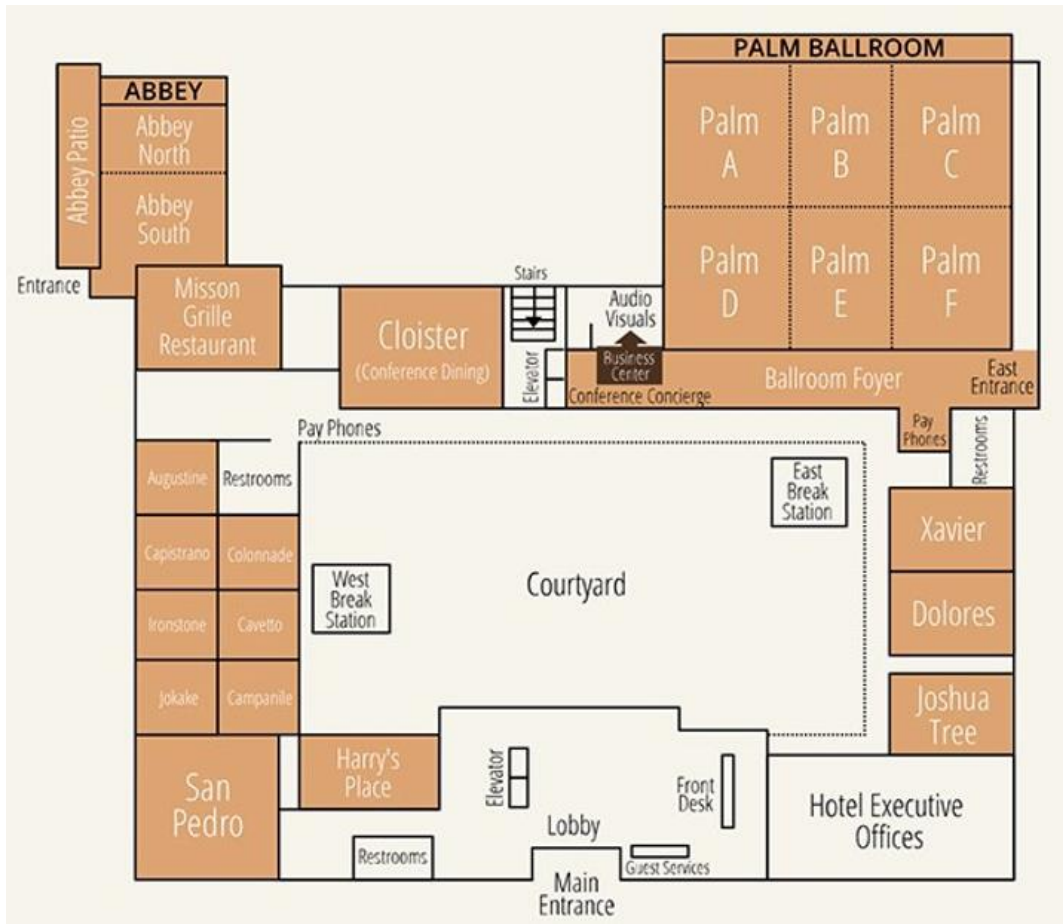


<b>Date</b>	<b>Time (*MST)</b>	<b>Event</b>	<b>ROOM</b>
Saturday May 14	9:00 AM – 5:00 PM	<b>Workshop I: Measurement Methods for Membranes</b>	<b>Abbey North</b>
		<b>Workshop II: Membranes for Water Treatment Applications</b>	<b>Abbey South</b>
Sunday May 15	9:00 AM - 5:00 PM	<b>Workshop III: Membranes for Gas Separations</b>	<b>Abbey South</b>
	2: 00 PM - 5:00 PM	<b>NAMS Student Workshop</b>	<b>Ballroom</b>
	2:00 PM – 6:00 PM	<b>Registration</b>	<b>Lobby</b>
	7:30 PM - 9:00 PM	<b>Welcome Reception</b>	<b>Courtyard</b>
Monday May 16	7:00 AM – 8:00 AM	<b>Registration</b>	<b>Lobby</b>
	8:00 AM - 9:00 AM	<b>Plenary Lecture 1</b>	<b>Ballroom</b>
	9:00 AM – 9:30 AM	<b>Coffee Break</b>	<b>Courtyard</b>
	9:30 AM – 12:30 PM	<b>Parallel Technical Sessions I</b>	<b>See Session Details</b>
	12:30 PM – 2:00 PM	<b>Lunch with Legends</b>	<b>Culinary Dropout</b>
	1:45 PM – 3:30 PM	<b>Coffee Available at</b>	<b>Abbey Patio &amp; Courtyard</b>
	2:00 PM - 5:00 PM	<b>Parallel Technical Sessions II</b>	<b>See Session Details</b>
7:30 PM – 10:00 PM	<b>Poster Session</b>	<b>Ballroom</b>	
Tuesday May 17	7:00 AM – 8:00 AM	<b>Registration</b>	<b>Lobby</b>
	8:00 AM – 9:00 AM	<b>Plenary Lecture II</b>	<b>Ballroom</b>
	9:00 AM – 9:30 AM	<b>Coffee Break</b>	<b>Courtyard</b>
	9:30 AM – 12:30 PM	<b>Parallel Technical Sessions III</b>	<b>See Session Details</b>
	12:30 PM - 2:00 PM	<b>Lunch Break</b>	
	1:45 PM – 3:30 PM	<b>Coffee Available at</b>	<b>Abbey Patio &amp; Courtyard</b>
	2:00 PM – 5:00 PM	<b>Parallel Technical Sessions IV</b>	<b>See Session Details</b>
	5:15 PM – 6:30 PM	<b>NAMS Business Meeting</b>	<b>Abbey South</b>
	6:30 PM - 7:30 PM	<b>Closing and Award</b>	<b>Ballroom</b>
7:30 PM - 11:00 PM	<b>Banquet &amp; Awards Ceremony</b>	<b>Courtyard</b>	
Wednesday May 18	7:00 AM – 8:00 AM	<b>Registration</b>	<b>Lobby</b>
	8:00 AM – 9:00 AM	<b>Plenary Lecture III</b>	<b>Ballroom</b>
	9:00 AM – 9:30 AM	<b>Coffee Break</b>	<b>Courtyard</b>
	9:30 AM – 12:30 PM	<b>Parallel Technical Sessions V</b>	<b>See Session Details</b>
	12:30 PM – 2:00 PM	<b>Lunch Break</b>	
	1:45 PM – 3:30 PM	<b>Coffee Available at</b>	<b>Abbey Patio &amp; Courtyard</b>
	2:00 PM – 5:00 PM	<b>Parallel Technical Sessions VI</b>	<b>See Session Details</b>

Date	Time (*MST)	Event	Room
Monday May 16	8:00 AM - 9:00 AM	<b>Plenary Session 1</b>	<b>Ballroom</b>
	9:00 AM – 9:30 AM	<b>Break</b>	
	9:30 AM – 12:30 PM (Parallel Oral Sessions)	<b>Organic Solvent Separations I</b>	<b>Palm AD</b>
		<b>Carbon Capture I</b>	<b>Palm CF</b>
		<b>Emerging Materials for Liquid Separations I</b>	<b>Palm BE</b>
		<b>Membrane Synthesis and Casting I</b>	<b>Abbey North</b>
	12:30 PM – 2:00 PM	<b>Lunch Break</b>	
2:00 PM - 5:00 PM (Parallel Oral Sessions)	<b>Inorganic Materials</b>	<b>Abbey South</b>	
	<b>Organic Solvent Separations II</b>	<b>Palm AD</b>	
	<b>Carbon Capture II</b>	<b>Palm CF</b>	
	<b>Emerging Materials for Liquid Separations II</b>	<b>Palm BE</b>	
7:00 PM – 10:00 PM	<b>Membrane Synthesis and Casting II</b>	<b>Abbey North</b>	
	<b>Catalytic and Responsive Membranes</b>	<b>Abbey South</b>	
7:00 PM – 10:00 PM	<b>Poster Session</b>	<b>Ballroom</b>	
Tuesday May 17	8:00 AM – 9:00 AM	<b>Plenary Session II</b>	<b>Ballroom</b>
	9:00 AM – 9:30 AM	<b>Break</b>	
	9:30 AM – 12:30 PM (Parallel Oral Sessions)	<b>Polymeric and Mixed-Materials – Gas Separations I</b>	<b>Palm AD</b>
		<b>Bioinspired and Biomimetic Materials</b>	<b>Palm BE</b>
		<b>Membranes for Electrochemical Applications I</b>	<b>Palm CF</b>
		<b>High Salinity Streams, Brine Mineralization and ZLD</b>	<b>Abbey South</b>
	12:30 PM - 2:00 PM	<b>Process Intensification and Integration</b>	<b>Abbey North</b>
12:30 PM - 2:00 PM	<b>Lunch Break</b>		
2:00 PM – 5:00 PM (Parallel Oral Sessions)	<b>Polymeric and Mixed-Materials – Gas Separations II</b>	<b>Palm AD</b>	
	<b>Downstream Bioprocessing</b>	<b>Palm BE</b>	
	<b>Membranes for Electrochemical Applications II</b>	<b>Palm CF</b>	
	<b>Membrane Characterization</b>	<b>Abbey South</b>	
2:00 PM – 5:00 PM (Parallel Oral Sessions)	<b>Molecular and Process Modeling</b>	<b>Abbey North</b>	
Wednesday May 18	8:00 AM – 9:00 AM	<b>Plenary Session III</b>	<b>Ballroom</b>
	9:00 AM – 9:30 AM	<b>Break</b>	
	9:30 AM – 12:30 PM (Parallel Oral Sessions)	<b>Award Session</b>	<b>Palm AD</b>
		<b>Membrane Fouling I</b>	<b>Palm CF</b>
		<b>Membrane Distillation and Pervaporation</b>	<b>Abbey North</b>
		<b>Industrial Applications</b>	<b>Palm BE</b>
	12:30 PM – 2:00 PM	<b>Materials for Electrochemical Applications</b>	<b>Abbey South</b>
12:30 PM – 2:00 PM	<b>Lunch Break</b>		
2:00 PM – 5:00 PM (Parallel Oral Sessions)	<b>Seawater Desal and Osmotic Process</b>	<b>Palm BE</b>	
	<b>Membrane Fouling II</b>	<b>Palm CF</b>	
	<b>Contaminant Removal from Water</b>	<b>Palm AD</b>	
	<b>Water Reuse</b>	<b>Abbey North</b>	
2:00 PM – 5:00 PM (Parallel Oral Sessions)	<b>Module Modeling and Design</b>	<b>Abbey South</b>	

\*MST – US Mountain Standard time, UK +8 hrs, Germany +9 hrs, Saudi Arabia (in Riyadh) +10 hrs, India (IST) +12.5 hrs, Singapore +15 hrs, China +15 hrs, South Korea +16 hrs, Japan +16 hrs.



8:00 AM Plenary Session I (Ballroom)					
Parallel Sessions	Room Palm AD Organic Solvent Separations I	Room Palm CF Carbon Capture I	Room Palm BE Emerging Materials for Liquid Separations I	Room Abbey North Membrane Synthesis and Casting I	Room Abbey South Inorganic Materials
