The International Desalination Association (IDA) is the point of connection for the world’s desalination and water reuse community. As the world’s leading global organization dedicated to the advancement of desalination, desalination technology and water reuse, IDA brings together people, knowledge, and ideas with the goal of ensuring that the world will have access to a sustainable supply of fresh water.

For more than 49 years, IDA has served as the global hub of expertise, news and information, and professional development for the global desalination industry. Its members include the world’s leaders in desalination and reuse including end-users, and researchers representing governments, corporations, and academia. A non-profit organization, IDA is associated with the United Nations as part of a growing international network of non-governmental organizations (NGOs). IDA views desalination and reuse as critical aspects of the solution to address the world’s water problems and advocates their use to provide a reliable and sustainable source of fresh water in all parts of the globe. To this end, IDA supports the development of technological solutions that enhance energy efficiency, lower costs and promote environmental stewardship.
IDA Sustainable Water Resources Foundation (SWRF)

"With a continuously growing population, innovative water strategies must rise to meet the increasing demand for clean water."

IDA’s Sustainable Water Resources Foundation (SWRF), a 501(c)(3) organization, promotes creative solutions to the world’s most pressing water challenges. With a continuously growing population, innovative water strategies must rise to meet the increasing demand for clean water. SWRF promotes this innovation by advocating clean energy solutions, fostering collaboration among professionals, and supporting educational programs and projects concerning the nexus of water, energy, food, and the environment.

In the face of increasing demands for water, exponential population growth, and a changing climate, our water needs have never been greater. The United Nations, alongside the IDA SWRF, prioritizes clean water and sanitation as one of the essential Sustainable Development Goals. Water touches every aspect of human life. It is the nexus where agriculture needs meet human rights and gender equality meets urban planning. Recognizing the mounting challenges of water needs, the SWRF seeks to build a future in which development and responsibility come hand in hand and water is a ubiquitous human right.

For more information, visit:
http://www.idaswrf.org/

For more information, visit:
http://www.idaswrf.org/
IDA Board Members (Elected & Appointed)

Term 19
- Hon. Fatma Awale, Mombasa County, Ministry of Water
- Mr. Borja Blanco, Aqua Advise
- Mr. Carlos Cosín, Almar Water Solutions
- Mr. Jose Diaz Caneja, ACCIONA
- Mr. Jon Freedman, SUEZ WT&S
- Mr. Rachid Chamaoui, Besix
- Mr. Mounib Hatab, Future Pipe Industries
- Mr. Mohamad Jaroudi, Future Pipe Industries Qatar
- Ms. Jantje Johnson, OrangeBoat
- Mr. Fady Juez, Metito Overseas Ltd.
- Mr. Youqiang Li, Harbin ROPV Industrial
- Prof. John H. Lienhard V, Massachusetts Institute of Technology (MIT)
- Mr. Imad Makhlouzmi, ENOIA
- Ms. Shannon McCarthy, IDA
- Mr. Silvio Oliva, Fisia Italimpianti
- Mr. Johnny Obeid, Veolia Water Technologies
- Mr. Juan Miguel Pinto, Energy Recovery
- Ms. Menatalla Sadek, Hassan Allam Utilities
- Mr. Miguel Angel Sanz, Independent Consultant
- Mr. Tim Lam Shing, Water Supplies Department, Hong Kong Government
- Mr. Devesh Sharma, Aquatech International
- Mr. Alejandro Sturniolo, H2O Innovation
- Mr. Victor Verbeek, Toray Membranes
- Dr. Domingo Zarzo Martinez, SACYR

Term 20
- Eng. Abdullah Alzowaid, Saline Water Conversion Corporation (SWCC)
- Mr. Carlos Cosín, Almar Water Solutions
- Ms. Shannon McCarthy, IDA
- Dr. Gonzalo Delacámara, IE University
- Mr. José Díaz-Caneja, ACCIONA
- Mr. Jon Freedman, SUEZ WT&S
- Mr. Mounib Hatab, Future Pipe Industries
- Dr. Hoon Hyung, LG Water Solutions
- Mr. Mohamad Jaroudi, Future Pipe Industries Qatar
- Mr. Johnny Obeid, Veolia Water Technologies
- Mr. Silvio Oliva, Fisia Italimpianti S.p.A.
- Mr. Miguel Angel Sanz, Independent Consultant
- Mr. Devesh Sharma, Aquatech International
- Mr. Alejandro Sturniolo, H2O Innovation
- Mr. Gavin Van Tonder, NEOM Water
- Mr. Victor Verbeek, Toray Membranes
- Mrs. Marta Verde, GS Inima
IDA Special Advisory Committees

**Public-Private Utilities**

**Chairman:**
H.E. Eng. Khaled Al Qureshi, CEO of Saudi Water Partnership Company

**Co-Chairs:**
Mr. Fermin Lopez, Acuamed
Mr. Alejandro Sturniolo, H2O Innovation, IDA Board Member

**Industrial Water**

**Chairman:**
Mr. Devesh Sharma, Aquatech International / IDA Board Member

**Co-Chair:**
Mr. Robert Owens, Bechtel

**Financial Institutions**

**Co-Chairs:**
Mrs. Julie Carles, IFC
Mr. Rami Ghandour, Metito
Mr. Bastien Simeon, Amane Advisors

**Legal Firms**

**Co-Chairs:**
Mr. Fernando Bernard, Cuatrecasas
Mr. Miguel Riano, Herbert Smith Freehills
Mr. Eduardo Orteu Berrocal, Gómez- Acebo & Pombo
IDA Affiliates

The International Desalination Association (IDA) has a network of regional and association affiliate members from around the world. We are pleased to be associated with the following organizations and their representatives who are on our Board of Directors.

