

MSA-ISPT 2023 CONFERENCE PROGRAM

3-7 December 2023, Hyatt Regency Perth, 99 Adelaide Terrace, Perth, Western Australia, Australia, 6000.

	3-Dec-23	Sunday	
14:00-17:40	Registration		
18:00-20:00	Welcome reception		
	4-Dec-23	Monday	
9:00-9:35	Opening Ceremony [Location: North and South Grand Ballroom]		
9:35-10:20	Plenary session 1: Prof Lei Jiang, Chinese Academy of Sciences (Super-wettability and Beyond ——Quantum-confined Superfluid: Biological Energy Conversion, Chemical Reaction and Information Transfer) [Chair:] [Location: North Grand Ballroom]		Session C1: Lithium Workshop (9:35-12:25, 4th Dec 2023) 9:35 AM -10:00 AM: “Membranes in the Hydrometallurgical Recovery of Battery Minerals” Prof. Aleks Nikoloski Professor of Extractive Metallurgy, Murdoch University 10:00 AM -10:25 AM: “LITHIUM – The Energy Transition Metal and the Important Role of Western Australia” Mr. Ron Mitchell Managing Director, Global Lithium Resource
10:20-11:00	Morning Tea [South Grand Ballroom]		10:25 AM -10:40 AM: Break time
11:00-12:30	Session A1: New Membranes and Materials and for Separations [Location: Plaza Ballroom 1] [Chair: Prof. Xiwang Zhang & Prof. Zhigang Hu]	Session B1: Emerging Separation Technologies for Clean Air, Water and Energy [Location: Plaza Ballroom 3] [Chair: Prof. Sandra E. Kentish & Dr. Qiang Fu]	Session C1: Lithium Workshop (9:35-12:25, 4th Dec 2023, continued) [Location: Freshwater Bay Room] [Chair: Dr. Amir Razmjou]

11:00-11:30	Prof. Xiwang Zhang , The University of Queensland (Controlling ion and molecule transport in 2D MXene Membrane for High-performance Separation)	Prof. Sandra E. Kentish , University of Melbourne (Optimum Design of Reverse Electrodialysis for Electricity and Hydrogen Production)	10:40 AM - 11:05 AM: “Leveraging Australia’s Oil and Gas expertise to decarbonize the lithium sector”. Dr. Francis Wedin Executive Chairman, Vulcan Energy Resources
11:30-11:55	Prof. Zhigang Hu , Shanghai Jiao Tong University (Enabling MOFs for high-performance adsorptive gas storage and separation)	Dr. Qiang Fu , University of Technology Sydney (Cost-effective Water Production)	11:05 AM to 11:30 AM: “Lithium Processing Technologies: A Market Perspective” Dr. Cameron Perks Principal Analyst (Lithium), Benchmark Mineral Intelligence
11:55-12:10	Dr. Abozar Akbari , NematiQ Pty Ltd (Industrial Application of Spiral-wound Graphene oxide membranes)	Dr. Yongjia Lei , Sichuan Agricultural University (Synergistic defluorination of perfluorooctanoic acids by sonochemical activation of ferrate with biochar)	11:30 AM to 11:55 AM: “Modelling and Incorporation of Membrane Treatment in DLE Flowsheets” Ms. Stacey Noakes Senior Process Engineer, Hatch
12:10-12:25	A/Prof. Zhelun Li , China University of Petroleum (East China) (Hollow fiber membranes comprising of polyvinylamine/polydopamine active layers and a polyvinylidene fluoride substrate for pervaporative concentration of KAc solutions)	Jingyi (Christine) Sun , University of New South Wales (Integrated FCDI and Flow Cathode for continuous nitrate removal from simulated groundwater)	11:55 AM – 12:25 AM “Battery recycling and its opportunities for Li recovery” Dr. Mohammad Assefi Mineral Recovery Research Centre (MRRC), ECU
12:25-13:30	Lunch & Poster [Grand Ballroom]		
13:30-15:10	Session A2: Carbon Capture Science and Technology [Location: Plaza Ballroom 1] [Chairs: Dr. Lisa Mingzhe Sun & A/Prof. Gang Kevin Li]	Session B2: Application membranes and others [Location: Plaza Ballroom 3] [Chairs: Prof. Guohua Jia & Dr. Mengran Li,]	Session C2: Advanced fabrication and characterization techniques for separation materials [Location: Freshwater Bay Room] [Chairs: Prof. Jian Jin & Dr. Pooria Pasbakhsh]
13:30-14:00	Dr. Lisa Mingzhe Sun , Surface Measurement Systems Ltd., Alperton, London (Realistic evaluation of prototypical porous materials for carbon capture)	Prof. Guohua Jia , Curtin University (Anisotropic Semiconductor Nanocrystals: Synthesis, properties and applications)	Prof. Jian Jin , Soochow University (Regulating Interfacial Polymerization Process of Polyamide Nanofiltration Membranes)