Chairs	<p>Michele Galizia <a href="mailto:mgalizia@ou.edu">mgalizia@ou.edu</a></p> <p>Steve White <a href="mailto:steve.white@mtrinc.com">steve.white@mtrinc.com</a></p> <p>Neel Rangnekar <a href="mailto:neel.d.rangnekar@exxonmobil.com">neel.d.rangnekar@exxonmobil.com</a></p>	<p>Winston Ho <a href="mailto:ho.192@osu.edu">ho.192@osu.edu</a></p> <p>David Hopkinson <a href="mailto:David.Hopkinson@netl.doe.gov">David.Hopkinson@netl.doe.gov</a></p> <p>Katherine Hornbostel <a href="mailto:hornbostel@pitt.edu">hornbostel@pitt.edu</a></p> <p>Chen Zhang <a href="mailto:czhang71@umd.edu">czhang71@umd.edu</a></p>	<p>Oishi Sanyal, <a href="mailto:oishi.sanyal@mail.wvu.edu">oishi.sanyal@mail.wvu.edu</a></p> <p>Baoxia Mi <a href="mailto:mib@berkeley.edu">mib@berkeley.edu</a></p> <p>Beza Getachew <a href="mailto:bezawit.getachew@rice.edu">bezawit.getachew@rice.edu</a></p>	<p>Rachel Dorin <a href="mailto:rachel.dorin@teraporetech.com">rachel.dorin@teraporetech.com</a></p> <p>Christine E. Duval <a href="mailto:ced84@case.edu">ced84@case.edu</a></p> <p>Abhishek Roy <a href="mailto:abhishek.roy@nrel.gov">abhishek.roy@nrel.gov</a></p> <p>Reza Foudazi <a href="mailto:rfoudazi@ou.edu">rfoudazi@ou.edu</a></p>	<p>Luis Francisco Villalobos <a href="mailto:luisfrancisco.villalobos@yale.edu">luisfrancisco.villalobos@yale.edu</a></p> <p>Jay Kniep <a href="mailto:jay.kniep@mtrinc.com">jay.kniep@mtrinc.com</a></p> <p>Minghui Qiu <a href="mailto:giumh_1201@njtech.edu.cn">giumh_1201@njtech.edu.cn</a></p> <p>David Bergsman <a href="mailto:dbergs@uw.edu">dbergs@uw.edu</a></p>
9:30 AM	<p>Oral 1 - From Renewable Building Blocks To Biodegradable Polymer Membranes With Solvent-Resistant Properties Gyorgy Szekely (King Abdullah University Of Science And Technology)</p>	<p>Oral 7 - Thin Film Composite Membranes With Novel Quaternary Ammonium Functionalized Poly(Arylene Ether Sulfone) Copolymers For Direct Air Capture Hoda Shokrollahzadeh Behbahani (Arizona State University)</p>	<p>Oral 13 - Separation Of Trace Organics From Aqueous Streams Using Carbonaceous Membranes Haley D White (Georgia Institute Of Technology)</p>	<p>Oral 19 - Microstructure Evolution During Nonsolvent-Induced Phase Separation: A Joint Experimental-Computational Investigation Into Membrane Formation Alexander Bridge (The University Of Texas At Austin)</p>	<p>Oral 25 - High-Pressure CO<sub>2</sub> Permeation Properties Of Ceramic-Carbonate Dual-Phase Membranes Jerry Lin (Arizona State University)</p>
10:00 AM	<p>Oral 2 - Towards Wired-Lab Organic Solvent Nanofiltration: Is Machine Learning Viable? Gergo Ignacz (King Abdullah University Of Science And Technology)</p>	<p>Oral 8 - Integrated Facilitated Transport Membrane Modules For Highly Selective Syngas Purification And Carbon Capture Yang Han (The Ohio State University)</p>	<p>Oral 14 - Cucurbit[N]Uril-Based Nanofiltration Membranes For Effective Molecular Separation Shi-Peng Sun (Nanjing Tech University)</p>	<p>Oral 20 - Automated Stepwise Synthesis Of Poly(Acrylonitrile)-Supported Oligoamide Membranes And Their Dye-Salt Separation Ron Kasher (Ben-Gurion University Of The Negev)</p>	<p>Oral 26 - Metal Ions-Doped Ultrahigh Flux Composite Graphene Oxide/Carbon Nanotubes (GO-SWCNT) Membranes For Efficient H<sub>2</sub> Separation Karel Friess (University Of Chemistry And Technology Prague)</p>
10:30 AM	<p>Oral 3 - Tuning Polyimide Thin Film Composite Membranes For Organic Solvent Reverse Osmosis Separations Via Boc Protected Amine Solid-State Crosslinking Yacine Feliachi (Georgia Institute Of Technology)</p>	<p>Oral 9 - Thin-Film Composite Membranes Based On Hyperbranched Poly(Ethylene Oxide) For CO<sub>2</sub>/N<sub>2</sub> Separation Gengyi Zhang (The State University Of New York At Buffalo)</p>	<p>Oral 15 - Nanoporous Multilayer Graphene Membrane For Precise And Stable Forward Osmosis Desalination Claudio A Ruiz Torres (The University Of Toronto)</p>	<p>Oral 21 - Microporous Polymer Membranes: A New Approach To Simultaneously Reducing Physical Aging And Swelling While Enhancing Permeability Michele Galizia (University Of Oklahoma)</p>	<p>Oral 27 - Network Nanostructured ZIF-8 To Enable Percolation And Enhanced Gas Transport Hyunhee Lee (Massachusetts Institute Of Technology)</p>
11:00 AM	<p>Oral 4 - Organic Solvent Stable Graft Modified Polybenzimidazole Membranes With Customisable Rejection Profiles Adam E Oxley (Imperial College London)</p>	<p>Oral 10 - Polyvinylpyridine-Based Catalytic Membranes For Integrated CO<sub>2</sub> Capture And Conversion: Structure-Function Relationships Casey O'Brien (University Of Notre Dame)</p>	<p>Oral 16 - High Flux Vapor-Gap Membranes For Reverse Osmosis Via Informed Design Of Membrane Pore Structures Elizabeth A Hjelvik (University Of Colorado Boulder)</p>	<p>Oral 22 - Crosslinked Triptycene-Containing Polybenzoxazole Membranes With Model Network Structures For High Performance Gas Separations Ziwei Dai (University Of Notre Dame)</p>	<p>Oral 28 - High-Performance CO<sub>2</sub>-And O<sub>2</sub>-Sieving By Controlled Etching Of Graphene Shiqi Huang (Ecole Polytechnique Fédérale De Lausanne)</p>
11:30 AM	<p>Oral 5 - Precision Molecular Sieving With MOF And COF Membranes In Organic Solvents Rifan Hardian (King Abdullah University Of Science And Technology)</p>	<p>Oral 11 - Effect Of Free Volume Modification (FVM) On The Physical Aging Behavior Of Amine-Functionalized PIM-1 Membranes For Gas Separation Taigyoo Joo (Massachusetts Institute Of Technology)</p>	<p>Oral 17 - Preparation Of Functionalized Porous Poly (Ether Ether Ketone), PEEK, Materials And Hollow Fiber Membranes Ben Bikson (Avanpore)</p>	<p>Oral 23 - Integrated Roll-To-Roll (R2R) Fabrication Of Graphene Oxide Nanofiltration Membranes For Applications In Extreme Operating Environments Amirsalar Rabbani Esfahani (Georgia Institute Of Technology)</p>	<p>Oral 29 - Tunable Organosilica Membranes For High-Temperature H<sub>2</sub>/CO<sub>2</sub> Separation Synthesized By Rapid Oxygen Plasma Treatment Of Polysiloxane Vinh Bui (University At Buffalo)</p>