Regional Affiliate Board Members

- **AEDyR**
  - Mr. Antonio Casañas

- **AMTA**
  - Dr. Mike Dixon
  - Mr. Greg Wetterau
  - Mrs. Olga Sallangos
  - Mr. Ziad Salibi
  - Mr. Antonio Casañas
  - Mrs. Olga Sallangos
  - Mr. Ziad Salibi

- **CaribDA**
  - Dr. Giancarlo Barassi

- **European Desalination Society**
  - Dr. Guoling Ruan
  - Mr. Antonio Casañas
  - Mrs. Olga Sallangos
  - Mr. Ziad Salibi
  - Mr. Antonio Casañas
  - Mrs. Olga Sallangos
  - Mr. Ziad Salibi

- **JDA**
  - Mr. Lionel Quezada
  - Dr. S.P. Chaurasia

- **Levant Desalination Association**
  - Mr. Lionel Quezada
  - Dr. S.P. Chaurasia

- **Membainc**
  - Mr. Hew M. Leong
  - Mr. Chew Men Leong

- **SIWA**
  - Mr. Chew Men Leong

Association Affiliate Board Members

- **Levant Desalination Association**
  - Mr. Lionel Quezada

- **Korea Desalination Plant Association**
  - Mr. Han Seong-Yong

- **Membainc**
  - Mr. Chew Men Leong

- **SIWA**
  - Mr. Chew Men Leong

- **SIWA**
  - Mr. Chew Men Leong

- **SIWA**
  - Mr. Chew Men Leong

- **SIWA**
  - Mr. Chew Men Leong
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IDA Leaders Summit Tuesday, 11 October 2022
Schedule

Special Programs
Innovation Forum Thursday, 13 October 2022
YLP Round Table Wednesday, 12 October 2022
Sydney Desalination Plant Tour Friday, 14 October 2022
UNESCO Centre for Membrane Science and Technology at UNSW Tour Friday, 14 October 2022

Awards
Industry and Sustainability Awards
Technical Paper Awards
Special Awards

Exhibition
Exhibitors
Exhibitor Listing
About the Congress
Message from the President of IDA

Dear colleagues,

It has been my honor to serve as IDA President; a term noted to be probably the most extended term in IDA history due to the complex situation we have faced caused by the COVID pandemic.

But it is precisely for this reason I am extremely happy to see the great support from all the members, partners, and affiliates for the organization in our World Congress in Sydney in the coming October 22. This congress will be a record in the number of sponsors, which shows the significant interest in the sector, and I hope it will also be reflected in the number of attendees.

We have many reasons to be proud of the progress the market has developed; the growth rates in Installed capacity of Non-conventional water resources (Reuse and Desalination) have reached a new record during 2021 not only by the number of plants but also in size and capacity. On top of this, the UN has recognized
in its latest report an important statement about Desalination and Water reuse as key tools to generate new water resources to fight against climate change and try to keep Natural water resources from rivers, lakes, aquifers as a big reservoir for the natural water balance and reservoir for future generations.

With this trend in mind in the sector from IDA, we have prepared with illusion and hard work and a special congress with many new disruptive ideas to be discussed, complementing the big effort to have a wide list of technical sessions and papers showing the most advanced technologies but also as new topics how a new driver “the green hydrogen production from water“ could change the sector in the future or new interesting subjects bringing on board for our the Advisory Committee with new legal, financial, governance or utilities angles and visions.

As IDA President, I want to invite all of you to participate with us in this particular moment in the sector and share with us your ideas and projects and enrich the debates we are preparing with care.

I look forward to welcoming you to the IDA World Congress in Sydney!

Mr. Carlos Cosin, President of IDA
Dear colleagues,

Welcome!

Here we are, finally in spectacular Sydney, for the International Desalination Association’s flagship event, widely recognized as the premier event on advanced water treatment solutions through desalination and water reuse. It’s terrific to return to Australia a decade after Perth’s 2011 IDA World Congress.

IDA World Congress 2022 will consist of dynamic panel discussions, an excellent technical program, keynote presentations, an industry-driven exhibition, unparalleled networking opportunities, and specialized workshops. Global attendance from public and private sector leaders, researchers, and academics in desalination, water reuse, energy, environment, and project finance will provide knowledge-sharing and discussion opportunities for participants on many technical and business topics that explore what is needed to ensure
a secure water future. We will also welcome the new board of directors for Term 20 and announce our host for the IDA World Congress 2024.

First held in 1987, the IDA World Congress has been a global meeting point for promoting the appropriate use of desalination and water reuse technologies as a critical part of addressing the world’s freshwater shortages. The theme of the 2022 World Congress is Charting Resilient Water Solutions to secure a sustainable future that efficiently meets the growing water demand causing threats to water security and the increasing frequency and severity of droughts resulting from climate change.

Thanks to the IDA Team and the IDA World Congress Technical Program Committee for their hard work and dedication. A special thank you to our members, sponsors, partners, and each delegate for your support of the IDA as we begin the celebrations in anticipation of her fiftieth anniversary in 2023!

Yours sincerely,

Ms. Shannon McCarthy, IDA Secretary General
Congress Sponsors

TITANIUM SPONSOR

المؤسسة العامة لتحويل المياه المالحة
Saline Water Conversion Corporation (SWCC)

PLATINUM SPONSOR

الشركة السعودية لشباكات المياه
Saudi Water Partnership Company

PREMIUM GOLD SPONSOR

METITO

GOLD SPONSORS

OUTBACK THEATER SPONSOR

SILVER SPONSORS
ABOUT THE CONGRESS

PREMIUM BRONZE SPONSORS

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Suez

BRONZE SPONSORS

GS Inima  
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Challenging today. Reinventing tomorrow.