14:00-14:25	A/Prof. Gang Kevin Li , The University of Melbourne (In-situ vapor promoted direct air CO ₂ capture)	Dr. Mengran Li , The University of Melbourne (Membrane enabling inherently stable PGM-free CO ₂ electrolysis)	Dr. Pooria Pasbakhsh , Technical Sales Specialist at Anton Paar Australia, Characterisation (Advanced Characterization Techniques for Membranes; From biofouling to separation, purification, geotextiles and fuel cells)
14:25-14:40	A/Prof. Wenji Zheng , Dalian University of Technology (CO ₂ separation membrane with low resistance constructing by MOFs)	Dr. Hao Guo , Tsinghua University, Shenzhen (Tailoring membrane chemistry and structure toward selective removal of organic micropollutants)	Dr. Muhammad Sarfraz , University of Engineering and Technology, Pakistan (Quest for high performance carbon capture membranes: fabrication of SAPO-34 and CNTs-doped polyethersulfone-based mixed matrix membranes)
14:40-14:55	Dr. Zhuyuan Wang , The University of Queensland (Electricity Generation from Carbon Dioxide Adsorption Enabled by Spatially Nanoconfined Ion Separation)	Dr. Yaoming Wang , University of Science and Technology of China (Ion-injection bipolar membrane electrodialysis realizes 8+ mol/L caustic soda conversion from the brine stream)	Dr. Radoslaw Górecki , King Abdullah University of Science and Technology (X-ray tomography of porous materials with nanoscale resolution)
14:55-15:10	Ruilong Wang , Xi'an Jiaotong University (Membrane Photobioreactor with Carbonic Anhydrase Coated Polysulfone Membrane to Enhance Microalgae Direct Air Carbon Capture)	Prof. Haining Liu , Qinghai Institute of Salt Lakes, Chinese Academy of Sciences (The manufacture of MOFs-derived adsorbents and the adsorption performance for Rb ⁺ and Cs ⁺ from salt lake brine)	Dr. Syed Muztuza Ali , DuPont™ Memcor (Australia) Pty Ltd (Development of a lab-scale virus retention assessment setup for high performance membrane fabrication)
15:10-15:40	Afternoon Tea		
15:40-17:15	Session A3: New Membranes and Materials and for Separations [Location: Plaza Ballroom 1] [Chairs: Dr. Jue Hou & Dr. Masoumeh Zargar]	Session B3: Emerging Separation Technologies for Clean Air, Water and Energy [Location: Plaza Ballroom 3] [Chairs: Dr. Mark Mullett & Dr. Gayathri Naidu]	Session C3: Applications of membranes [Location: Freshwater Bay Room] [Chairs: Dr George Q. Chen & Dr. Andrea Merenda]
15:40-16:05	Dr. Jue Hou , RMIT University (Metal-Organic-Framework-Nanochannels Membranes for Lithium-Ion Separation)	Dr. Mark Mullett , Water and Carbon Group, Brisbane (PFAS Removal from Landfill Leachate – the Short Chain Dilemma)	Dr George Q. Chen , The University of Melbourne (Equilibrium Sorption of Organic Ions in Ion Exchange Membranes)