12:00 PM	<p>Oral 6 - Engineering Organic Solvent Reverse Osmosis Performance Of Vapor Phase Infiltrated Organic-Inorganic Hybrid Membranes Yi Ren (Georgia Institute Of Technology)</p>	<p>Oral 12 - The Effect Of Channel Height Variation On CO<sub>2</sub> Separation Performance In A Flat Sheet Membrane Joanna Rivero (University Of Pittsburgh)</p>	<p>Oral 18 - Polyethyleneimine-Based Surface Treatment For Facile Synthesis Of Conductive Membranes: Active Material Doesn't Matter Wei Zhang (University Of North Carolina At Chapel Hill)</p>	<p>Oral 24 - Super-Hydrophobic MFI Zeolite Hollow Fiber Membranes For Alcohol/Water Separation Jerry Lin (Arizona State University)</p>	<p>Oral 30 - Synthesis Of ZIF Membranes By A Vapor-Phase Seeding Method For Olefin/Paraffin Separation Zhiqin Qiang (University Of Wisconsin-Milwaukee)</p>

## Monday Afternoon

Parallel Sessions	Room Palm AD Organic Solvent Separations II	Room Palm CF Carbon Capture II	Room Palm BE Emerging Materials for Liquid Separations II	Room Abbey North Membrane Synthesis and Casting II	Room Abbey South Catalytic and Responsive Membranes
Chairs	<p>Michele Galizia <a href="mailto:mgalizia@ou.edu">mgalizia@ou.edu</a></p> <p>Steve White <a href="mailto:steve.white@mtrinc.com">steve.white@mtrinc.com</a></p> <p>Neel Ragnekar <a href="mailto:neel.d.ragnekar@exxonmobil.com">neel.d.ragnekar@exxonmobil.com</a></p>	<p>Winston Ho <a href="mailto:ho.192@osu.edu">ho.192@osu.edu</a></p> <p>David Hopkinson <a href="mailto:David.Hopkinson@netl.doe.gov">David.Hopkinson@netl.doe.gov</a></p> <p>Katherine Hornbostel <a href="mailto:hornbostel@pitt.edu">hornbostel@pitt.edu</a></p> <p>Chen Zhang <a href="mailto:czhang71@umd.edu">czhang71@umd.edu</a></p>	<p>Oishi Sanyal, <a href="mailto:oishi.sanyal@mail.wvu.edu">oishi.sanyal@mail.wvu.edu</a></p> <p>Baoxia Mi <a href="mailto:mib@berkeley.edu">mib@berkeley.edu</a></p> <p>Beza Getachew <a href="mailto:bezawit.getachew@rice.edu">bezawit.getachew@rice.edu</a></p>	<p>Rachel Dorin <a href="mailto:rachel.dorin@teraporetech.com">rachel.dorin@teraporetech.com</a></p> <p>Christine E. Duval <a href="mailto:ced84@case.edu">ced84@case.edu</a></p> <p>Abhishek Roy <a href="mailto:abhishek.roy@nrel.gov">abhishek.roy@nrel.gov</a></p> <p>Reza Foudazi <a href="mailto:rfoudazi@ou.edu">rfoudazi@ou.edu</a></p>	<p>Miao Yu <a href="mailto:myu9@buffalo.edu">myu9@buffalo.edu</a></p> <p>Ayse Asatekin <a href="mailto:ayse.asatekin@tufts.edu">ayse.asatekin@tufts.edu</a></p> <p>Simona Liguori <a href="mailto:sliguori@clarkson.edu">sliguori@clarkson.edu</a></p> <p>Volodymyr Tarabara <a href="mailto:tarabara@egr.msu.edu">tarabara@egr.msu.edu</a></p>
2:00 PM	<p>Oral 31 - Structure and transport studies of carbon molecular sieve membranes for wastewater treatment</p> <p>Young Hee Yoon (Georgia Institute of Technology)</p>	<p>Oral 37 - Direct Ocean Capture Using Membrane Contactors</p> <p>Austin R Lieber (University Of Pittsburgh)</p>	<p>Oral 43 - Bioinspired Cross-Linked Iron Doped Reduced Graphene Oxide (rGO) Membrane For Ultrafiltration Of Organic Micropollutants</p> <p>Charles-François De Lannoy (Mcmaster University)</p>	<p>Oral 49 - Thin Zeolitic-Imidazolate Framework ZIF-8 Membranes Supported On ZnO-Deposited Substrates For Propylene/Propane Separation</p> <p>Anil Ronte (Oklahoma State University)</p>	<p>Oral 55 - Synthesis Of Reactive Membranes For Capture And Degradation Of Water And Air Pollutants</p> <p>Rollie G Mills (University Of Kentucky)</p>
2:30 PM	<p>Oral 32 - A Smart And Responsive Crystalline Porous Organic Cage Membrane With Switchable Pore Apertures For Graded Molecular Sieving</p> <p>Zhiwei Jiang (Queen Mary University Of London)</p>	<p>Oral 38 - Highly Permeable Substrates Prepared By Vapor-Induced Phase Separation For CO<sub>2</sub>-Selective Composite Membranes</p> <p>Ruizhi Pang (The Ohio State University)</p>	<p>Oral 44 - Functional Nanofibrous Membranes Modified With B-Cyclodextrins For Improved Surface Characteristics And Filtration Performance</p> <p>Saranya Rameshkumar (Trinity College Dublin)</p>	<p>Oral 50 - 3D Printing Of Thin Film Composite Membranes For Nanofiltration And Beyond</p> <p>Jeffrey R Mccutcheon (University Of Connecticut)</p>	<p>Oral 56 - Ionic Strength And pH Responsive UF And RO Membranes</p> <p>Yoram Cohen (University Of California, Los Angeles)</p>
3:00 PM	<p>Oral 33 - Solution Processable Polytriazoles From Spirocyclic Monomers For Membrane-Based Hydrocarbon Separations</p> <p>Nicholas C Bruno (Georgia Institute Of Technology)</p>	<p>Oral 39 - Techno-Economic Assessment Of Postcombustion Capture Processes Using High-Performance Nanoporous Graphene Membranes</p> <p>Marina Micari (Ecole Polytechnique Fédérale De Lausanne)</p>	<p>Oral 45 - Cross-Linkable/ Self-Assembling Terpolymer Membranes For Brackish Water Desalination</p> <p>Samuel J Louder (Tufts University)</p>	<p>Oral 51 - Advanced Ionic Polymers For High-Performance Gas Separation Membranes</p> <p>Sudhir Ravula (University Of Alabama)</p>	<p>Oral 57 - Catalyst-Free Water-Gas Shift Reaction In Ceramic-Carbonate Dual-Phase Membrane Reactors At High Pressures – Effect Of Side Reaction</p> <p>Jerry Lin (Arizona State University)</p>
3:30 PM	<p>Oral 34 - Organometallic Hybrid Nanofilms With Highly Interconnected Pore Architecture For Ultrafast Solvent Transport With Precise Molecular Separation</p> <p>Bratin Sengupta (University At Buffalo)</p>	<p>Oral 40 - Critical Aspects Of High-Pressure CO<sub>2</sub>-Induced Plasticization In Polyimide Membranes</p> <p>Menno Houben (Eindhoven University Of Technology)</p>	<p>Oral 46 - Including Non-Binding 'Spacer' Monomers In Polyprotic Polymeric Ligands Impacts Ligand-Ion Affinity For Lanthanum</p> <p>Priyanka Suresh (Case Western Reserve University)</p>	<p>Oral 52 - Confined Thermally Induced Phase Separation Under Micromolding – Fabrication Of Patterned Membranes With Enhanced Pore Connectivity And High Salt-Scaling Resistance</p> <p>Shouhong Fan (University Of Colorado At Boulder)</p>	<p>Oral 58 - Catalytic Membranes And The Role Of Biohydrogen For Reductive Chloro-Organics Detoxification From Water</p> <p>Dibakar Bhattacharyya (University Of Kentucky)</p>
