/6963304751	https://hku.zoom.us/j/8255481112	https://hku.zoom.us/j/8023365568	https://hku.zoom.us/j/5526676348	https://hku.zoom.us/j/4061787789
Sessions	Parallel 27 C3-1	Parallel 28 C4-1	Parallel 29 B2-1	Parallel 30 A4-3	Parallel 31 B

	Extractive Separations	Ions Separation	Adsorption-based Gas Separation and CO ₂ Capture	Two-dimensional Membrane Materials and Processes	Adsorption-based Separation
Chairs	Qiwei Yang / Xiaoqing Lin	Yong Wang / Shihong Lin / Yan Zhao	Chunfei Wu / Jin Shang / Yanguang Chen / Xia Jiang	Yanying Wei / Kaige Zhou / Xin Li	Yan Zhao / Shuang Zheng
14:30-14:55	[KN-1] Machine Learning Based Solvent Property Prediction and High-Throughput Screening for Extraction Processes Prof. Zhiwen Qi East China University of Science and Technology	[KN-1] Advanced reduction as key techniques for the degradation of pollutants of emerging concern Prof. Raf Dewil University of Oxford & KU Leuven	[KN-1] Li ₄ SiO ₄ Sorbents from Spent Li-Ion Batteries and Application in ICCU-Methanation Prof. Changlei Qin Chongqing University	[KN-1] Crystalline Porous Organic Membranes Prof. Qi Sun Zhejiang University	[KN-1] Effect of biomass adsorbent on non-thermal plasma activated treatment of oil-based drilling cutting Prof. Shaojun Xu Hefei University of Technology
14:55-15:20	[KN-2] Extraction and separation of bioactive compounds using liquid-liquid and solid-liquid extraction systems based on ionic liquids and deep eutectic solvents Prof. Zhijian Tan Chinese Academy of Agricultural Sciences	[KN-2] Construction of ion-selective transport channels in membranes for flow batteries Prof. Gaohong He Dalian University of Technology	[KN-2] Development of adsorption processes for methane and helium recovery Prof. Gongkui Xiao The University of Western Australia	[KN-2] External Fields Regulated Ion Transport in Functional Two-Dimensional Materials Prof. Xiangyu Kong Technical Institute of Physics & Chemistry, CAS	[KN-2] Construction of nonporous adaptive crystal materials of hybridarenes and study on their adsorption and separation of hydrocarbons Prof. Jiong Zhou Northeastern University
15:20-15:40	[INV-1] Micro-environment in ionic liquids enhanced selective separation of typical natural product Prof. Hui Wang Institute of Process Engineering, CAS	[KN-3] Covalent Organic Framework Membranes for Molecular Separation in Liquids Dr. Xiansong Shi National University of Singapore	[INV-1] Amine impregnation on oxidized commercial Prof Liying Liu Northeastern University	[INV-1] Bioinspired two-dimensional materials gating separation membranes Prof. Jingchong Liu University of Science and Technology Beijing	[INV-1] Stable LDH membrane assisted by interlayer lanthanum alginate pillar for preferable phosphate removal Dr. Jing Yang Shandong University of Technology
15:40-16:00	[INV-2] Valence extraction: Inspired by the extraction order of different valences of metal ions Prof. Guoping Hu Ganjiang Innovation Academy, CAS	[INV-1] Deformation constraints of graphene oxide nanochannels under reverse osmosis Dr. Kecheng Guan Kobe University	[INV-2] Multiscale simulation of atomic layer deposition for fabrication of gas separation membranes Dr. Liwei Zhuang East China University of Science and Technology	[INV-2] Voltage-mediated water dynamics enables on-demand transport of monosaccharide in two-dimensional channels Prof. Xiaoli Zhao Tongji University	[INV-2] Membrane pre-concentration as an efficient tool to enhance the enrichment of rare earth by MgO precipitation Dr. Yuxuan Liu Ganjiang Innovation Academy, CAS
16:00-16:20	Afternoon Break (20 mins)				
Sessions	Parallel 32 C6-1 Advanced Distillation	Parallel 33 C8-1 Oil/Water Separation	Parallel 34 B4-1 Heavy Metal Removal	Parallel 35 A9-1 MD, Pervaporation, Hydrophobic Membrane, and Processes	Parallel 36 C Green and sustainable separation and purification technology
Chairs	Xin Gao / Weifeng Shen	Wangliang Li / Shuang Zheng / Liangliang Dong	Chongchen Wang / Zhongying Wang / Jing Xiao	Xiaobin Jiang / Shuangliang Zhao / Jiahui Shao / Zhangxin Wang	Yan Zhao / Shuang Zheng
16:20-16:45	[KN-1] Optimization and Control of Dividing Wall Column for Fractionation of Fluid Catalytic Cracking Gasoline Prof. Lanyi Sun China University of Petroleum (Huadong)	[KN-1] Construction of advanced membranes for highly-efficient oil-water separations Prof. Lu Shao Harbin Institute of Technology	[KN-1] Reliable Metal Stabilization and Recovery Strategies Assisted by Quantitative Mineral Phase Analysis Technique Prof. Kaimin Shih The University of Hong Kong	[KN-1] Slippery superhydrophobic membranes: Scaling, wetting resistance Prof. Tao He Shanghai Advanced Research Institute	[KN-1] Selective capacitive deionization in Pseudocapacitor Electrode Prof. Hongjian Zhou Institute of Solid State Physics, CAS

