

The International Conference on Desalination and
Environmental Sustainability
IDEAS 2024

AGENDA

Day 1: Monday, January 22nd

8:00 - 8:30am	BREAKFAST		
8:30 - 9:00am	REGISTRATION		
9:00 - 9:30am	WELCOMING REMARKS & INTRODUCTION Chairs Welcome, Nidal Hilal Opening Remarks, Mariët Westermann		
9:30 - 10:30am	PLENARY SPEAKER: Chair: Nidal Hilal Water SHED ³ S: Securing Humans and Economies through Data, Desalination, and Decision Science Mohammad Khaleel , Oak Ridge National Laboratory, United States of America		
10:30 - 11:00am	COFFEE BREAK and POSTER PRESENTATIONS		
11:00 - 12:15pm	SESSION I: Desalination Technology Chair: Raed Hashaikeh; Co-Chairs: Olawale Makanjuola, Jamaliah Aburabie	11:00 - 12:15pm	SESSION II: Water Treatment and Reuse Chair: Ali Trabolsi; Co-Chairs: Asmaa Jrad, Muzamil Khatri
11:00 - 11:45am	Keynote Speaker <i>Engineered polymeric membranes for desalination by membrane distillation: Environment, sustainability and circular economy contribution</i> Mohamed Khayet , Complutense University of Madrid, Spain	11:00 - 11:45am	Keynote Speaker <i>The polymer surfactant aggregate process for the selective recovery of copper (II) from iron (III) in aqueous streams</i> Nick Hankins , The University of Oxford, United Kingdom
11:45 - 12:15pm	Invited Speaker <i>Assessment of Thin Film Composite (TFC) Reverse Osmosis (RO) Membranes Using Advanced Mechanical Testing</i> Marwan Khraisheh , Texas A&M University at Qatar, Qatar	11:45 - 12:15pm	<i>Sustainable use of natural and synthetic apatites from phosphate industry in wastewater treatment</i> Hiba Bensalah , Technische Universität Berlin, Germany
12:15 - 1:30pm	LUNCH	12:15 - 1:30pm	LUNCH

1:30 - 3:00pm **SESSION I (Continued): Desalination Technology**
 Chair: Mohamed Khayet; Co-Chairs: Yazan Ibrahim, Farah Ahmed

1:30 - 2:00pm *Impact of operating temperature on osmotic pressure at the surface of RO membranes with high degree of rejection*
Daniel Oganessian, Dubai Electricity and Water Authority, United Arab Emirates

2:00 - 2:30pm *Integrated Adsorption Desalination & Refrigeration System Coupled to Cold Storage for Simultaneous Production of Freshwater & Refrigeration*
Gayatri Sundar Rajan, University of Oxford, United Kingdom

2:30 - 3:00pm *Investigating the Scaling Potential of Reverse Osmosis Desalination Plant in Kuwait at Different Recovery Ratios to Minimize the Reject Brine*
Yousef Alqahs Alanezi, The Public Authority for Applied Education and Training, Kuwait

3:00 - 3:30pm **COFFEE BREAK and POSTER PRESENTATIONS**

3:30 - 5:00pm **SESSION I (Continued): Desalination Technology**
 Chair: Daniel Johnson; Co-Chairs: Sandra Aristizabal, Haya Nassrullah

3:30 - 4:00pm *Concentration of RO desalination brine using Air-Gap Membrane Distillation: A Pilot study*
Ghaiath Almustafa, Dubai Electricity and Water Authority, United Arab Emirates

4:00 - 4:30pm *An indepth investigation of a water desalination plant using artificial neural network modeling prediction technology*
Rajesh Mahadeva, Khalifa University, United Arab Emirates

4:30 - 5:00pm *Improved Forward Osmosis Performance Using Mixed Draw Solution*
Hadel El Agamawi, UAE University, United Arab Emirates

1:30 - 3:00pm **SESSION II (Continued): Water Treatment and Reuse**
 Chair: Nick Hankins; Co-Chairs: Raed Al-Juboori, Asmaa Jrad

1:30 - 2:00pm *Simulation of the Electronic Properties and Adsorption Performance of g-C3N4, and g-C3N4/Graphene Nanocomposite Materials for the Removal of Acetaminophen*
Qusai Ibrahim, Atlantic Technological University Sligo, Ireland

2:00 - 2:30pm *Electrified Ti3C2Tx Membranes: A Sustainable Approach to Microplastic Fouling Mitigation in Water Treatment*
Mariam Ouda, Khalifa University of Science and Technology, United Arab Emirates

2:30 - 3:00pm *Monitoring microplastics contamination in water bodies using a home-built micro-Raman spectroscopic setup*
Jijo Lukose, Manipal Academy of Higher Education, India

3:00 - 3:30pm **COFFEE BREAK and POSTER PRESENTATIONS**

3:30 - 5:00pm **SESSION III: Environmental Sustainability**
 Chair: John Burt; Co-Chairs: Imran Shafi, Dmitrii Petukhov

3:30 - 4:15pm **Keynote Speaker**
Water, Water Everywhere, Not Any Drop to Drink: What can we do about it?
Iqbal Mujtaba, University of Bradford, United Kingdom