RUHRPUMPEN  
Veolia  
lantania  
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Acciona  
OriginWater

YLP SPONSORS

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LG Chem

TECHNICAL SESSION SPONSOR

ILP Consulting Engineers

INNOVATION FORUM SPONSORS

aqualia

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CARAMONDANI  
desalination plants

EVENT SPONSOR

WATER CORPORATION

PLANT TOUR SPONSOR

Sydney Desalination
Institutional Partners, Regional Affiliates & Media Partners

INSTITUTIONAL PARTNERS

NSW Government

BUSINESS EVENTS AUSTRALIA

BUSINESS EVENTS SYDNEY

ENDORSED BY

Sydney WATER

Centre for Membranes, Membrane Technology and Applications

AUSTRALIAN WATER ASSOCIATION

UTS UNIVERSITY OF TECHNOLOGY SYDNEY

MEDIA PARTNERS

Sydney Desalination Plant

Filtration Separation

SMART WATER & WASTE

QWI - WATER IS OUR CONCERN

RptaT

SUPPORTING PARTNERS

Water Reuse

Water Services Association of Australia
Venue Information

CONVENTION CENTRE
The main entrance to the Convention Centre can be found at the northern end of ICC Sydney, closest to Cockle Bay (Darling Harbour) and Harbourside Shopping Centre. The closest drop off and taxi zone address is Iron Wharf Place. The closest light rail stop is Convention stop, and the closest train station is Town Hall.

EXHIBITION CENTRE
Exhibition Centre is located between Convention Centre and Aware Super Theatre (formerly First State Super Theatre). There are two entrances to the Exhibition Centre. The main entrance is located closest to the Convention Centre followed by a second entrance is via escalators or lifts closest to Aware Super Theatre and Moriarty Walk. Exhibition Centre is walking distance from both Town Hall and Central Station. The closest light rail stops are Exhibition stop and Convention stop.
Master Schedule
## Pre-Congress

### Sunday, 9 October 2022

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>07:00-17:00</td>
<td>Construction of Exhibition Floor</td>
<td>Exhibition Hall 5-6</td>
</tr>
<tr>
<td>10:00-17:00</td>
<td>Delegate Registration Open</td>
<td>Exhibition Hall 5-6</td>
</tr>
<tr>
<td>13:00-14:00</td>
<td>Technical Program Meeting</td>
<td>Room E3.1 &amp; E3.2, Exhibition Hall 5-6</td>
</tr>
<tr>
<td>15:00-16:00</td>
<td>Term 19 Outgoing Board Meeting</td>
<td>Meeting Room E3.1 &amp; E3.2, Exhibition Hall 5-6</td>
</tr>
<tr>
<td>16:00-17:00</td>
<td>Term 20 Incoming Board Meeting</td>
<td>Meeting Room E3.1 &amp; E3.2, Exhibition Hall 5-6</td>
</tr>
<tr>
<td>18:00-20:30</td>
<td>Welcome Reception on the Jackson Sydney Harbour (Fully Registered Delegates Only). Boarding at Pyrmont Bridge near ICC Sydney, 17:45 sharp, vessel leaves at 18:30</td>
<td></td>
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</tbody>
</table>

## Congress - Day 1

### Monday, 10 October 2022

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>07:00-17:00</td>
<td>Delegate Registration Opens</td>
<td>Exhibition Hall 5-6</td>
</tr>
<tr>
<td>07:30-08:15</td>
<td>Co-Chairs &amp; Presenters of the Day (Only) Breakfast Meeting</td>
<td>Lunchroom Hall 5-6</td>
</tr>
<tr>
<td>07:30-08:15</td>
<td>VIP Breakfast Meeting – Opening Plenary Speakers (Only)</td>
<td>Grand Ballroom, Convention Center Building</td>
</tr>
<tr>
<td>08:30</td>
<td>Opening Ceremony</td>
<td>Grand Ballroom, Convention Center Building</td>
</tr>
</tbody>
</table>
08:30-09:30 Welcome Remarks and Keynote Presenters
- Ms. Shannon McCarthy, IDA Secretary General
- Mr. Gumaroy Newman, Australian Welcome to Country
- Hon. Minister Tanya Plibersek MP, Minister for the Environment and Water, Australia (special remarks)
- Hon. Secretary John F. Kerry, Special Presidential Envoy for Climate Change, USA (special remarks)
- Hon. Sebastián Piñera Echenique, Former President of Chile (special remarks)
- Mr. Carlos Cosín, IDA President, CEO, Almar Water Solutions
- H.E. Abdullah Ibrahim Al-Abdulkarim, Governor of Saudi Water Conversion Corporation
- Mrs. Louise Dudley, AWA President
- Mr. Fady Juez, IDA World Congress Site Selection Committee Chairman, Managing Director, Metito

09:30-10:00 Passing of the WC Flag

10:00-11:00 Australian Story
An Interactive Session on Australian Advanced Water Treatment, both Sea Water Desalination and Reuse
Moderators:
- Mr. Neil Palmer, Chief Technical Officer, Osmoflo
- Ms. Corinne Cheeseman, CEO, Australian Water Association
- Mr. Gary Crisp, Principal Integrated Water Cycle Planning, Water Corporation
Panelists:
- Mr. Julien Tauvry, Operations Manager, Water Sure Plant Director, Victorian Desalination Plant Project
- Mr. Scott Murphy, Manager Operational Excellence, Veolia Australia and New Zealand
- Dr. Veronique Bonnelye, Process Coordinator, SUEZ Treatment Infrastructures
- Mr. Evan Hambleton, Assets Planning & Delivery Manager, Water Corporation
- Mrs. Eva Jalon, CEO, Sacyr Water
- Mr. Javier Artal, Plant Manager, Adelaide Desalination Plant
- Mr. Scott Chalmers, Eastern Regional Manager, Osmoflo
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
</table>
| 11:05-11:10| IDA Moonshot: Desalination by Atomic Power  
Professor John H. Lienhard V, Massachusetts Institute of Technology |
| 11:10-11:15| IDA Moonshot: Being Water Positive  
Mr. Alejandro Sturniolo, Global Head of Water Reuse & Strategic Partnerships, H2O Innovation |
| 11:15-11:20| IDA Moonshot: The Future of Water  
Gavin Van Tonder, Water Sector Head, NEOM |
| 11:20-11:25| Congress Overview  
Dr. Mike Dixon, Technical Committee Chairman, CEO, Synauta |
| 11:45      | Ribbon Cutting Ceremony and Exhibition Opening/VIP Walkthrough  
Exhibition Hall 5-6 |
| 11:50-14:00| Lunch Break  
Lunchroom Exhibition Hall 5-6 |
| 14:00-17:30| Outback Discussion Program  
Outback Theater Exhibition Hall 5-6 |
| 14:00-18:20| Technical Program - 4 Parallel Sessions  
Exhibition Hall Theaters 1-4 |
| 15:30-16:00| PM Refreshment Break  
Exhibition Hall 5-6 |
| 18:30-19:45| Cocktail Reception  
Grand Ballroom Convention Center Building |
| 19:45-22:00| Gala Dinner and Awards Ceremony  
Grand Ballroom Convention Center Building |