16:45-17:10	<p>[KN-2] The hybrid reactive-extractive distillation: Challenges and opportunities</p> <p>Prof. Zongyang Kong / Dr. Ao Yang Sunway University, Malaysia / Chongqing University of Science and Technology</p>	<p>[KN-2] Bio-inspired Super-Wetting Nanofibers Membranes for Liquid Separation</p> <p>Prof. Yong Zhao Beihang University</p>	<p>[KN-2] Highly selective capture of lithium ions in wastewater by directionally self-assembled fluorine-functionalized organic polymer hydrogels</p> <p>Prof. Liming Yang Nanchang Hangkong University</p>	<p>[KN-2] Computational insights on molecular transport in nanopores</p> <p>Prof. Shuangliang Zhao Guangxi University</p>	<p>[KN-2] Layered Double Hydroxides with Enhanced Interlayer Space for Electrochemical Energy Storage and Deionization</p> <p>Prof. Yang Wang Tianjin University</p>
17:10-17:30	<p>[INV-1] Integrated metal-organic framework and pressure-swing adsorption process design</p> <p>Prof. Teng Zhou The Hong Kong University of Science and Technology (Guangzhou)</p>	<p>[INV-1] Superwetting Porous Membranes for Separation of Immiscible Liquids</p> <p>Prof. Wang Yang Jilin University</p>	<p>[INV-1] Functionalization of metal-organic frameworks for selective capture of heavy metal ions</p> <p>Prof. Xudong Zhao Taiyuan University of Science and Technology</p>	<p>[INV-1] Integrated membrane electrochemical reactor-membrane distillation process for enhanced landfill leachate treatment</p> <p>Prof. Zhongsen Yan Fuzhou University</p>	<p>[INV-1] Structural Designing of Organic Solvent Nanofiltration Membranes for Precise Molecular Separation</p> <p>Pof. Yi Li Sun Yat-sen University</p>
17:30-17:50	<p>[INV-2] Monte Carlo Simulation on the Vapor-Liquid Equilibrium for Uranium hexafluoride Distillation</p> <p>Prof. Dongyang Li Zhengzhou University</p>	<p>[INV-2] Self-cleaning superhydrophobic photocatalytic PDMS/BiOBr@Fe hierarchical microsphere-nanofiber hybrid membrane fabrication for oil/water separation</p> <p>Dr. Jiaxin Guo Xi'an Jiaotong University</p>	<p>[INV-2] Capacitive Deionization: An Emerging Electrochemical Platform for Metal Ions Capture</p> <p>Prof. Xingtao Xu Zhejiang Ocean University</p>	<p>[INV-2] Emerging photothermal membrane distillation (PMD) process and engineering membranes with different surface wettability to alleviate membrane scaling</p> <p>Prof. Yuan Liao Nankai University</p>	<p>[INV-2] Acid resistance amyloid lysozyme assembly-mediated surface functionalization of magnetic spheres for highly efficient removal of Cr(VI)</p> <p>Dr. Zehong Li Xi'an Jiaotong University</p>


Day 3 | 21 May, 2023 (Sun)

08:30-09:10	<p>[Plenary 04]</p> <p>MXene Membrane for Separation Professor Haihui Wang, Tsinghua University Moderator: Professor Shouliang Yi</p> <p>Zoom link: https://elsevier.zoom.us/j/95054810770?pwd=TmN1RzQ3OUdEcVRFZVFvOE55VnJvQT09 Meeting ID: 950 5481 0770 Passcode: 051923</p>				 <p>Elsevier Live (Scan QR code)</p>
09:10-09:40	Coffee Break (30 mins)				
Zoom link	https://hku.zoom.us/j/4885873175	https://hku.zoom.us/j/3020606026	https://hku.zoom.us/j/4071802183	https://hku.zoom.us/j/7890648653	
Sessions	Parallel 37 A12-2 Bio-inspired Ion Channel	Parallel 38 A10-1 Integrated Membrane Processes and Membrane Antifouling Strategies	Parallel 39 A5-1 Novel Membrane Materials and Processes	Parallel 40 A11-2 Membrane-based Water and Energy Applications	
Chairs	Shuang Zheng / Jianquan Luo	Hongjun Lin / Shipeng Sun / Peng-Fei Sun	Yanshuo Li / Gongping Liu / Zhongde Dai	Xin Tong / Yangying Zhao	
09:40-10:05	<p>[KN-1] Biomimetic micro/nanochannel materials and devices</p> <p>Prof. Liping Wen Technical Institute of Physics and Chemistry, CAS</p>	<p>[KN-1] Contribution of heterotrophic denitrification in a hydrogen-based membrane biofilm reactor treating nitrate contaminated groundwater</p> <p>Prof. Hee-Deung Park Korea University</p>	<p>[KN-1] Ultrasensitive polymer membranes for enhanced carbon capture</p> <p>Prof. Richard Spontak NC State University</p>	<p>[KN-1] Breathable Superhydrophobic Surface by Sparsely-aligned Electrospun Fibers with Nanopores</p> <p>Prof. Hesheng Yu, Prof. Zhongchao Tan China University of Mining and Technology</p>	
10:05-10:30	<p>[KN-2] Bioinspired superspreading interfaces and their applications in membrane separation</p> <p>Prof. Tian Ye Technical Institute of Physics and Chemistry, CAS</p>	<p>[KN-2] Application of membrane processes in lithium resource extraction</p> <p>Prof. Min Wang Qinghai Institute of Salt Lakes, Chinese Academy of Sciences</p>	<p>[KN-2] Microporous membranes for the energy revolution</p> <p>Prof. Zhi Xu East China University of Science and Technology</p>	<p>[KN-2] Nanomaterials applied in Water treatment membranes: An evolution from additives to construction material</p> <p>Associate Prof. Langming Bai Harbin Institute of Technology</p>	