4:00 PM	<p>Oral 35 - Effect Of Xylene Activity And Crystal Orientation Of MFI- Zeolite Membranes On Separation Of Xylene Isomers</p> <p>Jerry Lin (Arizona State University)</p>	<p>Oral 41 - In Situ Synergistic Growth Of Crystalline And Polymer-Incorporated Amorphous ZIF-8 In Polybenzimidazole Achieving Hierarchical Nanostructures For H<sub>2</sub>/CO<sub>2</sub> Separation</p> <p>Leiqing Hu (University At Buffalo)</p>	<p>Oral 47 - Enhancing The Salt Rejections Of Covalent Organic Framework Membranes By Creating Dual-Layer Membrane Structure</p> <p>Miguel Jaimes (University Of Wisconsin-Milwaukee)</p>	<p>Oral 53 - Sustainability In Membrane Separations: Integration Of Eco-Friendly Materials And Scaled-Up Fabrication Of Polymeric Membranes For Water Purification</p> <p>David Lu (University Of Kentucky)</p>	<p>Oral 59 - Catalytic Membrane Reactor For Conversion Of Waste Biomass To Chemical Intermediates</p> <p>Ranil Wickramasinghe (University Of Arkansas)</p>
4:30 PM	<p>Oral 36 - Data-Driven Development Of Polymer Membrane Materials For Complex Mixture Separations</p> <p>Youngjoo Lee (Georgia Institute Of Technology)</p>	<p>Oral 42 - Mitigated Carrier Saturation Of Facilitated Transport Membranes For Decarbonizing Dilute CO<sub>2</sub> Sources</p> <p>Yang Han (The Ohio State University)</p>	<p>Oral 48 - Polyampholyte Copolymer Self-Assembly For Fouling Resistant And Easily Tunable Membranes</p> <p>Luca Mazzaferro (Tufts University)</p>	<p>Oral 54 - Polyamide Thickness And Morphology Features Of Thin-Film Composite Membranes Depend On The Extent Of Restriction Of The Amine Monomer Supply During Interfacial Polymerization</p> <p>Mikayla D Armstrong (University Of North Carolina At Chapel Hill)</p>	<p>Oral 60 - Trends, Mechanisms, And Opportunities In Using Electrically Responsive Membranes</p> <p>Charles-François De Lannoy (Mcmaster University)</p>
7:00 PM	Poster Session (Ballroom)				



Plenary Session II (Ballroom)					
8:00 AM					
Parallel Sessions	Room Palm AD Polymeric and Mixed-Materials – Gas Separation I	Room Palm BE Bioinspired and Biomimetic Materials	Room Palm CF Membranes for Electrochemical Applications I	Room Abbey South High Salinity Streams, Brine Minimization and ZLD	Room Abbey North Process Intensification and Integration
Chairs	<p>Benjamin J. Sundell <a href="mailto:benjaminjsundell@gmail.com">benjaminjsundell@gmail.com</a></p> <p>Zachary Smith <a href="mailto:zpsmith@mit.edu">zpsmith@mit.edu</a></p> <p>Xiaoli Ma <a href="mailto:ma26@uwm.edu">ma26@uwm.edu</a></p> <p>Raj Singh* <a href="mailto:rsingh@lanl.gov">rsingh@lanl.gov</a></p>	<p>Yuexiao Shen <a href="mailto:Yuexiao.Shen@ttu.edu">Yuexiao.Shen@ttu.edu</a></p> <p>Cassandra Porter <a href="mailto:cjp0084@auburn.edu">cjp0084@auburn.edu</a></p>	<p>Hee Jeung Oh <a href="mailto:hjoh@psu.edu">hjoh@psu.edu</a></p> <p>Piran R Kidambi <a href="mailto:piran.kidambi@vanderbilt.edu">piran.kidambi@vanderbilt.edu</a></p>	<p>Kerri Hickenbottom <a href="mailto:klh15@email.arizona.edu">klh15@email.arizona.edu</a></p> <p>Jonathan A. Brant <a href="mailto:jbrant1@uwyo.edu">jbrant1@uwyo.edu</a></p> <p>Bianca M. Souza Chaves <a href="mailto:bchaves@email.arizona.edu">bchaves@email.arizona.edu</a></p>	<p>Henry Jonathan Tanudjaja <a href="mailto:henry.tanudjaja@ntu.edu.sg">henry.tanudjaja@ntu.edu.sg</a></p> <p>Marie-Eve Langevin <a href="mailto:MElangevin@ameridia.com">MElangevin@ameridia.com</a></p> <p>Mahdi Malmali <a href="mailto:mahdi.malmali@ttu.edu">mahdi.malmali@ttu.edu</a></p> <p>Albert S. Kim <a href="mailto:AlbertSK@hawaii.edu">AlbertSK@hawaii.edu</a></p>
9:30 AM	<p>Oral 61 - Unexpected Size-Controlled Vapor Sorption In Glassy Membranes Exhibiting Configurational Free Volumeconfigurational Free Volume</p> <p>William J. Box (University Of Oklahoma)</p>	<p>Oral 67 - Artificial Water Channels-Towards Biomimetic Membranes For Desalination</p> <p>Mihail Barboiu (Institut Europeen Des Membranes)</p>	<p>Oral 73 - Deconstructing Proton Transport Through Atomically Thin Monolayer CVD Graphene Membranes</p> <p>Piran Kidambi (Vanderbilt University)</p>	<p>Oral 79 - High Pressure Reverse Osmosis Membrane Modeling And Characterization</p> <p>Jeffrey R Mccutcheon (University Of Connecticut)</p>	<p>Oral 85 - Assessment Of A Hybrid Forward Osmosis-Freeze Crystallization Process For Liquid Mining Of Lithium: Experimental Study And Numerical Simulation</p> <p>Afshin Amani (Université Laval)</p>
10:00 AM	<p>Oral 62 - Microporous Polymers With Tailored Cavities By Direct Fluorination For Small Gas Molecule Separations</p> <p>Wonhee Lee (Georgia Institute Of Technology)</p>	<p>Oral 68 - Quantification Of Salt And Proton Rejection In A Flouorfoldamer Based Artificial Water Channel</p> <p>Laxmicharan Samineni (University Of Texas At Austin)</p>	<p>Oral 74 - Investigation Of Porous PVDF Membranes Behavior During Metal-Assisted Chemical Imprinting</p> <p>Bruno Azeredo (Arizona State University)</p>	<p>Oral 80 - Selecting Fouling And Scaling Mitigation Strategies For Membrane Distillation Applications With Water Reuse Reverse Osmosis Concentrate</p> <p>Luke Presson (University Of Arizona)</p>	<p>Oral 86 - Thermal Storage Management Integrated With Solar Driven Membrane Distillation For Process Intensification</p> <p>Kerri Hickenbottom (University Of Arizona)</p>