**Congress - Day 2**

**Tuesday, 11 October 2022**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
</table>
| 07:30-15:00| Delegate Registration / Information Desk Open  
Exhibition Hall 5-6 |
| 07:30-08:15| Co-Chairs & Presenters of the Day (Only) Breakfast Meeting  
Lunchroom Hall 5-6 |
### Congress - Day 3

**Wednesday, 12 October 2022**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
</table>
| 07:30-08:15 | Leaders Summit Speakers Meeting  
*Meeting Room, Foyer outside of E5.2 &.3, Exhibition Hall level 5* |                                                   |
| 08:30-17:30  | Outback Discussion Program  
*Outback Theater Exhibition Hall 5-6* |                                                   |
| 08:30-18:00  | Exhibition Hall 5-6 Open                                                                 |                                                   |
| 08:30-17:30  | Technical Program - 4 Parallel Sessions  
*Exhibition Hall Theaters 1-4* |                                                   |
| 09:00-17:30  | Leaders Summit  
*E5.2 &.3, Exhibition Hall level 5* |                                                   |
| 10:30-11:00  | Refreshment Break  
*Exhibition Hall 5-6* |                                                   |
| 13:00-14:00  | Lunch Break  
*Lunchroom Hall 5-6* |                                                   |
| 14:00-17:30  | Outback Discussion Program  
*Outback Theater Exhibition Hall 5-6* |                                                   |
| 15:30-16:00  | Refreshment Break  
*Exhibition Hall 5-6* |                                                   |
| 18:30-20:30  | Leaders Summit Reception  
(invitation only) |                                                   |
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:30-17:30</td>
<td>Technical Program - 4 Parallel Sessions</td>
<td>Exhibition Hall Theaters 1-4</td>
</tr>
<tr>
<td>09:00-18:00</td>
<td>Exhibition Hall 5-6 Open</td>
<td></td>
</tr>
<tr>
<td>10:30-11:00</td>
<td>Refreshment Break</td>
<td>Exhibition Hall 5-6</td>
</tr>
<tr>
<td>13:00-14:00</td>
<td>Lunch Break</td>
<td>Lunchroom Hall 5-6</td>
</tr>
<tr>
<td>15:30-16:00</td>
<td>Refreshment Break</td>
<td>Exhibition Hall 5-6</td>
</tr>
<tr>
<td>16:00-17:00</td>
<td>YLP Round Table Session</td>
<td>Lunchroom Exhibition Hall 5-6</td>
</tr>
<tr>
<td>17:30-18:30</td>
<td>IDA Membership Meeting</td>
<td>Outback Theater Exhibition Hall 5-6</td>
</tr>
<tr>
<td>18:30-19:30</td>
<td>Term 20 Board Meeting</td>
<td>Room E3,1 &amp; 2</td>
</tr>
</tbody>
</table>

**Congress - Day 4**

**Thursday, 13 October 2022**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>07:30-08:15</td>
<td>Co-Chairs &amp; Presenters of the Day (Only) Breakfast Meeting</td>
<td>Lunchroom Hall 5-6</td>
</tr>
<tr>
<td>08:30-15:00</td>
<td>Exhibition Hall 5-6 Open</td>
<td></td>
</tr>
<tr>
<td>09:00-12:00</td>
<td>Information Desk Open</td>
<td>Exhibition Hall 5-6</td>
</tr>
<tr>
<td>08:30-17:30</td>
<td>Outback Discussion Program</td>
<td>Outback Theater Exhibition Hall 5-6</td>
</tr>
<tr>
<td>09:00-12:30</td>
<td>Technical Program - 4 Parallel Sessions</td>
<td>Exhibition Hall Theaters 1-4</td>
</tr>
<tr>
<td>10:30-11:00</td>
<td>Refreshment Break</td>
<td>Exhibition Hall 5-6</td>
</tr>
</tbody>
</table>
04 MASTER SCHEDULE

13:00-15:00 Closing Luncheon and Technical Program Awards
   *Lunchroom Exhibition Hall 5-6*

15:30 Exhibition Hall 5-6 Breakdown

Congress - Day 5

Friday, 14 October 2022

08:30-12:30 Sydney Desalination Plant Tour

10:00-11:30 UNESCO Centre for Membrane Science and Technology at UNSW Tour
Technical Program & Schedule
Message on behalf of the WC Technical Program Chairmen

At long last, after several delays due to Covid, it is with great excitement I now welcome you to Sydney! We have some excellent technical content in store for you with over 200 oral presentations in the technical theaters and a handful of carefully tailored panel sessions to help you refresh your knowledge, learn new skills and keep up to date with the latest and greatest advancements in desalination and water reuse.