10:30-10:50	<p>[INV-1] Anomalous Ion Transport across Angstrom-scale 2D Channels</p> <p>Dr. Mingzhan Wang University of Chicago</p>	<p>[INV-1] Ion-distillation for isolating lithium from lake brine</p> <p>Associate Prof. Chenxiao Jiang University of Science and Technology of China</p>	<p>[INV-1] In Situ Synthesis of Large-Area Graphdiyne-Based Composite Membranes for Nanofiltration</p> <p>Prof. Hongwei Fan Beijing University of Chemical Technology</p>	<p>[INV-1] Advanced oxidation processes coupled with ceramic membrane for water purification</p> <p>Associate Prof. Yueping Bao Nankai University</p>	
10:50-11:10	<p>[INV-2] Construction of Bioinspired Membranes and Their Application in Efficient Salinity Gradient Energy Conversion</p> <p>Dr. Weipeng Chen Technical Institute of Physics and Chemistry, CAS</p>	<p>[INV-2] Development of antifouling membranes with greener approaches</p> <p>Associate Prof. Wai Fen Yong Xiamen University Malaysia</p>	<p>[INV-2] Incorporation of Crown ether- an Effective Method for Tuning the Pore Structure of Polyimide Membrane</p> <p>Prof. Chunhai Yi Xi'an Jiaotong University</p>	<p>[INV-2] Engineering nanoporous block copolymer membranes toward ultrafast molecular separation</p> <p>Prof. Leiming Guo Donghua University</p>	
11:10-11:20	Morning Break (10 mins)				

Sessions	Parallel 41 C10-1 Advanced Oxidation Technology	Parallel 42 C10-2 Advanced Oxidation Technology	Parallel 43 C11-1 3D printing technology for novel membrane technology and structuring adsorbents	Parallel 44 A7-2 Membrane Fabrication and Characterization
Chairs	Xiyan Xu / Baiwen Ma	Xiyan Xu / Baiwen Ma	Jin Shang / Zhe Yang / Libo Li	Fusheng Pan / Xuesong Li / Junyong Zhu
11:20-11:45	[KN-1] Carbon nanotube electrified membranes for contaminant degradation and transformation in water Assistant Prof. Xiaoxiong Wang Tsinghua University	[KN-1] Actinide Separation over Lanthanides via Aluminium Cathode Based Electrolysis in LiCl-KCl eutectic Prof. Weiqun Shi The Institute of High Energy Physics, CAS	[KN-1] Design of 3D-printed Monolithic Agitating Paddles for Adsorption and Catalysis Applications Prof. Guowu Zhan Huaqiao University	[KN-1] In situ visualization of membrane fouling evolution during ultrafiltration using label-free optical approaches Prof. Meng Zhang Beihang University
11:45-12:10	[KN-2] Alumina membrane catalysts for fenton-like oxidation of emerging organic pollutants from water Associate Prof. Yan Wang RCEES, CAS	[KN-2] Adsorptive-catalytic treatment of pollutants in waters Associate Prof. Xiyan Xu Beijing Institute of Technology	[KN-2] Polyamide membranes fabricated by selective laser sintering for oil water separation Prof. Shushan Yuan Huazhong University of Science and Technology	[KN-2] Novel membrane processes for bioenergy recovery Prof. Jongho Lee University of British Columbia
12:10-12:30	[INV-1] Solar-driven Wastewater Resourcation Prof. Qingyi Zeng University of South China	[INV-1] Degradation of microcystins in water using catalysts Prof./Vice Dean Xinjiang Hu Central South University of Forestry and Technology	[INV-1] Designing and Constructing Hierarchically Monolithic Zeolites Based on 3D Printing Technology Dr. Shuang Wang Luoyang Normal University	[INV-1] Hydrophilic microporous polymer membranes for fast ionic and molecular separations Prof. Wangxi Fang Suzhou Institute of Nano-Tech and Nano-Bionics
12:30-12:50	[INV-2] Membrane fouling alleviation by combination of sodium percarbonate (SPC) oxidation and coagulation during microfiltration of shale gas produced water Associate Prof. Haiqing Chang Sichuan University	[INV-2] Activation of periodate by chalcopyrite for efficient degradation of tetracycline hydrochloride Prof. Ying Xiong Changsha University of Science and Technology	[INV-2] 3D-printed Monolithic Agitating Paddles with Nanomaterials for Advanced Oxidation Process and Adsorption Applications Dr. Zining Zhou Huaqiao University	[INV-2] Degradation of polyamide nanofiltration membranes by free chlorine and halide ions: kinetics, mechanisms, and implications Associate Prof. Linyan Yang East China University of Science and Technology
12:50-13:10	[INV-3] Controllable valence regulation of metal nodes in metal-organic framework for selective adsorption Dr. Yu-Xia Li Nanjing Tech University	[INV-3] Single-atom Ru loaded on layered double hydroxide catalyzes peroxydisulfate for effective E. coli inactivation Assistant Prof. Jiajia Wang Hunan University		
13:10-14:30	Lunch Break (80 mins)			
Zoom link	https://hku.zoom.us/j/4885873175	https://hku.zoom.us/j/3020606026	https://hku.zoom.us/j/4071802183	https://hku.zoom.us/j/7890648653
Sessions	Parallel 45 A6-1 Inorganic Membrane for Gas and Liquid Separations	Parallel 46 B3-1 Resource Recovery	Parallel 47 A7-1 Membrane Fabrication and Characterization	Parallel 48 A8-1 Membrane-based Gas Separations and CO2 Capture