10:30 AM	<p>Oral 63 - Pims At Nanoscale</p> <p>Wojciech Ogieglo (KAUST)</p>	<p>Oral 69 - Fast Water Transport Through Biomimetic Reverse Osmosis Membranes Embedded With Peptide-Attached (Pr)-Pillar[5]Arenes Water Channels</p> <p>Yu Jie Lim (Nanyang Technological University)</p>	<p>Oral 75 - Dialysate Regeneration Via Photooxidation And FO Membrane Protection-Loop To Enable Portable Kidney Dialysis</p> <p>Bruce Hinds (University Of Washington)</p>	<p>Oral 81 - Highly Charged Ion-Exchange Membranes For Treatment Of Brines Via Electrodialysis</p> <p>Carolina Espinoza (University Of Michigan)</p>	<p>Oral 87 - Reverse Osmosis Vs. Electrodialysis: Comparing The Cost Of Brackish Water Desalination</p> <p>Sohum Patel (Yale University)</p>
11:00 AM	<p>Oral 64 - Polyformamidine As Fixed-Site Carrier For CO<sub>2</sub>/N<sub>2</sub> Separation Membranes</p> <p>Jingying Hu (The Ohio State University)</p>	<p>Oral 70 - Preparation Of Capillary Flow Membranes From Wood Veneers With Advanced Electron And Ion Microscopy Characterization</p> <p>Nadezda Prochukhan (Trinity College Dublin)</p>	<p>Oral 76 - Electrochemical Oxygen Pumps For Mobile Medical Oxygen</p> <p>Ralph A Bauer (Global Research And Development Inc.)</p>	<p>Oral 82 - Characterizing Low-Salt-Rejection RO Membranes With The Kedem-Katchalsky Model</p> <p>Abdessamad Belgada (Yale University)</p>	<p>Oral 88 - Biocidal Effects In Microwave Induced Membrane Distillation</p> <p>Indrani Gupta (New Jersey Institute Of Technology)</p>
11:30 AM	<p>Oral 65 - Scalable One-Step Fabrication Of MOF-Based Asymmetric Mixed-Matrix Membranes With Exceptionally High Propylene/Propane Separation Performance</p> <p>Yinying Hua (Texas A&amp;M University)</p>	<p>Oral 71 - Skin Like Biomimetic Membranes For Breathable Protective Fabrics</p> <p>Hyeonji Oh (University Of Texas At Austin)</p>	<p>Oral 77 - Liquid Separations Membranes Made Of Functionalized Poly-Ether Ether Ketone Blended With Polysulfone</p> <p>Abelline K Fionah (University Of Kentucky)</p>	<p>Oral 83 - Screening For Scaling Resistant Desalination Membranes</p> <p>John Pellegrino (University Of Colorado Boulder)</p>	<p>Oral 89 - Automated And Field-Deployable Evaluation Of Microfiltration/Ultrafiltration Fouling</p> <p>Weiming Qi (Clemson University)</p>
12:00 PM	<p>Oral 66 - Effect Of PPE Decontamination Processes On The Filtration Efficiency Of Porous Polysulfone Flat Sheet Membrane</p> <p>Ebuka Ogbuoji (University Of Kentucky)</p>	<p>Oral 72 - A TiO<sub>2</sub>-Au Janus Membrane Has Potential To Enable Self-Pumping Flow By Light.</p> <p>Yuhang Fang (Purdue University)</p>	<p>Oral 78 - Lithium Brine Purification And Electrochemical Conversion Via Selective Bipolar Membrane Electrodialysis</p> <p>Kevin Reimund (University Of Texas At Austin)</p>	<p>Oral 84 - Evaluating of Polyamide Nanofiltration Membrane for Lithium Enrichment From Salt Lake Brine</p> <p>Juan Zhai (Texas Tech University)</p>	<p>Oral 90 - Scale-Up Of Membrane Distillation For Treating Produced Waters From Oil And Gas Industry.</p> <p>Ritesh Pawar (University Of Pittsburgh)</p>

Parallel Sessions	Room Palm AD Polymeric and Mixed-Materials – Gas Separation II	Room Palm BE Downstream Bioprocessing	Room Palm CF Membranes for Electrochemical Applications II	Room Abbey South Membrane Characterization	Room Abbey North Molecular and Process Modeling
Chairs	<p><b>Benjamin J. Sundell</b> <a href="mailto:benjaminisundell@gmail.com">benjaminisundell@gmail.com</a></p> <p><b>Zachary Smith</b> <a href="mailto:zpsmith@mit.edu">zpsmith@mit.edu</a></p> <p><b>Xiaoli Ma</b> <a href="mailto:ma26@uwm.edu">ma26@uwm.edu</a></p> <p><b>Raj Singh</b> <a href="mailto:rsingh@lanl.gov">rsingh@lanl.gov</a></p>	<p><b>Onur Kas</b> <a href="mailto:Onur.Kas@ucb.com">Onur.Kas@ucb.com</a></p> <p><b>James McGrath</b> <a href="mailto:jmcgrath@bme.rochester.edu">jmcgrath@bme.rochester.edu</a></p>	<p><b>Hee Jeung Oh</b> <a href="mailto:hjoh@psu.edu">hjoh@psu.edu</a></p> <p><b>Piran R Kidambi</b> <a href="mailto:piran.kidambi@vanderbilt.edu">piran.kidambi@vanderbilt.edu</a></p>	<p><b>Weiyi Li</b> <a href="mailto:liwy3@sustech.edu.cn">liwy3@sustech.edu.cn</a></p> <p><b>Santiago Romero</b> <a href="mailto:Santiago@ed.ac.uk">Santiago@ed.ac.uk</a></p> <p><b>Yang Liu</b> <a href="mailto:Yang.Liu@aramcoamericas.com">Yang.Liu@aramcoamericas.com</a></p>	<p><b>David M. Warsinger<sup>o</sup></b> <a href="mailto:david.warsinger@gmail.com">david.warsinger@gmail.com</a></p> <p><b>Christina Carbrelo</b> <a href="mailto:christina.carbrelo@milliporesigma.com">christina.carbrelo@milliporesigma.com</a></p> <p><b>Shihong Lin<sup>i</sup></b> <a href="mailto:shihong.lin@vanderbilt.edu">shihong.lin@vanderbilt.edu</a></p>
2:00 PM	<p><b>Oral 91 - Reduction Of Physical Aging In Copper Nanoparticle Pillared CMSMs Derived From A Polyimide Precursor Incorporating The Bis(Phenyl)Fluorene-Based Cardo Moiety And Uniformly Dispersed Metal Organic Polyhedra-18 (MOP-18)</b> Masoumeh Tajik Asl (The University Of Texas At Dallas)</p>	<p><b>Oral 97 - Membrane Adsorber Purification Of pDNA</b> Herb Lutz (Milliporesigma)</p>	<p><b>Oral 103 - Separation Of Rare Earth Elements From Simulated Geothermal Water Using Novel Electrodialysis Metathesis Process</b> Lucy M Camacho (Texas A&amp;M University-Kingsville)</p>	<p><b>Oral 109 - Multi-Lab Study On The Pure-Gas Permeation Of Commercial Polysulfone (PSF) Membranes: Measurement Standards And Best Practices</b> Katherine Mizrahi Rodriguez (Massachusetts Institute Of Technology)</p>	<p><b>Oral 115 - The Impact Of Ion-Ion Correlated Motion On Salt Transport In Solvated Ion Exchange Membranes</b> Nico Marioni (The University Of Texas At Austin)</p>
2:30 PM	<p><b>Oral 92 - Novel Graphene Oxide-Based Membrane Structure For A Highly Effective Breathable Barrier For Toxic Vapors And Chemical Warfare Agents</b> Kamalesh K Sirkar (New Jersey Institute Of Technology)</p>	<p><b>Oral 98 - Predicting The Transport Of Soft Droplets In Porous Media From Measurable Emergent Properties</b> John Pellegrino (University Of Colorado)</p>	<p><b>Oral 104 - Electrocatalytic Upcycling Of Nitrate Wastewater To Ammonia Fertilizer Via Electrified Membrane</b> Jianan Gao (New Jersey Institute Of Technology)</p>	<p><b>Oral 110 - A Diafiltration Apparatus For High-Throughput Analysis Of Membrane Transport Properties</b> Bill Phillip (University Of Notre Dame)</p>	<p><b>Oral 116 - Elucidating CO<sub>2</sub>/Hydrocarbons Solubility Selectivity In Aliphatic Polycarbonates Via DFT Calculation And Experimentation</b> Thien N Tran (University At Buffalo, The State University Of New York)</p>