The technical program encompasses a carefully reviewed and vetted collection of papers, addressing a wide range of important issues facing the industry. As a Technical Program Committee we assembled a team of the very best in our industry who chose a selection of the most relevant topics to keep us all fully engaged during the program.

I would like to highlight two exciting areas within the technical program. First is an in depth look at brine mining technologies, an important new interest area for our industry. How we can valorize our salty waste stream through minerals and metals extraction is an impactful new development over the last few years that has only been possible through the advancement of new technologies. Second is on digital desalination, including Artificial
Intelligence, where we have seen equally impressive developments in our industry. We will hear from several authors presenting real world case studies where digital solutions have been proven via the successful deployment of this technology.

Inspired, influenced, and empowered by the spirit and vision of IDA’s leadership, I am proud to lead this program with my co-chairs of the 2022 Technical Program Committee, Mr. Fady Juez, Professor John Lienhard, Mr. Victor Verbeek and, Mr. Greg Wetterau. I also thank the multi-cultural, gender, and age-balanced WC 2022 Technical Program Committee, highly focused on human capital empowerment, efficiency, and excellence. All have worked tirelessly to make the 2022 World Congress Technical Program inspiring for all our delegates.

And finally, I thank all delegates and authors for their innovative ideas, suggestions, and challenges they bring to Sydney this year.

Sincerely,

Dr. Mike Dixon, World Congress 2022 Technical Program Co-Chair
Meet the Chairmen

The World Congress will feature a four day technical, four track technical program. As well as a high-level plenary sessions, business roundtable discussions, Leaders Summit, Innovation Forum, and plant tours.

The Congress Technical Program Committee is led by five distinguished members of the IDA Board of Directors, serving as the Technical Program Committee Co-Chairs. They have formed a dynamic technical committee of 30 members from around the globe.

Prof. John H. Lienhard V
MIT

Dr. Mike Dixon
Synauta

Mr. Fady Juez
Metito

Mr. Greg Wetterau
CDM Smith

Mr. Victor Verbeek
Toray
Technical Program Committee Members

- Mrs. Olga Sallangos, Caramondani Desalination Plants
- Mr. Tim Lam Shing, WSD
- Ms. Naomi Jones, McCarthy Building Companies, Inc.
- Mr. Kevin Price, AWTT, LLC
- Dr. Antonella DeLuca, OMYA
- Dr. Giancarlo Barassi, Aquatech International
- Mr. Guillaume Clairet, H2O Innovation
- Mr. Alistair Munro, Gaia Wind
- Dr. Victor Monsalvo, FCC Aqualia
- Mr. Patrick Buchta, DuPont-Inge
- Dr. Domingo Zarzo, SACYR
- Mr. Rodrigo Segovia, Almar Water Solutions
- Dr. Jaichander Swaminathan, IIT Gandhinagar
- Dr. Emily Tow, Olin College
- Prof. Shadi Hassan, Khalifa University
- Ass. Prof. Muhammad Wakil Shahzad, Northumbria University
- Prof. HK Shon, University of Technology Sydney
- Mr. Miguel Angel Sanz, Independent Consultant
- Mr. Antonio Casañas, DuPont
- Mr. Rama Jagwani, PROJECX
- Mr. Ravid Levy, RLV Consulting
- Dr. Tariq Nada, ACWA Power
- Prof. Duc Long Ngheim, University of Technology Sydney
- Prof. Tony G Fane Ph. D, University of New South Wales
- Mr. Neil Palmer, Osmoflo
Topic Chairs

- Mr. Thomas Altmann, ACWA Power
- Mr. Borja Blanco, Aqua Advise
- Dr. Veronique Bonnelye, SUEZ
- Mrs. Lindsey Brown, GHD
- Dr. Emilio Gabbrielli, Independent
- Mr. Rami Abuamireh, DuPont
- Prof. Tony G Fane Ph. D, University of New South Wales
- Prof. Stephen Gray, Institute for Sustainable Industries and Liveable Cities
- Ms. Naomi Jones, McCarthy Building Companies, Inc.
- Prof. John H. Lienhard V, Massachusetts Institute of Technology (MIT)
- Mr. Jim Lozier, Jacobs
- Mr. Neil Palmer, Osmoflo
- Mr. Kevin Price, AWTT, LLC
- Mr. Miguel Angel Sanz, Independent Consultant
- Mr. Rodrigo Segovia, Almar Water Solutions
- Prof. HK Shon, University of Technology Sydney
- Dr. Rick Stover, Gradiant
- Mr. Felix Wang, Gradiant
- Prof. David Warsinger, Purdue University
- Dr. Domingo Zarzo, SACYR
Session Chairs

- Dr. Ahmad Al Amoudi, SWCC
- Mrs. Ursula Annunziata, EDS,
- Dr. Giancarlo Barassi, Aquatech International
- Dr. Monica Boodhan, University of Trinidad and Tobago
- Mr. Patrick Buchta, DuPont
- Mr. Guillaume Clairet, H2O Innovation
- Mr. Antonio Casañas, DuPont
- Dr. Antonella DeLuca, OMYA International AG
- Dr. Mike Dixon, Synauta
- Dr. Heike Glade, University of Bremen
- Dr. Belén Gutierrez, GS Inima
- Prof. Seungkwan Hong, Korea University
- Mr. Hoon Hyung, LG NanoH2O
- Mr. Rama Jagwani, PROJECTX
- Ms. Naomi Jones, McCarthy Building Companies
- Mr. Fady Juez, Metito
- Dr. Christine Kleffner, TH Köln
- Mr. Steven Lam, Gradiant
- Dr. Jorge Malfeito, ACCIONA
- Mr. Roberto Mangano, ILF Engineers Consulting
- Dr. Victor Monsalvo, Aqualia
- Dr. Tariq Nada, ACWA Power
- Mr. Scott Murphy, Veolia
- Prof. Long Ngheim, University of Technology Sydney
- Mr. Juan Miguel Pinto, Energy Recovery, Inc
- Mrs. Olga Sallangos, Caramondani Desalination Plants
- Mr. Devesh Sharma, Aquatech International
- Mr. Daniele Strongone, American Water Chemicals, Inc
- Mr. Alejandro Sturniolo, H2O Innovation
- Dr. Jaichander Swaminathan, Massachusetts Institute of Technology (MIT)
- Mr. Ties Venema, Piedmont
- Mr. Victor Verbeek, Toray Membrane
- Eng. Nikolay Voutchkov, Water Globe Consultants, LLC
- Ass. Prof. Muhammad Wakil Shahzad, Northumbria University
- Mr. Greg Wetterau, CDM Smith, Inc.
Session Categories and Topics