16:05-16:30	Dr. Masoumeh Zargar , Edith Cowan University (Advanced Materials and Membranes Interactions with Micro and Nanoplastics)	Dr. Gayathri Naidu , University of Technology Sydney (Valuable rubidium mining from seawater desalination plant by selective ion exchange nanomaterials and electrochemical membrane separation)	Dr. Andrea Merenda , University of Technology Sydney (Novel nanofibrous ion exchange membranes for enhanced protein adsorption in membrane chromatography)
16:30-16:45	Dr. Shokat Akbarnezhadnesheli , Isfahan University of Technology (Fabrication and characterization of L-Asp/TiO ₂ - blended PES nanofiltration membrane with improved anti-fouling performance and its application in removal of reactive dye)	Dr. Ralph Rolly Gonzales , Kobe University (Ammoniacal nitrogen enrichment from wastewater using hybrid osmotically-assisted reverse osmosis and reverse osmosis (OARO-RO))	Dr. Weichen Lin , Tsinghua University (Performance enhancement of spiral-wound reverse osmosis membrane elements with novel diagonal-flow feed channels)
16:45-17:00	Dr. Yang Li , Tongji University (Electrochemical Membrane with Metal Heteroatom Interface for Bromate Reduction: Efficacy and Mechanism)	Dr. Yuqing LIN , East China University of Science and Technology (Promotion of Monovalent Ion Transport Enabled through Nanochannels for Efficient Electrodialysis)	Freja Mardal , Aarhus University (Exploring Membrane Filtration in Food Processing: Unraveling the Dynamics of Skim Milk Microfiltration and the Influence of Diafiltration Media Composition on Flux and Fouling Mechanisms)
17:00-17:15	Dr. Xinzhi Chen , Kunming University of Science and Technology (Novel graded porous supported symmetric mixed conducting ceramic membranes for gas separation)	Dr. Farzaneh Mahmoudi , CSIRO Manufacturing (Off-grid Stand-Alone Water Solution with Photovoltaic/thermal (PV/T) Integrated Membrane Distillation Technology)	Hailan Wang , Tongji University (Membrane fouling behaviors in a full-scale zero liquid discharge system for cold-rolling wastewater brine treatment: A comprehensive analysis on multiple membrane processes)
18:30-20:00	Drinks and Poster [Grand Ballroom]		
	5/12/2023	Tuesday	
9:00-9:45	Plenary session 2: Prof. Suzana Nunes, King Abdullah University of Science and Technology (Polymer Membranes: Driving the Shift to a Sustainable Economy) [Chair:] [Location: North Grand Ballroom]		
9:45-10:30	Plenary session 3: Prof. Huanting Wang, Monash University (Ion transport and separation in nanoporous hybrid membranes) [Chair:] [Location: North Grand Ballroom]		
10:30-11:00	Morning Tea [South Grand Ballroom]		
11:00-12:30	Session A4: New Membranes and Materials and for Separations [Location: Plaza Ballroom 1]	Session B4: New Membranes and Materials and for Separations [Location: Plaza Ballroom 3]	Session C4: Applications of membranes [Location: Freshwater Bay Room]

	[Chairs: A/Prof. Daria V. Andreeva & Dr. Muhammad Rizwan Azhar]	[Chairs: Prof. Ingo Pinnau & A/Prof. Huacheng Zhang]	[Chairs: A/Prof. Rakesh Joshi & Dr. Min Zheng]
11:00-11:30	A/Prof. Daria V. Andreeva , National University of Singapore (Layer-by-layer membranes with added functionalities)	Prof. Ingo Pinnau , Abdullah University of Science and Technology (Ultrasensitive Carbon Molecular Sieve Membrane Materials for Gas Separations)	A/Prof. Rakesh Joshi , University of New South Wales (Graphene oxide membranes for purification and separation)
11:30-11:50	Dr. Muhammad Rizwan Azhar , Edith Cowan University (Engineered bi-metallic (MIL-100-X) MOFs and their derivatives for enhanced water stability and emerging contaminants removal from wastewater)	A/Prof. Huacheng Zhang , RMIT University (Subnanofluidic metal-organic framework membranes for efficient ion separation)	Dr. Min Zheng , The University of Queensland (Development and application of gas-transferring membranes in wastewater treatment)
11:50-12:05	Javad Farahbakhsh , Edith Cowan University (Enhanced Microplastic fouling resistance in ultrafiltration membranes featuring an innovative MOF-on-MOF structure (NH ₂ -UiO66/NH ₂ -MIL-125))	Ayushi Kapoor , Indian Institute of Technology Roorkee (Single-step Milk Fat Globule Separation through Microfiltration with Membrane Reusability: Advancing Sustainable Dairy Production)	Dr. Tobias Foller , University of New South Wales (Mass transport through graphene oxide membranes)
12:05-12:20	Madhuparna Ray , Indian Institute of Technology (Incorporation of MOF based superior proton conductive fillers and antioxidants in SPEEK for enhanced performance and stability)	Danyang Li , Tsinghua University (Neural network-assisted data processing improved tomography characterizations of reverse osmosis polyamide layers)	Kanchan Sharma , University of Technology Sydney (Development of thin film composite nanofiltration membrane for overall ionic content removal from seawater)
12:35-13:30	Lunch and MSA annual meeting		
13:30-15:05	Session A5: New Membranes and Materials and for Separations [Location: Plaza Ballroom 1] [Chairs: Dr. Sean McIntyre & Dr. Biplob Kumar Pramanika]	Session B5: Advanced fabrication and characterization techniques for separation materials [Location: Plaza Ballroom 3] [Chairs: Dr. Neil Robinson & Dr. Chi Cheng]	Session C5: Applications of membranes [Location: Freshwater Bay Room] [Chairs: Prof. Ho Kyong Shon & Dr. Mahdokht Shaibani]
13:30-14:00	Dr. Sean McIntyre , Surface Measurement Systems, UK (Investigating PIM-1 and cPIM-1 permeation under real-world conditions)	Dr. Neil Robinson , The University of Western Australia (Low-field NMR relaxation as a probe of admission and adsorption in functional porous media)	Prof. Ho Kyong Shon , University of Technology Sydney (Desalination and Resource Recovery Using Membrane Capacitive Deionization)