3:00 PM	<p><b>Oral 93 - Peculiar Effect Of Low Loading Of Metal-Organic Polyhedra On CO<sub>2</sub>/N<sub>2</sub> Separation Properties Of Cross-Linked Polyethers</b> Taliehsadat Alebrahim (The State University Of New York At Buffalo)</p>	<p><b>Oral 99 - Purification Of Viral Vectors With Novel Membrane Adsorbers</b> Jinxin Fan (North Carolina State University)</p>	<p><b>Oral 105 - Co-Transport Of Lithium, Sodium, And Potassium Ions In Polysulfone-Based Cems</b> Jung Min Kim (University Of Virginia)</p>	<p><b>Oral 111 - New Insights In Ion Transport In Polyamide Membranes Using Impedance Spectroscopy</b> Viatcheslav Freger (Technion - Israel Institute Of Technology)</p>	<p><b>Oral 117 - Non-Equilibrium Statistical Mechanics Approach For Extended Solution-Diffusion Model</b> Albert Kim (University Of Hawai'i)</p>
3:30 PM	<p><b>Oral 94 - Cross-Linked Poly(Ionic Liquid)-Ionic Liquid Composite Membranes For CO<sub>2</sub>/Light Gas Separations: Mixed-Gas Separation Performance And Long-Term Stability Under High-Temperature And -Pressure Conditions</b> Chamaal Karunaweera (University Of Colorado Boulder)</p>	<p><b>Oral 100 - The Effects Of Low Flow And Flow Disruption On Virus Filtration</b> Xianghong Qian (University Of Arkansas)</p>	<p><b>Oral 106 - Zwitterions And Their Influence Block Polymer Morphology</b> Bradley Grim (Arizona State University)</p>	<p><b>Oral 112 - Interferometry For Precisely Measuring Ultralow Flow Rates From Permeable Materials</b> Cody Ritt (Yale University)</p>	<p><b>Oral 118 - Mechanisms Of Ion And Water Transport In PEGDA Membranes</b> Everett S Zofchak (The University Of Texas At Austin)</p>
4:00 PM	<p><b>Oral 95 - Directing Flexibility Of Metal-Organic Framework Toward Crystallographically Derived Molecular Sieving</b> Ke Zhang (Aramco Americas)</p>	<p><b>Oral 101 - High Purification Of Binary Protein Mixtures Having Close Molecular Weights By Ultrafiltration</b> Yufeng Song (New Jersey Institute Of Technology)</p>	<p><b>Oral 107 - Recent Progress In High Capacity, Stable, Lithium-Sulfur Batteries.</b> Matthew R Hill (CSIRO And Monash University)</p>	<p><b>Oral 113 - The Influence Of Amine Structure And Water On The Mechanism Of CO<sub>2</sub> Facilitated Transport: Operando Characterization And Kinetic Modeling</b> Casey O'Brien (University Of Notre Dame)</p>	<p><b>Oral 119 - Decoding The Molecular-Scale Determinants Of Antifouling At Polymer Membrane Selective Layers</b> Dennis C Robinson Brown (The University Of California Santa Barbara)</p>
4:30 PM	<p><b>Oral 96 - Ethylene And Ethane Transport Properties Of Hydrogen-Stable Ag<sup>+</sup>-Based Facilitated Transport Membranes</b> Matthew N Davenport (The University Of Texas At Austin)</p>	<p><b>Oral 102 - Understanding The Mechanisms That Govern B. Diminuta Microfiltration To Improve The Sterile Filtration Of Therapeutic Viruses</b> Evan Wright (Mcmaster University)</p>	<p><b>Oral 108 - Diffusion Coefficients Of Condensed Counterions In Ion-Exchange Membranes: Application Of Screening Length Scaling Relationship In Concentrated Electrolytes</b> Yuxuan Huang (Columbia University)</p>	<p><b>Oral 114 - Inadequacy Of Current Approaches For Characterizing Membrane Transport Properties At High Salinities</b> Yuanzhe Liang (Stanford University)</p>	<p><b>Oral 120 - Towards A Universal Framework For Evaluating Mass Transport In Pressure, Concentration, And Temperature Driven Membrane-Based Desalination Systems</b> Kian P Lopez (University Of Colorado Boulder)</p>

Plenary Session III (Ballroom)					
8:00 AM					
Parallel Sessions	Room Palm AD Award Session	Room Palm CF Membrane Fouling I	Room Abbey North Membrane Distillation and Pervaporation	Room Palm BE Industrial Applications	Room Abbey South Materials for Electrochemical Applications
Chairs	<p><b>Caleb Funk</b> <a href="mailto:caleb.funk@dupont.com">caleb.funk@dupont.com</a></p> <p><b>Scott Husson</b> <a href="mailto:shusson@clemson.edu">shusson@clemson.edu</a></p>	<p><b>Steven T. Weinman</b> <a href="mailto:stweinman@eng.ua.edu">stweinman@eng.ua.edu</a></p> <p><b>Ngoc T. Bui</b> <a href="mailto:ngoctbui21@ou.edu">ngoctbui21@ou.edu</a></p> <p><b>Daniel J. Miller</b> <a href="mailto:danieljmiller@lbl.gov">danieljmiller@lbl.gov</a></p> <p><b>Audie Thompson</b> <a href="mailto:akt022@uark.edu">akt022@uark.edu</a></p>	<p><b>Lucy Mar. Camacho</b> <a href="mailto:Lucy.Camacho@tamuk.edu">Lucy.Camacho@tamuk.edu</a></p> <p><b>Kailong Jin</b> <a href="mailto:Kailong.Jin@asu.edu">Kailong.Jin@asu.edu</a></p>	<p><b>Dibakar Bhattacharya</b> <a href="mailto:db@uky.edu">db@uky.edu</a></p> <p><b>CJ Kurth</b> <a href="mailto:cj.kurth@gmail.com">cj.kurth@gmail.com</a></p> <p><b>Evan Hatakeyama</b> <a href="mailto:EHatakeyama@chevron.com">EHatakeyama@chevron.com</a></p>	<p><b>William Tarpeh</b> <a href="mailto:wtarpeh@stanford.edu">wtarpeh@stanford.edu</a></p> <p><b>Orlando Coronell</b> <a href="mailto:coronell@ad.unc.edu">coronell@ad.unc.edu</a></p>
9:30 AM	Oral 121 - Diglycolamide Membrane Adsorbents To Separate Lanthanides And Actinides For Use In Radiopharmaceuticals Christine E Duval (Case Western Reserve University)	Oral 127 - A Computational And Experimental Test Bed For Prediction Of RO Module Fouling Daniel J Miller (Lawrence Berkeley National Laboratory)	Oral 133 - Integrated Electrocoagulation, Membrane Filtration And Membrane Distillation For Treatment Of Hydraulic Fracturing Produced Water Ranil Wickramasinghe (University Of Arkansas)	Oral 139 - An Enterprise Approach To Developing Industrial Membrane-Based Solutions Adil M Dhalla (Nanyang Technological University - Ntuitive Pte Ltd)	Oral 145 - Pressure Induced Diffusion In Hydrated Polymers Rahul Sujanani (The University Of Texas At Austin)