Chairs	Yi Liu / Xuefeng Zhu	Yu Liu / Chao He / Jianming Pan	Fusheng Pan / Xuesong Li / Junyong Zhu	Yatao Zhang / Heqing Jiang / Xuerui Wang / Canghai Ma
14:30-14:55	[KN-1] Molecular sieve membranes made of multi-dimensional building blocks Prof. Weishen Yang Dalian Institute of Chemical Physics	[KN-1] Photocatalytic Green Recovery of Precious Metals from Solid Waste Prof. Zhenfeng Bian Shanghai Normal University	[KN-1] Modulating the interfacial polymerization process for advanced separation membranes Prof. Hong Wu Tianjin University	[KN-1] Constructing low-resistance gas transmission pathway in MMMs for CO2 capture Prof. Gaohong He Dalian University of Technology

14:55-15:20	<p>[KN-2] Industrialization of hollow fiber zeolite membranes for organic dehydration</p> <p>Prof. Xuehong Gu Nanjing Tech University</p>	<p>[KN-2] Photocatalytic recovery of organophosphorus pollutant to gaseous fuels enabled by selective C-X bond scission</p> <p>Prof. Hu Li Guizhou University</p>	<p>[KN-2] Interfacial engineering of the microporous materials towards more efficient separation</p> <p>Prof. Jingwei Hou University of Queensland</p>	<p>[KN-2] Design and Fabrication of CO₂ Separation Membranes</p> <p>Prof. Canghai Ma Dalian University of Technology</p>
15:20-15:40	<p>[INV-1] Highly stable ceramic membranes for hydrogen purification</p> <p>Prof. Heqing Jiang Qingdao Institute of Bioenergy and Bioprocess Technology</p>	<p>[INV-1] Experimental and DFT studies for the selective separation of scandium (III) from rare earth elements using novel quaternary ammonium based ionic liquids.</p> <p>Dr. Vishakha Kaim Tampere University, Finland</p>	<p>[INV-1] High-flux loose nanofiltration membranes for efficient separation of dye/salt mixtures</p> <p>Prof. Junyong Zhu Zhengzhou University</p>	<p>[INV-1] Controlling transport pathway of microporous membranes for gas separation</p> <p>Associate Prof. Wanbin Li Jinan University</p>
15:40-16:00	<p>[INV-2] Microporous Materials for Gas Separation Membranes</p> <p>Prof. Xiaoqin Zou Northeast Normal University</p>	<p>[INV-2] Recent advances in transforming waste into functional materials for environmental catalysis</p> <p>Dr. Wen Da Oh Universiti Sains Malaysia</p>	<p>[INV-2] Oriented covalent-organic framework membranes for ion transport and osmotic energy conversion</p> <p>Dr. Li Cao KAUST</p>	<p>[INV-2] Management of Liquids for Reliable CO₂ Separation Membranes</p> <p>Associate Prof. Yifan Li Zhengzhou University</p>
16:00-16:20	Afternoon Break (20 mins)			
Sessions	Parallel 49 A6-2 Inorganic Membrane for Gas and Liquid Separations	Parallel 50 B3-2 Resource Recovery	Parallel 51 A5-2 Novel Membrane Materials and Processes	Parallel 52 A8-2 Membrane-based Gas Separations and CO₂ Capture
Chairs	Yi Liu / Xuefeng Zhu	Yu Liu / Chao He / Jianming Pan	Yanshuo Li / Gongping Liu / Zhongde Dai	Yatao Zhang / Heqing Jiang / Xuerui Wang / Canghai Ma
16:20-16:45	<p>[KN-1] Solid Lithium Superconductive Membranes for Seawater Lithium Extraction</p> <p>Prof. Zhiping Lai KAUST</p>	<p>[KN-1] Functional Porous Materials for Separation and Enrichment of Radionuclides</p> <p>Prof. Daoben Hua Soochow University</p>	<p>[KN-1] Bifunctional membrane nanochannels for blood separation and diagnosis</p> <p>Prof. Zhenyu Chu Nanjing Tech University</p>	<p>[KN-1] Network Polymer Membranes for Hot H₂ Purification</p> <p>Prof. Xinlei Liu Tianjin University</p>
16:45-17:10	<p>[KN-2] Monolithic zeolite membranes for gas separation</p> <p>Prof. Rongfei Zhou Nanjing Tech University</p>	<p>[KN-1] Application of Selectively Imprinted Adsorbent Materials in Urban Mine Resourceization</p> <p>Prof. Xudong Zheng Changzhou University</p>	<p>[KN-2] Scalable synthesis of atomic thick membrane for carbon capture</p> <p>Dr. Kumar Varoon Agrawal École Polytechnique Fédérale de Lausanne (EPFL)</p>	<p>[KN-2] Hierarchically microporous membranes for advanced helium recovery from natural gas</p> <p>Prof. Shuangjiang Luo Institute of Process Engineering, CAS</p>
17:10-17:30	<p>[KN-3] Engineering of Molecule-Level Crystal Boundary Structures for Molecular Sieve MOF Membranes</p> <p>Prof. Yujie Ban Dalian Institute of Chemical Physics</p>	<p>[KN-3] Bioinspired construction of magnetic nanorobots for rapid capture of precious metals</p> <p>Prof. Hao Li Jiangsu university</p>	<p>[KN-3] Novel MOF glass membranes for selective gas separation</p> <p>Prof. Hua Jin Ningbo University</p>	<p>[INV-1] Advanced Porous Materials in Mixed Matrix Membranes for Efficient CO₂ Capture</p> <p>Dr. Youdong Cheng KAUST</p>
17:30-17:50				<p>[INV-2] Remarkable gas separation performance of a thermally rearranged membrane derived from an alkynyl self-crosslinkable precursor</p> <p>Prof. Xiaohua Ma Tiangong University</p>