The Call for Papers resulted in over 300 abstracts from countries across the globe. Selected for oral presentation technical papers will be presented in 38 sessions in the following categories and topics:

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<td>02 Water Reuse, Potable and Non-Potable including Public Outreach</td>
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<td>03 Industrial Water and Wastewater Treatment</td>
<td>04 Coupling Desalination and Renewable Energy</td>
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IDA 2022 WORLD CONGRESS / FINAL PROGRAM / 39
Day 1
Monday
10 October 2022
14:00 - 18:20

THEATER 1
5.3 Emerging Contaminants in Desalination and Water Reuse

THEATER 2
1.1 Seawater Plant Case Studies and Process Improvements

THEATER 3
1.3 Novel Approaches to Design and Operation
3.4 Semiconductor

THEATER 4
3.5 Oil & Gas
2.2 Non-Potable Water Reuse Studies and Projects
THEATER 1

5.3 Emerging Contaminants in Desalination and Water Reuse

Topic Chair:
- Mr. Rodrigo Segovia, Chief Technical Officer, Almar Water Solutions

Session Chairs:
- Mr. Rama Jagwani, General Manager, PROJE CX
- Dr. Mike Dixon, CEO, Synauta

14:00 - 14:20
Using RO for Removal of PFAS and Other CECS from a Wastewater Impacted Surface Water
- Presenter: Mr. Greg Wetterau, Vice President, CDM Smith

14:25 - 14:45
Continuous Online Monitoring for Potable Water Network
- Presenter: Dr. Sai Sudhakaran, Sr. Staff Scientist, NALCO Water

14:50 - 15:10
Abundance of Microplastics from Human Activities to Water Environment
- Presenter: Dr. Jieun Lee, Research Professor, Pusan National University

15:15 - 15:35
Design and Integration of Ozonation in Treatment Train for Micropollutant Removal and Urban Wastewater Reuse
- Presenter: Mrs. Sylvie Baig, Head of Scientific Innovation, SUEZ International, France
15:40 - 16:00 PM Break

16:00 - 16:20
Hybrid RO, Softening & Chromium Cr(Vi) Remediation
- Presenter: Dr. Mohammad Alizadehfard, CEO, OSMOTEC

16:30 - 16:50
Multiple Point Ozonation for Micropollutants Removal from Wastewater: A Full-Scale Demonstration from Denmark
- Presenter: Dr. Ronan Guillossou, Process Design Engineer, SUEZ

17:00 - 17:20
PFAS Removal with Thin Film Nanocomposite Reverse Osmosis Membranes
- Presenter: Mr. Eugene Rozenbaoum, Director of Engineering - Americas and Europe, LG NanoH2O

17:25 - 17:45
Remove Oil Contamination of Seawater by Aerogels
- Presenter: Dr. Mohammad Alizadehfard, CEO, OSMOTEC

17:55 - 18:15
A Critical Control Point Approach to Management of Water Quality Chemical Risks
- Presenter: Dr. Kathy Northcott, R&D Manager, Veolia Australia New Zealand
THEATER 2

1.1 Seawater Plant Case Studies and Process Improvements

Topic Chair:
- Prof. Stephen Gray, Executive Director, Institute for Sustainable Industries and Liveable Cities

Session Chairs:
- Dr. Jorge Malfeito, R&D Director Water, ACCIONA
- Mrs. Olga Sallangos, Plant Manager, Caramondani Desalination Plants LTD

14:00 - 14:20
Improving the Performance of A Severely Biofouled Seawater Reverse Osmosis Facility Using the Latest in Chemical Technology - A Case Study
- Presenter: Mr. Kunihiro Hayakawa, Manager, Kurita Water Industries, LTD

14:25-14:45
Water for Fodder Initiative: Use of Desalination to Provide Drought Relief in Australia
- Presenter: Mr. Javier Artal Gonzalez, Plant Manager, ACCIONA

14:50 - 15:10
O&M Start Up: Maintenance Challenges
- Presenter: Mr. Javier Artal, Plant Manager, Acciona Agua, Spain

15:15 - 15:35
Evolution of First Pass Membrane Configuration at A Large Scale Desalination Plant
- Presenter: Mr. Thomas Ransome, Operations Manager, Sacyr Water
15:40 - 16:00
Resilience Through Disasters - The Reinstatement and Subsequent Restart of the Sydney Desalination Plant
  ▶ Presenter: Mr. Reece Karamihos, Senior Engineer, Sydney Desalination Plant Pty Ltd

16:05 - 16:25
Technology and Innovation Hand to Hand With Sustainability. Best Practices in Atacama
  ▶ Presenter: Dr. Belén Gutiérrez, Head of Desalination Area, R&D Department, GS INIMA ENVIRONMENT

16:30 - 17:00 PM Break

17:00 - 17:20
Nanostone Water Innovative Ceramic Membrane technology in Water Treatment Applications
  ▶ Presenter: Mr. Aatman Shah, Business Development Director (MENA), Nanostone Water