10:00 AM	Oral 122 - Putting Bubbles To Work: Next-Generation Water Treatment Systems Using Air-Trapping Membranes Anthony Straub (University Of Colorado Boulder)	Oral 128 - Application Of Machine Learning-Based Models To Understand And Predict Critical Flux Of Oil-In-Water Emulsion In Crossflow Microfiltration Henry J Tanudjaja (Nanyang Technological University)	Oral 134 - Modeling Pilot-Scale Membrane Distillation At High Salinity Using Bench-Scale Data Mukta Hardikar (The University Of Arizona)	Oral 140 - Single Pass TFF For Monoclonal Antibody Processing – Advancing A New Technology Through The MAST Center Andrew Zydney (Penn State University)	Oral 146 - Kinetic Control Of Intrinsic Pores In Monolayer Graphene For Large-Area Proton Selective Membranes Piran Kidambi (Vanderbilt University)
10:30 AM	Oral 123 - Elucidating The Role Of Micropore Generating Backbone Motifs And Amine Functionality On Sorption Energetics, Mixed-Gas Permeation, And H <sub>2</sub> S Transport Katherine Mizrahi Rodriguez (Massachusetts Institute Of Technology)	Oral 129 - Quantifying Electrically Responsive Membranes For Biofouling Mitigation Charles-François De Lannoy (McMaster University)	Oral 135 - Vapor Flux Of Membrane Distillation: Theoretical Limits, Insights On Membrane Design, And Anomalous Phenomena Ruoyu Wang (Vanderbilt University)	Oral 141 - Membranes Beyond Water - Deploying Spirals In Industrial Separations Benjamin Weaver (Sollecta)	Oral 147 - Exploiting The Synergistic Effect Of Surfactants And Ionic Liquids For CO <sub>2</sub> Capture Reza Foudazi (University Of Oklahoma)
11:00 AM	Oral 124 - Selective Ion-Ion Separations And Desalination Using Adsorptive Ion-Capture Electrodialysis Membranes Adam A Uliana (University Of California, Berkeley)	Oral 130 - Feed Temperature Effects On Organic Fouling Of Reverse Osmosis Membranes: Competition Of Interfacial And Transport Properties Santiago Romero-Vargas Castrillon (University Of Edinburgh)	Oral 136 - Fermentation Broth Recovery Of Ethanol Using Polymer Based Membrane For Biofuel Production Oindrila Gupta (Oak Ridge National Laboratory)	Oral 142 - Separation And Recovery Of Critical Materials From End-Of-Life Lithium Ion Batteries Using Membrane Solvent Extraction Process Syed Islam (Oak Ridge National Laboratory)	Oral 148 - Computational Modeling Of 3D Electrospun Nanofiber Structures Albert Kim (University Of Hawai'i)
11:30 AM	Oral 125 - Engineering Subnanometer Vacancy Defects In Single-Layer Graphene For High-Performance Gas Separations Luis Francisco Villalobos (Yale University)	Oral 131 - Acoustically Excited Microstructure For On-Demand Fouling Mitigation In A Microfluidic Membrane Filtration Device Kieran R Fung (University Of Colorado Boulder)	Oral 137 - Impact Of Oxidative Chemicals On The Performance And Materials Properties Of Hydrophobic Porous Membranes Used In Membrane Distillation Elizabeth Hjelvik (University Of Colorado Boulder)	Oral 143 - Industrially Relevant Academic Research – Answering Fundamental Questions At The Module Scale Jeffrey R Mccutcheon (University Of Connecticut)	Oral 149 - Selective Separation Of Lithium Using Chemically Modified Nanoporous Polyamide Membrane With Electrodialysis Xi Chen (Stanford University)
12:00 PM	Oral 126 - Designing Cation-Exchange Membranes With Coordination-Based Selectivity Between Cations Ryan Duchanois (Yale University)	Oral 132 - Unraveling The Mechanism Of An AC Electric Field Applied For Fouling Mitigation Saikat Bhattacharjee (Technion-Israel Institute Of Technology)	Oral 138 - Porous Metal Foam Condensation Doubles Energy Efficiency Of Membrane Distillation Hamid Fattahijuybari (Purdue University)	Oral 144 - Facilitated Transport Membranes For Low Energy And Low Cost Carbon Capture And Sequestration Christine Parrish (Compact Membrane Systems)	Oral 150 - Counter-Ion Activation Energy Of Diffusion In Ion Exchange Membranes David Kitto (University Of Michigan)



Parallel Sessions	Room Palm BE Seawater Desal and Osmotic Processes	Room Palm CF Membrane Fouling II	Room Palm AD Contaminant Removal from Water	Room Abbey North Water Reuse	Room Abbey South Module Modeling and Design
Chairs	<p><b>Andrea Achilli</b> <a href="mailto:achilli@email.arizona.edu">achilli@email.arizona.edu</a></p> <p><b>Milad Esfahani</b> <a href="mailto:mesfahani@eng.ua.edu">mesfahani@eng.ua.edu</a></p> <p><b>Jonathan Maisonneuve</b> <a href="mailto:maisonneuve@oakland.edu">maisonneuve@oakland.edu</a></p> <p><b>William Phillip</b> <a href="mailto:wphillip@nd.edu">wphillip@nd.edu</a></p>	<p><b>Steven T. Weinman</b> <a href="mailto:stweinman@eng.ua.edu">stweinman@eng.ua.edu</a></p> <p><b>Ngoc T. Bui</b> <a href="mailto:ngoctbui21@ou.edu">ngoctbui21@ou.edu</a></p> <p><b>Daniel J. Miller</b> <a href="mailto:danieljmiller@lbl.gov">danieljmiller@lbl.gov</a></p> <p><b>Audie Thompson</b> <a href="mailto:akt022@uark.edu">akt022@uark.edu</a></p>	<p><b>Anthony Straub</b> <a href="mailto:tonystraub90@gmail.com">tonystraub90@gmail.com</a></p> <p><b>Andre da Costa<sup>1</sup></b> <a href="mailto:adacosta@mtu.edu">adacosta@mtu.edu</a></p> <p><b>Prakhar Prakash<sup>o</sup></b> <a href="mailto:Prakhar.Prakash@chevron.com">Prakhar.Prakash@chevron.com</a></p> <p><b>Boya Xiong<sup>o</sup></b> <a href="mailto:bxiong@umn.edu">bxiong@umn.edu</a></p>	<p><b>Vicky Karanikola</b> <a href="mailto:vkaranik@email.arizona.edu">vkaranik@email.arizona.edu</a></p> <p><b>Jack Gilron</b> <a href="mailto:jgilron@bgu.ac.il">jgilron@bgu.ac.il</a></p>	<p><b>David Ladner</b> <a href="mailto:ladner@clemson.edu">ladner@clemson.edu</a></p> <p><b>Grigorios Panagakos</b> <a href="mailto:gpanagak@andrew.cmu.edu">gpanagak@andrew.cmu.edu</a></p>