Day 4 | 22 May, 2023 (Mon)

08:30-09:10	<p>[Plenary 05]</p> <p>Ultramicroporous Ion-exchange Membranes Enables Long-term Operation in Electrochemical Energy Devices</p> <p>Professor Tongwen Xu, University of Science & Technology of China</p> <p>Moderator: Professor Shouliang Yi</p> <p>Zoom link: https://elsevier.zoom.us/j/95054810770?pwd=TmN1Rzg3OUdEcVRFZVfV0E55VnJvQT09 Meeting ID: 950 5481 0770 Passcode: 051923</p>				 <p>Elsevier Live (Scan QR code)</p>
09:10-09:30	Coffee Break (20 mins)				
Zoom link	https://hku.zoom.us/j/9047994513	https://hku.zoom.us/j/2262728525	https://hku.zoom.us/j/2197667700	https://hku.zoom.us/j/8505055222	
Sessions	Parallel 53 Student-A1 RO, NF, MF, UF and FO	Parallel 54 Student-A3 Electro-driven Membrane Technology and Ion-exchange Membrane	Parallel 55 Student-B2&3 Adsorption-based Gas Separation and CO2 capture, Resource Recovery	Parallel 56 Student-C1, 7, 8, 11 Separation and purification technology	
Chairs	Lu Elfa Peng	Yan Zhao	Hai Zhu / Lingyue Zhang	Shuang Zheng	
09:30-09:45	<p>[Oral-1] Does surface roughness necessarily increase fouling propensity of polyamide reverse osmosis membranes by humic acid?</p> <p>Qimao Gan The University of Hong Kong</p>	<p>[Oral-1] Ionic resource capture from semiconductor wastewaters using a dual-driven membrane system</p> <p>Yangbo Qiu Shanghai Jiao Tong University</p>	<p>[Oral-1] U-Co bimetallic MOFs materials are used in the study of SO2/CO2 separation</p> <p>Liecheng Guo East China University of Technology</p>	<p>[Oral-1] Multi-scale calculation based on process simulation to screen zeolites on PSA air separation</p> <p>Boyan Wen Wuhan Institute of Technology</p>	
09:45-10:00	<p>[Oral-2] Removal of tramadol hydrochloride, an emerging pollutant, from aqueous solution using gamma irradiation combined by nanofiltration</p> <p>Sabrina Ghazouani University of Carthage</p>	<p>[Oral-2] Electrodialysis for simultaneously pre-treating wastewater and enriching ammonium nutrient: Investigation of cation transport behaviors</p> <p>Dingchang Yang Nanyang Technological University</p>	<p>[Oral-2] Tandem vacuum pressure swing adsorption for efficient ethylene separation</p> <p>Shuai Yuan SINOPEC Research Institute of Petroleum Processing Co.,LTD</p>	<p>[Oral-2] Scalable and switchable CO2-responsive membranes with high wettability for separation of various oil/water systems</p> <p>Yangyang Wang Jiangnan University</p>	
10:00-10:15	<p>[Oral-3] Confined and mediated intercalation of nanoparticles in graphene oxide membrane to fine-tune desalination performance</p> <p>Siyu Zhou Kobe University</p>	<p>[Oral-3] Surface Modification of MOF-808 for Efficient Heavy Metal Adsorption</p> <p>Xiulei Li Beijing Normal University</p>	<p>[Oral-3] Ionic liquid-based biphasic solvents for CO2 capture and anti-corrosion</p> <p>Jiaming Mao Beijing Forestry University</p>	<p>[Oral-3] Hydrogen-bonded scissors cut and pull the interfacial film for efficient oil/water separation</p> <p>Yuxuan Tian Northeast Petroleum University</p>	
10:15-10:30	<p>[Oral-4] N.A.</p> <p>Shu-Ya Pang Southwest petroleum university</p>	<p>[Oral-4] Specific Ion Selectivity in Sulfonated Polystyrene Membranes Near the Percolation Threshold</p> <p>Yuxuan Huang Columbia University</p>	<p>[Oral-4] Adsorption properties of CO2/N2 and CO2/CH4 binary systems in Zr-based MOFs containing nitrogen</p> <p>Wenyu Li Wuhan Institute of Technology</p>	<p>[Oral-4] Bioinspired Superwetttable Membranes for Highly Efficient Separation of Oil/Water Emulsions</p> <p>Jian Li Northwest Normal University</p>	
10:30-10:45	<p>[Oral-5] Improving permeability and anti-fouling performance in reverse osmosis application of polyamide thin film nanocomposite membrane modified with functionalized</p>	<p>[Oral-5] Study on Preparation and Magnesium/lithium Ion Separation Performance of Poly(ethylene imine) Modified Cation Exchange Membrane</p>	<p>[Oral-5] Enhancement of oxygen separation performance through Pr0.6Sr0.4FeO3-δ perovskite by modulation of oxygen vacancies</p>	<p>[Oral-5] Electrospayed thin film nanocomposite polyamide nanofiltration with homogeneous distribution of nanoparticles for enhanced separation performance</p>	

	carbon nanospheres Yanyi Wang Tsinghua Shenzhen International Graduate School, Tsinghua University	Xiang-Yun Xie Zhejiang University of Technology	Ao Wang South China University of Technology	Yingyao He Ningbo Institute of Materials Technology & Engineering
10:45-11:00	[Oral-6] Development of zwitterionic antifouling membranes using green solvent and sugar for nanofiltration Siew Kei Lau Xiamen University Malaysia	[Oral-6] Polyamide Modified Anion Exchange Membrane by Interfacial Polymerization for Nitrate and Phosphate Salt Separation Dan Sun Zhejiang University of Technology	[Oral-6] Core-Shell Structured Fe ₃ O ₄ @CuS for Effective Gold Capture and Recovery Jinsong Xia Queen' s University	[Oral-6] Extraction and separation of levulinic acid from lignocellulosic biomass hydrolysate Yinglin Mai Guangdong University of Technology