17:25 - 17:45
Tuas Desalination Plant
  ▶ Presenter: Mrs. Constanze Simmermacher, Project Manager / Design Manager, Jacobs

17:50 - 18:10
Performance Study of Sulfuric Acid Shocks in Reverse Osmosis Membranes
  ▶ Presenter: Mr. Javier Artal Gonzalez, Plant Manager, ACCIONA
THEATER 3

1.3 Novel Approaches to Design and Operation

**Topic Chair:**
- Mr. Rami S. Abu Amirah, Global Manager - Ultrafiltration Technology, DuPont

**Session Chairs:**
- Mr. Fady Juez, Managing Director, Metito Overseas
- Dr. Belén Gutiérrez, Head of Desalination Area, R&D Department, GS INIMA

14:00 - 14:20
Enhanced Biofouling Resistance, Energy Savings and Higher Flux Operation Through New FilmTecTM NF270-440 Membrane
- Presenter: Mr. Gerin James, Global MBR Marketing Manager, Regional SEA/ANZ Marketing Manager, DuPont

14:25 - 14:45
Design Strategies for Reducing Energy and Total Costs for Large Scale Seawater Reverse Osmosis Plants
- Presenter: Mr. Kenneth Chao, Applications Engineer, LG Chem

14:50 - 15:10
Energy Recovery Devices in Advanced and Emerging Reverse Osmosis Applications
- Presenter: Dr. Richard Stover, VP of Technology, Gradiant

15:15 - 15:35
Four Simple Innovations to Reduce CO2 Emissions on Large SWRO Plants
- Presenter: Mr. Iqbal Ahmed, Business Development Manager, Genesys-PWT
15:40 - 16:00
Temporally Multi-Staged Batch Counterflow Reverse Osmosis for High Recovery Desalination
▶ Presenter: Prof. David Warsinger, Assistant Professor, Purdue University

16:05 - 16:25
Validation of a Method For Modeling Brine and Permeate PH in RO and NF Systems
▶ Presenter: Mr. Mohannad Malki, Technical Director, American Water Chemicals

16:30 - 17:00 PM Break

17:00 - 17:20
Use of Nanofiltration for Toc Removal While Optimizing Recovery on a Brackish Water Source
▶ Presenter: Mr. Michael Bourke, VP Business Development, Wigen Water Technologies

3.4 Semiconductor

Topic Chair:
▶ Mr. Borja Blanco, CEO, Aqua Advise

Session Chairs:
▶ Mr. Roberto Mangano, Managing Director, ILF Consulting Engineers Abu Dhabi
▶ Prof. Long Ngheim, Professor, Director of the Centre for Technology in Water and Wastewater, University of Technology Sydney

17:25 - 17:45
Advanced New RO Membrane Having High Rejection for Small Neutral Substance
▶ Presenter: Mr. Hiroki Minehara, Professional Researcher, Toray

17:50 - 18:10
On-Site Evaluation of Biocide Combination for Biofouling Mitigation
▶ Presenter: Dr. Lu Yinghong, Chief Research Engineer, Kurita R&D Asia Pte Lt
THEATER 4

3.5 Oil & Gas

Topic Chair:
▶ Mr. Borja Blanco, CEO, Aqua Advise

Session Chairs:
▶ Mr. Roberto Mangano, Managing Director, ILF Consulting Engineers Abu Dhabi
▶ Prof. Long Ngheim, Professor, Director of the Centre for Technology in Water and Wastewater, University of Technology Sydney

14:00 - 14:20
Membrane Distillation as an Environmentally Friendly Desalination System for Petroleum Refinery’s Wastewater Reuse - A Technical And Environmental Case Study
▶ Presenter: Dr. Mahdi Jalayer, Head of Basic Design and Senior Research Specialist / Technology Development Advisor, Bandar Abbas Oil Refining Company-Iran / OSMOTEC - Australia

14:25 - 14:45
Using Direct Contact Condenser in a Wastewater Treatment System for Removal of Organic Contaminants
▶ Presenter: Prof. Bahman Abbasi, Assistant Professor, Oregon State University

14:50 - 15:10
Water for Hydrogen Production: Challenges and Opportunities Supported by Real- World Case Studies
▶ Presenter: Mr. Brendan Dagg, Process Engineer, GHD
2.2 Non-Potable Water Reuse Studies and Projects

**Topic Chair:**
- Dr. Domingo Zarzo, Innovation and Strategic Projects Manager, Sacyr Water

**Session Chairs:**
- Dr. Monica Boodhan, Lecturer, the University of Trinidad and Tobago
- Mr. Alejandro Sturniolo, Global Head of Water Reuse & Strategic Partnerships, H2O Innovation

15:15 - 15:35
Anderson Road Quarry Development Grey Water Treatment Plant -- A Triumph on Recycled Grey Water in Hong Kong Sar
- Presenter: Mr. Colin Chan, Technical Director, Binnies Hong Kong Limited

15:40 - 16:00
Application of LG New Generation Thin-Film Nanocomposite Membrane to Wastewater Treatment in a Steel Plant
- Presenter: Ms. Lihua Wang, Technical Manager, LG Chem China Co. Ltd.