14:00-14:25	Dr. Biplob Kumar Pramanika , RMIT University (Fabrication of MIL 101 Cr-based composite ultrafiltration membrane for nanoplastics separation from synthetic wastewater)	Dr. Chi Cheng , University of New South Wales (Cascaded compression of size distribution of nanopores in monolayer graphene)	Dr. Mahdokht Shaibani , RMIT University (Advanced Membrane Separators for Practical Lithium-Sulfur Batteries)
14:25-14:40	Dr. NOOR UL AFSAR , University of Science and Technology of China (Enhancing Ionic Permselectivity in Polymeric Membranes: Innovative Approaches for Monovalent Anion and Cation Separation)	Dr. Zain Ali , King Abdullah University of Science and Technology (Precise Defect Tuning of Membranes for Unprecedented Helium and Hydrogen Separations)	Dr. Xiuxiu Ren , Changzhou University (Hydrophobic Organosilica/Silicalite-1 Composite Membranes for Bioethanol Purification)
14:40-14:55	Hao Zhang , The University of Queensland (Engineering ultra-stable nanochannels in two-dimensional MoS2 membranes for acid-tolerant separation)	Shuang Liu , Chongqing University (Ligand-mediated catalysis of Mn(II) for calcium sulfite activation: performance and mechanism)	Rajneesh Kumar Gautam , Victoria University (Investigating the impact of biomass concentrations and key operational parameters on the critical flux of a submerged AnMBR (SAnMBR) treating abattoir wastewater) [recorded video]
14:55-15:10	Lihong Gan , The Hong Kong Polytechnic University (Tailored polyelectrolyte multilayer nanofiltration membranes via aerosol-assisted printing: fabrication-structure-performance relationships)	Mitra Golgoli , Edith Cowan University (Application of zwitterionic brush decorated MOF nanoparticles to develop novel forward osmosis membranes)	Hanwei Yu , University of Technology Sydney (Sulfonated polyether ketone membranes for lithium recovery via membrane capacitive deionization)
15:10-15:40	Afternoon Tea		
15:40-17:20	Session A6: New Membranes and Materials and for Separations [Location: Plaza Ballroom 1] [Chairs: Prof. Michael D. Guiver & Prof. Nicholas Ze Xian Low]	Session B6: Membranes for gas and solvent separation [Location: Plaza Ballroom 3] [Chairs: Dr. Anand Bhatt & Dr. Seungju Kim]	Session C6: New Membranes and Materials and for Separations [Location: Freshwater Bay Room] [Chairs: Prof. Dan Zhao & Prof. Yue Sun]
15:40-16:10	Prof. Michael D. Guiver , Tianjin University (Polymer-supported MOF and other frameworks for gas separation membranes)	Dr. Anand Bhatt , Manager Minerals R&D, Fortescue (Challenges and opportunities in decarbonising heavy industry)	Prof. Dan Zhao , National University of Singapore (Advanced Porous Materials in Membrane Technologies)
16:10-16:35	Prof. Nicholas Ze Xian Low , Nanjing Tech University (Redefining Desalination through Engineering Thin Film Composite Membranes with Interfacial Polymerization)	Dr. Seungju Kim , RMIT University (Composite nanofibrous membranes with two-dimensional ZIF-L and PVDF-HFP for CO2 separation)	Prof. Yue Sun , Tiangong University (Engineering nanochannel membranes with macrocyclic host-guest chemistry)