11:00-11:20	Morning Break (20 mins)			
Sessions	Parallel 57 Student-A1 RO, NF, MF, UF and FO	Parallel 58 Student-A4 Two-dimensional Membrane Materials and Processes	Parallel 59 Student-C10 Advanced Oxidation Technology	Parallel 60 Student-C3, 4, 5, 7 Separation and purification technology
Chairs	Lu Elfa Peng	Yan Zhao	Yan Guo	Shuang Zheng
11:20-11:35	[Oral-1] Complexation of cellulose nanocrystals and amine monomer for improved interfacial polymerization of nanofiltration membrane Shang Fang Kobe University	[Oral-1] Application of sulfonic acid modified covalent organic framework membranes in organic solvents nanofiltration Xiaohe Tian Guangxi Normal University	[Oral-1] Boosted Cu/Co dual redox cycle by CW/Co/BNQDs for enhanced PMS activation: Performance, intermediates and mechanism Ruyao Chen Jiangnan University	[Oral-1] Extracation of natural astaxanthin from Haematococcus pluvialis by deep eutectic solvents: Comparing with organic solvents Zhanghui Xie Guangdong Pharmaceutical University
11:35-11:50	[Oral-2] Facial surface modification of polyamide reverse osmosis membrane for enhanced and regenerative chlorine resistance Jiancong Lu Zhejiang University	[Oral-2] Continuous fabrication of Ti ₃ C ₂ T _x MXene nanofiltration membranes He Li Dalian University of Technology	[Oral-2] Dual Role of -OH: Synthesis of Highly Dispersed NaP Zeolite and Efficient Removal for Rhodamine B Yanan Zhang Northeast Petroleum University	[Oral-2] Separation of gallium from alkali leaching solution of brown corundum dust with solvent extraction Xujie Hui Wuhan University of Science and Technology
11:50-12:05	[Oral-3] Regenerated cellulose membranes for efficient separation of organic mixtures Zifan Song Fujian Agriculture and Forestry University	[Oral-3] Low-pressure loose graphene oxide membrane with tannic acid nanotube intercalation for ultrafast dyes/salt separation Yan Zhang Tiangong University	[Oral-3] Co ₃ O ₄ decoration on iron-incorporated biochar composite fabricated by co-pyrolysis of red mud and spent coffee ground: A synergistic hybrid for peroxymonosulfate activation toward the degradation of RhB Xiaojing Sun Qingdao University of Science & Technology	[Oral-3] Assessment of COSMO-RS for Predicting Liquid-Liquid Equilibrium in Systems Containing Deep Eutectic Solvents Kai Wang Technical University of Munich
12:05-12:20	[Oral-4] Inhibiting Polyamide Intrusion of Thin Film Composite Membranes: Strategies and Environmental Implications Yukun Qian Zhejiang University	[Oral-4] In situ assembly of g-C ₃ N ₄ /polypyrrole in a thin-film nanocomposite membrane with highly enhanced permeability and durability Mengni Ge Hohai University, KU Leuven	[Oral-4] Towards removal of PPCPs by advanced oxidation processes: a review Xiaoqian Chen Guangzhou University	[Oral-4] Construction of new porous organic polymer membranes based on 4,4',4''-methane tetrakis(benzene-1,2-diamine) and their antibiotic desalination performance Haohao Liu Jiangnan University
12:20-12:35	[Oral-5] Regeneration of Aramid Nanofibers with Acetone for High-Performance Organic Solvent Nanofiltration Membranes Yuxi Ma Deakin University	[Oral-5] Integration of Life Cycle Assessment and Techno-economic Analysis for Sustainable Membrane Fabrication Seang Uyin Hong Xiamen University Malaysia	[Oral-5] Green and efficient synthesis of lithium acetate by electro-dialysis metathesis LI Xu Hefei University	[Oral-5] Design of spherical crystallization for carbamazepine multicomponent crystals via different methods: preparation, characterization, mechanism Lishan Liu East China University of Technology

12:35-12:50	<p>[Oral-6] Self-cleaning Co3O4/PES nanofiltration membrane for dye wastewater remediation via a coupling process of separation and peroxymonosulfate activation</p> <p>Jian Xu' s team Anhui University of Science and Technology</p>	<p>[Oral-6] Preparation of a Triazine Porous Organic Polymer Nanoparticle-Chitosan Nanocomposite Membrane for High-efficient Molecule/ion Separation</p> <p>Kai Zhang Zhejiang University of Technology</p>	<p>[Oral-6] Preparation and preservation effect of pullulan polysaccharide/chitosan/xanthan gum/collagen composite</p> <p>ZHENG Wen Shanghai Ocean University</p>	<p>[Oral-6] "Ion cage" structure of GO-based membrane with stable interlayer spacing for desalination</p> <p>Shuai Wang East China University of Science and Technology</p>
12:50-14:30	Lunch Break (100 mins)			
Zoom link	https://hku.zoom.us/j/9047994513	https://hku.zoom.us/j/2262728525	https://hku.zoom.us/j/2197667700	https://hku.zoom.us/j/8505055222