2:00 PM	<p><b>Oral 151 - Interfacial Polymerization Kinetics: New Insights On Film Formation Using In-Situ Microscopy And Particle-Tracking</b> Adi Ben Zvi (Technion - Israel Institute Of Technology)</p>	<p><b>Oral 157 - Fouling-Resistant Membranes With Tunable Pore Size Fabricated Using Cross-Linkable Copolymers With High Zwitterion Content</b> Samuel J Louder (Tufts University)</p>	<p><b>Oral 163 - Development Of Highly Selective Biocatalytic Membrane Reactors For The Degradation Of Pesticides</b> Lidietta Giorno (National Research Council Of Italy)</p>	<p><b>Oral 169 - Electroconductive Filters And Membranes: Future For Desalination And Wastewater Treatment</b> Swatantra Pratap Singh (Indian Institute Of Technology Bombay)</p>	<p><b>Oral 175 - Computational Fluid Dynamics (CFD) Modeling Of 3D-Printed Spacers And Patterned Membranes In Reverse Osmosis And Nanofiltration Modules</b> David Ladner (Clemson University)</p>
2:30 PM	<p><b>Oral 152 - A Solution-Diffusion With Defects Model To Explain Pressure-Dependent Membrane Permeability In Pressure Retarded Osmosis</b> Zachary Binger (The University Of Arizona)</p>	<p><b>Oral 158 - Combined In-Situ Imaging And CFD To Unravel The Scaling Mechanism In Membrane Distillation Of High Salinity Brine</b> Mahdi Malmali (Texas Tech University)</p>	<p><b>Oral 164 - Negative Rejection In Polyelectrolyte Multilayer Nanofiltration Membranes For Selective Ion Recovery</b> Brielle Januszewski (Yale University)</p>	<p><b>Oral 170 - Chlorination And Autopsy Of Fouled Engineering-Scale Reverse Osmosis Membranes</b> Bianca M. Souza Chaves (The University Of Arizona)</p>	<p><b>Oral 176 - Effect Of Packing Nonuniformity On The Performance Of Hollow Fiber Membrane Gas Separation Modules Fabricated From Fiber Tows</b> Glenn Lipscomb (University Of Toledo)</p>
3:00 PM	<p><b>Oral 153 - Elucidating The Roles Of Polyamide Layer Structural Properties In The Permeability-Selectivity Tradeoff Governing Aqueous Separations</b> Xi Chen (Stanford University)</p>	<p><b>Oral 159 - Fouling As An Opportunity: Exploiting The Properties Of Ultrathin Membranes To Make Fouling-Based Sensors</b> James Mcgrath (University Of Rochester)</p>	<p><b>Oral 165 - Mxene-Functionalized Thin-Film Composite Membranes For PFAS Removal From Water</b> Tin Le (The University Of Alabama)</p>	<p><b>Oral 171 - A Balanced-Charged Polyelectrolyte Complex Nanofiltration Membrane: Mitigating Scaling In Effluents Desalination</b> Hao Huang (Ben Gurion University Of The Negev)</p>	<p><b>Oral 177 - Examining The Impact Of Acid Strength On Process Efficiency And Product Usability In Ammonia Recovery From Wastewater Using Membrane Contactors</b> Abhishek Dutta (University Of British Columbia)</p>
3:30 PM	<p><b>Oral 154 - The Significance Of Membrane Charge And Co-Ion Partitioning In Determining Salt Transport Through Reverse Osmosis Membranes</b> Li Wang (Yale University)</p>	<p><b>Oral 160 - Reactive Reverse Osmosis Membranes For Dissolved Silica Antifouling And Concentration Polarization Reduction By Catalytic Degradation Of Hydrogen Peroxide</b> Weiliang Bai (University Of Texas At Austin)</p>	<p><b>Oral 166 - Graft Polymerization Using Oppositely Charged Monomers On NF Membrane For The Efficient Removal Of Carbamazepine From Wastewater Effluents</b> Brhanu Kelali Desta (Ben-Gurion University Of The Negev)</p>	<p><b>Oral 172 - Degradation Of Polyamide Thin Film By Chlorine And Peracetic Acid: A Combined QCM-D And AFM Study</b> Tashfia M Mohona (University At Buffalo)</p>	<p><b>Oral 178 - Accelerating The Optimization Of Turbulence-Promoting Spacers Using Computational Fluid Dynamics, Surrogate Modeling, And Machine Learning</b> Zachary Binger (The University Of Arizona)</p>
4:00 PM	<p><b>Oral 155 - Forward Osmosis And Freeze Concentration For Mining And Metals Effluents</b> Noel Devaere (University Of Toronto)</p>	<p><b>Oral 161 - Scalable Antifouling Membranes Via Zwitterionic Polymer Brushes: Examining The Roles Of Brush Thickness And Density</b> Allyson L Mcgaughey (Princeton University)</p>	<p><b>Oral 167 - Modeling Of RO System Water Treatment Operation For Nitrate And Salt Removal Using Long-Short Term Memory (LSTM) Machine Learning Model With Attention Coefficient</b> Yoram Cohen (University Of California, Los Angeles)</p>	<p><b>Oral 173 - Solute-Solute Selectivity In Membrane Separation: Definition, Measurement, And Process Scale Evaluation</b> Ruoyu Wang (Vanderbilt University)</p>	<p><b>Oral 179 - Flow Dynamics In A Spacer-Filled Membrane Distillation Channel</b> Mahdi Malmali (Texas Tech University)</p>
4:30 PM	<p><b>Oral 156 - Predicting Efficiency And Elucidating Mechanisms For Organic And Inorganic Compound Removal By Reverse Osmosis And Nanofiltration Membranes Using Machine Learning</b> Nohyeong Jeong (Colorado State University)</p>	<p><b>Oral 162 - Raman Chemical Fingerprints For Real-Time Detection Of Membrane Fouling</b> Danielle Park (University Of Colorado Boulder)</p>	<p><b>Oral 168 - Nanofiltration And Temperature Swing Reverses Osmosis For The Removal Of Herbicide 2-Methyl-4-Chlorophenoxyacetic Acid (MCPA) From Saline Industrial Wastewater</b> Mikel Duke (Victoria University, Melbourne)</p>	<p><b>Oral 174 - Effect Of Pore Defects On Membrane Rejection In Pilot-Scale Membrane Distillation</b> Mukta Hardikar (The University Of Arizona)</p>	<p><b>Oral 180 - Organic Matter Removal For Reverse Osmosis Fouling Mitigation: From Lab Prototype And Numerical Simulation To Pilot Plant</b> Yunqiao Ma (Nanyang Technological University)</p>

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