16:35-16:50	Prof. Wangxi Fang , Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences (Metal Ion Crosslinked Microporous Polyimide Membranes for Organic Solvent and Liquid Hydrocarbon Separations)	Dr. Xiaoheng (Alan) Jin , CSIRO, Manufacturing (Recent Developments in Membrane Science and High-Temperature Hydrogen Separation: A Critical Review)	Dr. Ruobin Dai , Tongji University (Nanovehicle-assisted monomer shuttling enables highly permeable and selective nanofiltration membranes for water purification)
16:50-17:05	Prof. Jie Chen , Fuzhou University (Versatile three-dimensional poly(aniline) network via Pd-catalyzed polycondensation and its mechanism of ultrahigh-affinity remediation of mercury ion) [TBA]	Yingpeng Gu , Southeast University (Quaternary Phosphonium Strong Based Anion Exchanger for the Selective Adsorption of Nitrate)	Mohadeseh Najafi , Edith Cowan University (Advanced nanoplastic fouling-resistant ultrafiltration membranes with tailored surface properties for water treatment)
17:05-17:20	Dr. Mohammad Saleh Rafiei , Isfahan University of Technology (Surface modification of PVDF Ultrafiltration membranes via Carbon Quantum Dots(CQD))	[TBA]	Malinalli Ramirez Martinez , King Abdullah University of Science and Technology (Fabrication of porous membranes from upcycled plastic waste and bio-based solvents)
18:30-21:00	Conference dinner [location: North and South Grand Ballroom]		
	6-Dec-23	Wednesday	
9:00-10:35	Session A7: Application of Membranes [Location: Plaza Ballroom 1] [Chairs: Dr. Ludovic (ludo) DUMEE & Dr Qianqian Shi]	Session B7: Emerging Separation Technologies for Clean Air, Water and Energy [Location: Plaza Ballroom 3] [Chairs: Prof. Maria Grazia De Angelis & Dr. Eugenia B. X]	Session C7: Separation modelling and simulation [Location: Freshwater Bay Room] [Chairs: Prof. Gyorgy Szekely & Dr. Chen Wang]
9:00-9:30	Dr. Ludovic (ludo) DUMEE , Khalifa University (Nanostructured Carbon Membrane Reactors – perspectives on reactivity and scalability)	Prof. Maria Grazia De Angelis , University of Edinburgh (New membranes and sorbent materials for wearable hemodialysis)	Prof. Gyorgy Szekely , King Abdullah University of Science and Technology (Chemical diversity and machine learning for nanofiltration)
9:30-9:50	Dr Qianqian Shi , Monash University (Cell Sheet-Like Soft Nanoreactor Arrays)	Dr. Eugenia B. X. Phegan , MAusIMM (Production of High Purity Alumina from a Variety of Sources Using Adsorption and Precipitation)	Prof. Yasin Orooji , Zhejiang Normal University (Mechanism of Membrane Fouling and Preparation of Antifouling Membranes) [recorded video]

9:50-10:05	Zheng Peng , Southeast University (Joule Heating Effect of the Stack in Bipolar Membrane Electrodialysis: Distribution, Risk, Scale Effect and Salt Effect)	Dr. Yasaman Boroumand , Edith Cowan University (Novel Mixed Matrix Membranes for Enhanced Lithium Recovery)	Dr. Chen Wang , University of Technology Sydney (Machine learning for layer-by-layer nanofiltration membrane performance prediction and polymer candidate exploration)
10:05-10:20	Chenxin Tian , Tongji University (Green Solvent Cleaning Removes Irrecoverable Foulants from End-of-life Membranes in Membrane Bioreactor: Efficacy and Mechanisms)	Aaditya Pandey , Indian Institute of Technology Roorkee (Fouling Behaviour Analysis of Cellulose Tri Acetate Membrane for Coconut Water Juice Concentration with Forward Osmosis Process)	Dr. Xing Wu , RMIT University (Effect of different draw solutions on concentration polarization in a forward osmosis process: theoretical modeling and experimental validation)
10:20-10:35	Lehui Ren , Tongji University (The Ti/Pd Reactive Electrochemical Membrane (REM) for the Removal of Refractory Organic Pollutants in Water and Wastewater)	Gabriela Costa Martins , University of Technology Sydney (Separation of rare-earth elements using highly Eu-selective metal-organic framework incorporated composite membrane)	[TBA]
10:35-11:00	Morning Tea [South Grand Ballroom]		
11:00-12:00	Closing ceremony [Location: North Grand Ballroom]		
12:00-13:00	Lunch [South Grand Ballroom]		
	7-Dec-23	Wednesday	
9:00-15:00	Technical tour [Registration required]	<ul style="list-style-type: none"> • 9 am: Leave the hotel • 10 am: Tour of Beenyup Advance Water Recycling Facilities • 11:45 am: Tour of Edith Cowan School of Engineering Facilities • 12:45 pm: Light lunch at Edith Cowan University • 14:00 pm: Leave Edith Cowan University • 15:00 pm: Arrive at hotel 	