Sessions	Parallel 61 Student-A1&A2 Membrane Transport Phenomena and Process Simulation	Parallel 62 Student-A5, A7 & A8 Novel Membrane Materials, Characterization & Gas separation	Parallel 63 Student-B1&B2 Biomass, bioproduct, and bioenergy & Adsorption-based Gas Separation and CO2 capture	Parallel 64 Student-B3, 4, 5 Resource Recovery, Heavy Metal Removal, Adsorptive Separation of Hydrocarbons
Chairs	Ruobin Dai	Peng-Fei Sun	Haopeng Feng / Pulak Sarkar	Qian Xiao / Ruiting Liu
14:30-14:45	<p>[Oral-1] The preparation and anti-fouling performance of conductive CNTs-PVDF composite hollow fiber membrane for microalgae filtration</p> <p>Caiyun Hou Dalian University of Technology</p>	<p>[Oral-1] Catalyst-anchored secondary polymerization for highly permeable acid-resistant nanofiltration membrane preparation</p> <p>Yang Cao University of Chinese Academy of Sciences</p>	<p>[Oral-1] New insight into Fe(VI)-driven carbon migration and recovery in short-term anaerobic fermentation of waste activated sludge</p> <p>Heliang Pang Xi'an University of Architecture and Technology</p>	<p>[Oral-1] Extraction and preconcentration of natural astaxanthin by using thermoreversible ionic liquid-water systems</p> <p>Qian Yu Guangdong Pharmaceutical University</p>
14:45-15:00	<p>[Oral-2] Study on the interlayered thin-film composite membrane with enhanced separation performance</p> <p>Li Long The University of Hong Kong</p>	<p>[Oral-2] Pervaporation performance of PVA/CPO/SA mixed matrix membranes for dehydration of ethyl acetate</p> <p>Yu Zhang Guangxi University</p>	<p>[Oral-2] Synthesis of Magnetic Biosorbents Derived from Pomelo Peels for Dyes and PAHs Removal from Wastewater</p> <p>Leong Sing Soh Xiamen University Malaysia</p>	<p>[Oral-2] Biomass-resourced hierarchical porous carbon/α-MnO₂ nanorod composite electrodes with high hybrid capacitance for the electrosorption of U(VI) from aqueous solution</p> <p>Yanlin Liu East China University of Technology</p>
15:00-15:15	<p>[Oral-3] Design of YX2 nanopore for desalination</p> <p>Tianyu Li Hangzhou Dianzi University</p>	<p>[Oral-3] Constructing of hybrid composite membranes with ultra-stable underwater superoleophobicity for oily water purification</p> <p>Yu-Ling Yang Ningbo Institute of Materials Technology and Engineering, CAS</p>	<p>[Oral-3] An Ultra-light, Sustainable Sponge for Elimination of Microplastics and Nanoplastics</p> <p>Jianxin Fu Ocean University of China</p>	<p>[Oral-3] Macroporous and ultralight polyethyleneimine incorporated chitosan/TiO₂ spherical foams for the efficient adsorption of U(VI) from aqueous solution</p> <p>Xianqian Ao East China University of Technology</p>
15:15-15:30	<p>[Oral-4] Comparison of Energy Efficiency between Atmospheric Batch Pressure-Retarded Osmosis and Single-Stage</p> <p>Zijing MO Nanyang Technological University</p>	<p>[Oral-4] Comparative Studies of Mixed Matrix Membranes with two sod-type Zeolitic Imidazolate Frameworks: ZIF-94 and hybrid ZIF-7/COK-17</p> <p>Qian Jia University of St Andrews</p>	<p>[Oral-4] Robust zirconium-fumarate framework with one-dimensional pore for methane/nitrogen separation</p> <p>Rundao Chen Zhejiang University</p>	<p>[Oral-4] Efficient degradation of bisphenol A by Fex (x=1~2) single atom nanocatalysts</p> <p>Xinyi Yang Linyi University</p>
15:30-15:45	<p>[Oral-5] Dialysis/adsorption bifunctional membrane with polyethyleneimine/tannic acid/bimetals complexation for</p>	<p>[Oral-5] CO₂/Xe separation over high-silica zeolite membranes</p>	<p>[Oral-5] Separation of carbon dioxide mixtures by multibeds PSA processes simulation</p>	<p>[Oral-5] S and N Doped Biochar Based on Different Surface Potentials for Asymmetric Capacitive Deionization</p>

	urea removal Yang Liu Ningbo Institute of Materials Technology & Engineering	Xingyu Peng Nanjing Tech University	Qiwei Yang Wuhan Institute of Technology	Changlin Wang Tianjin University
15:45-16:00	[Oral-6] Ternary Phase Field Model of Water/NMP/Polysulfone Membrane Prepared By Nonsolvent-Induced Phase Separation Xintao Deng Tsinghua University	[Oral-6] Fabrication of high-quality SSZ-13 zeolite membranes for efficient SF6 recovery Wen Bo Nanjing Tech University	[Oral-6] Ni promoted Fe-CaO dual functional materials for calcium chemical dual looping Shuzhuang Sun Queen's University Belfast	[Oral-6] Synthesis of aminomethylpyridine functionalized poly(amidoamine) dendrimer/silica composites for efficient capture of aqueous Hg(II) and Cd(II) Kaiyan Wu Ludong University