4:15 - 5:00pm **Keynote Speaker**
 The interaction between desalination, climate and the environment in the Arabian Gulf: double materiality of impacts and risk
Will Le Quesne, Centre for Environment, Fisheries & Aquaculture Science, United Kingdom

Session I – Room No. 007 Lecture Hall

Session II – Room No. 009 Board Room

Location: A6 Building, NYUAD Campus, Saadiyat Island, Abu Dhabi UAE

Organizers: NYUAD Water Research Institute

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AGENDA

Day 2: Tuesday, January 23rd

8:30 - 9:00am	BREAKFAST		
9:00 - 10:15am	SESSION III: Membranes for Water Treatment Chair: Farah Ahmed; Co-Chairs: Neveen AlQasas, Raed Al-Juboori	9:00 - 10:30am	SESSION IV: Environmental Sustainability Chair: John Burt; Co-Chairs: Daniele D'Agostino, Lucia Gastoldi
9:00 - 9:45am	Keynote Speaker <i>Toward a more sustainable approach for producing Membrane Distillation (MD) Membranes</i> Alberto Figoli , Institute of Membrane Technology, Italy	9:00 - 9:45am	Keynote Speaker <i>Water Environment Nexus - Environmental Sustainability</i> Bernhard Riegl , Nova Southeastern University, United States of America
9:45 - 10:15am	<i>Characterization of potential fouling factors via monitoring dielectric property of RO feed: A Case Study</i> Fahed Ebisi , Dubai Electricity and Water Authority, United Arab Emirates	9:45 - 10:30am	Keynote Speaker <i>Small Molecules, Big Impact: Capture of Carbon Dioxide and Water in Cyclobenzoin Crystals</i> Ognjen Miljanic , Houston University, United States of America
10:15 - 11:00am	COFFEE BREAK & POSTER PRESENTATIONS	10:30 - 11:00am	COFFEE BREAK & POSTER PRESENTATIONS
11:00 - 12:30pm	SESSION III: Membranes for Water Treatment Chair: Raed Al-Juboori; Co-Chairs: Daniil Golubenko, Dmitrii Petukhov	11:00 - 12:15pm	SESSION IV: Environmental Sustainability Chair: Daniel Johnson; Co-Chairs: Neveen AlQasas, Asmaa Jrad
11:00 - 11:30am	<i>Development of Reliable Fouling Prediction Model for Membrane Distillation</i> Areej Abdulsalam , Khalifa University of Science and Technology, United Arab Emirates	10:45 - 11:30am	Keynote Speaker Porous Organic Polymer Nanotraps for Water Purification Shengqian Ma , University of North Texas, United States of America
11:30 - 12:00pm	<i>Utilizing Zwitterionic Polydopamine for Enhanced Antifouling Performance in Ultrafiltration Systems</i> Roqaya Ismail , University of Khorfakkan, United Arab Emirates	11:30 - 12:15pm	Invited Speaker <i>Synthesis and Utilization of Brucite for Green Construction from Desalination Reject Brine: A Comprehensive Life Cycle Analysis</i> Kemal Celik , New York University Abu Dhabi, United Arab Emirates
12:00 - 12:30pm	<i>Alternative heating techniques – step towards sustainable MD?</i> Farah Ahmed , New York University Abu Dhabi, United Arab Emirates		

12:30 - 1:30pm

LUNCH

12:15 - 1:30pm

LUNCH

1:30 - 3:30pm

SESSION III (Continued): Membranes for Water Treatment

Chair: Raed Hashaikheh; Co-Chair: Neveen AlQasas, Muzamil Khatri

1:30 - 3:30pm

SESSION IV (Continued): Environmental Sustainability

Chair: Ali Trabolssi; Co-Chairs: Noman Khanzada, Imran Shafi

1:30 - 2:00pm

The potency of ultrasound technology for pharmaceutical degradation in Wastewater and its efficient combination with membrane technologies

Raed Al-Juboori, New York University Abu Dhabi, United Arab Emirates

1:30 - 2:00pm

Invited Speaker

Long-term, basin-scale salinity impacts from desalination in the Arabian/Persian Gulf

Francesco Paparella, New York University Abu Dhabi, United Arab Emirates

2:00 - 2:30pm

Fabrication and Performance Evaluation of Self-standing Electrically Conductive Nanofiltration Membranes Based on Carbon Nanostructures for Desalination

Haya Nassrullah, New York University Abu Dhabi, United Arab Emirates

2:00 - 2:30pm

Innovation in Desalination Brine: A Novel Waste to Resource Generation

Vinay Gupta, Khalifa University, United Arab Emirates

2:30 - 3:00pm

Improving Ultrafiltration Membrane Performance by Integrating Feed Spacers into Membrane Surfaces through Surface Patterning Techniques

Yazan Ibrahim, New York University Abu Dhabi, United Arab Emirates

2:30 - 3:00pm

Valorizing Desalination Brine through Green Cement Production to Mitigate CO2 Emissions

Omar Daoud, University of Oxford, United Kingdom

3:00 - 3:30pm

CLOSING REMARKS

6:00 pm - onwards

GALA DINNER

Session III – Room No. 007 Lecture Hall

Session IV – Room No. 009 Board Room

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