16:00-16:15	[Oral-7] Modeling nanovoid-enhanced water permeance for thin film composite reverse osmosis and nanofiltration membranes Yaowen Hu The University of Hong Kong	[Oral-7] Unveiling the growth of polyamide reverse osmosis membrane at free interface for enhanced selectivity between water and salt Shenghua Zhou The University of Hong Kong	[Oral-7] Porous GO framework fabricated by ionic crosslinking for CO ₂ capture Zhi-Jie Liu Beijing University of Technology	[Oral-7] Photomodulation on Active Sites of Adsorbents P. Tan Nanjing Tech University
16:15-16:35	Afternoon Break (20 mins)			
Sessions	Parallel 65 Student-A6, 9&11 Inorganic Membrane and Membrane Applications	Parallel 66 Student-A10 Integrated Membrane Processes and Membrane Antifouling Strategies	Parallel 67 Postdoc-1 Novel Membrane Materials and Processes	Parallel 68 Postdoc-2 Separation and Adsorption Technology
Chairs	Zhe Yang	Peng-Fei Sun	Hao Guo / Yang Li	Lijun Meng / Jiahui Zhou
16:35-16:50	[Oral-1] Precise manipulation of iron spin states for A near 100% selectivity of singlet oxygen production Na Lu Ningbo Institute of Materials Technology and Engineering, CAS	[Oral-1] Use of Membrane Contactor in Optimizing Ozone Mass Transfer and Phenol Degradation Chen Xi Tongji University	[Oral-1] Humidity Enhanced Selective Gas Separation in 2D Membranes: The Role of Confined Water Dr. Han Li Tianjin University	[Oral-1] Multi-cation crosslinked poly(arylene peridinium) membranes with high durability for water electrolysis Prof. Xiuqin Wang's team Dongguan University of Technology
16:50-17:05	[Oral-2] Membrane fouling mechanisms during membrane distillation treatment of anaerobic digestion effluents with different concentration factors Mingfei Shi Huazhong Agricultural University	[Oral-2] Construction of tunable "silica molecular brush" on the polyamide membrane surface for enhancing water permeability and antifouling performance Qianqian Zhao Tiangong University	[Oral-2] Microporous poly(triaminoguanidinium-amide) nanofilms with sub-nm precision for ultra-low molecular weight cut-off in nanofiltration Dr. Pulak Sarkara	[Oral-2] Selective extraction of bromide-ion from solution by NiO/NiCo LDH composite film electrode Dr. Fengfeng Gao Taiyuan University of Technology
17:05-17:20	[Oral-3] Patterned dense Janus membranes with simultaneously robust fouling, wetting and scaling resistance for membrane distillation Chao Wang Shanghai Jiao Tong University	[Oral-3] A photo-Fenton self-cleaning PP@PDA@Co/β-FeOOH composite membrane for oil/water separation Yibo Zhang Anhui University of Science and Technology	[Oral-3] Palladium-percolated networks enabled by low loadings of branched nanorods for efficient blue H ₂ production Dr. Leiqing Hu University of New York	[Oral-3] Binary Nanofibrous Membranes with Independent Oil/Water Transport Channels for Durable Emulsion Separation Dr. Yajie Ding Chinese Academy of Sciences
17:20-17:35	[Oral-4] Unraveling behaviors and mechanism of membrane fouling in membrane distillation for leachate concentrate treatment Wancen Liu China Agricultural University	[Oral-4] Methylated polyamide reverse osmosis membrane with enhanced water permeability and antifouling performance Yiwen Qin Tiangong University	[Oral-4] Tailoring Morphology of Polyamide RO Membranes with Nanobubble Chemistry for Enhanced Separation Performance Dr. Lu Elfa Peng The University of Hong Kong	[Oral-4] Electrically Switched Ion Membrane for Ion Selective Separation and Recovery: From ESIX to ESIPM Prof. Xiaogang Hao's team Taiyuan University of Technology
17:35-17:50	[Oral-5] Effect of contaminants in seawater/concentrated seawater on the performance of reverse electrodialysis stack and	[Oral-5] CTF Membranes for Ultrafast Organic Solvent Transport and Photocatalytic Cleaning	[Oral-5] Microstructural Optimization of MFI Zeolite Membranes towards Enhanced Gas Separation Performance	[Oral-5] Cytomembrane-mimetic neighborhood nanostructure reinforces biosensing-membrane

	contaminants composition analysis Hailong Gao Dalian University of Technology	Guiliang Li Ningbo Institute of Materials Technology and Engineering, CAS	Prof. Yi Liu' s team Dalian University of Technology	Dr. H. Zhang Chinese Academy of Sciences
17:50-18:05	[Oral-6] Vacuum-assisted MPD loading for highly permeable RO membrane with the control of nanoscale structure Siqi Wu The University of Hong Kong	[Oral-6] Catalytic Ozonation Membrane Reactor as a Novel Water Purification Technology: Membrane Fraction, Performance and Interface Reaction Mechanism Yujie Li Beijing Forestry University	[Oral-6] Advanced Porous Materials in Mixed Matrix Membranes for Efficient CO ₂ capture Dr. Youdong Cheng National University of Singapore	[Oral-6]
18:05-18:20	[Oral-7] Molecular Simulation Study on the Confined Mass Transfer Mechanism of Protons in Proton Exchange Membranes Qingwei Gao Guangxi University	[Oral-7] Porous substrate affects antifouling performance of thin-film composite nanofiltration membranes Chenyue Wu The University of Hong Kong	[Oral-7]	[Oral-7]