16:05 - 16:25
Biofilm Cleaner Improves Effluent WWRO Membrane Plant Operation
- Presenter: Mr. Maqsood Fazel, Senior Research Chemist, Genesys International

16:30 - 17:00 PM Break

17:00 - 17:20
Nutrient Recovery from Brackish Groundwater with Monovalent Selective Electrodialysis and Nanofiltration
- Presenter: Mr. Samuel Heath, Graduate Research Assistant, Massachusetts Institute of Technology (MIT)
17:25 - 17:45
Smart-Ferti-Reuse - A Smart Decision Tool For Fertigation of Agricultural Crops: Assessment of Treated Water Quality

Presenter: Dr. Chrystelle Ayache, Project Manager, Veolia

17:50 - 18:10
To Be Announced

Presenter: Dr. Tariq Nada, Chief Technical Officer, KSA Portfolio, ACWA Power
Day 2
Tuesday
11 October 2022
08:30 - 17:35

THEATER 1
1.2 Brackish Plant Case Studies and Process Improvements
1.3 Novel Approaches to Design and Operation
1.4 Intakes and Outfalls
1.5 Planning for Major City, State and Country Desalination Upgrades

THEATER 2
2.1 Potable Water Reuse Studies and Projects
4.4 Cutting Edge Research in Desalination and Renewable Energy

THEATER 3
9.2 Thermodynamics of Thermal Systems
6.1 Advances in Membrane Chemistry and Efficiency

THEATER 4
10.1 Pretreatment Processes Including Media Filtration, Ultrafiltration and other Methods
THEATER 1

1.2 Brackish Plant Case Studies and Process Improvements

Topic Chair:
▶ Dr. Veronique Bonnelye, Technical Support Manager, SUEZ International

Session Chair:
▶ Mr. Daniele Strongone, Business Manager, American Water Chemicals

08:30 - 08:50
Sustainability and Cost of Water Savings Through New High Rejection FilmTec™BW30XHR PRO-440 Membrane For Seawater Desalination
▶ Presenter: Mr. Javier Suarez, Technical Service & Development Leader, South Asia - DuPont Water Solutions

08:55 - 09:15
RO Project with Higher Capacity and Its Delivery
▶ Presenter: Eng. Abdulaziz Al-Ghamdi, Mechanical Engineer, Acwa Power

09:20 - 09:40
The Myalup-Wellington Story - Is Help on the Horizon for Western Australian Horticulture, Dairy and Beef Farmers?
▶ Presenter: Mr. Daniel Visser, Technical Director – Water Treatment & Desalination, GHD

1.3 Novel Approaches to Design and Operation

Topic Chair:
▶ Prof. John H. Lienhard V, Professor and the founding Director of the Abdul Latif Jameel Water and Food Systems Lab J-WAFS, MIT

Session Chairs:
▶ Mr. Joan Galtes, Commercial Managing Director SER & LAM, TALIS Group
▶ Dr. Victor Monsalvo, Head of Eco-efficiency Area, Innovation and Technology, Aqualia
09:45 - 10:05
A Leap Forward in RO Membrane Pressure Vessel Service Life, Performance, Safety & Reliability - A New Best Practice Guide
▶ Presenter: Mr. Sean McCagh, Engineer, RO-TEG

10:20 - 11:00 AM Break

11:00 - 11:20
Parallel High-Pressure Pumps for Energy Savings in Desalination
▶ Presenter: Dr. Georg Herborg, Director of Innovation, Danfoss

11:25 - 11:45
A Proposed Safe Design of the Reverse Osmosis System
▶ Presenter: Mrs. Maria Eugenia Beltran, Desalination Department Manager, ILF Consulting Engineers

11:50 - 12:10
Advanced Rejuvenation Protocol with Chemical Agent for the Deteriorated RO Membrane
▶ Presenter: Mr. Yoshiaki Ito, Research Manager, Mitsubishi Heavy Industries, Ltd.

1.4 Intakes and Outfalls

Topic Chair:
▶ Dr. Emilio Gabbrielli, International Water Advisor

Session Chairs:
▶ Mr. Steven Lam, Director, New Products Initiative, Gradiant
▶ Mr. Scott Murphy, General Manager QLD, Veolia Australia & New Zealand

12:15 - 12:35
Proper Design of Intakes and Outfalls to Avoid Main Risks During Operation
▶ Presenter: Mr. Eloy Pita, CEO, INCREA
12:40 - 13:00
Relationship Between the Desalination Plant Intake Tunnel Condition, Intake Flow, and Shock Dosing
▶ Presenter: Mr. Rongtao Liu, Operation Support Engineer/Environment Manager, Adelaide Desalination Plant

13:05 - 14:30 Lunch Break

14:30 - 14:50
Seawater Intakes Prefiltration for Resilient Projects
▶ Presenter: Mr. Lars Späth, Head of Global Water Segment WPS, Passavant-Geiger GmbH

1.5 Planning for Major City, State and Country Desalination Upgrades

Topic Chair:
▶ Dr. Emilio Gabbrielli, International Water Advisor

Session Chairs:
▶ Mr. Steven Lam, Director, New Products Initiative, Gradiant
▶ Mr. Scott Murphy, General Manager QLD, Veolia Australia & New Zealand

14:55 - 15:15
Desalination Responses for Greater Sydney Planned During the 2017-2020 Drought
▶ Presenter: Mr. Francois Neser, Senior Associate, Jacobs

15:20 - 15:40
First Stage Tseung Kwan O Seawater Desalination Plant -- The New Strategic Water Source for Hong Kong
▶ Presenter: Mr. Patrick Mak, Resident Engineer, Binnies Hong Kong, Hong Kong Special Administrative Region, Republic of China
15:40 - 16:00 PM Break

16:00 - 16:20
Greater Sydney Water Strategy - Toward Greater Drought Resilience
▶ Presenter: Dr. Dennis Cho, Principal Process Engineer, Jacobs Group Australia

16:25 - 16:45
Here, There or Everywhere: A Comparison of Centralised and Decentralised Desalination Schemes
▶ Presenter: Ms. Rebecca Argento, Process Engineer, GHD

16:50 - 17:10
State of Desalination In Pakistan - Recent Trends and Future Prospects
▶ Presenter: Mr. Jawwad Ahmed, Business Development Manager in Prime Chemicals Corporation (Pvt) Ltd.
THEATER 2

2.1 Potable Water Reuse Studies and Projects

Topic Chair:
▶ Mr. Jim Lozier, VP, Global Tech Leader for Desalination, Jacobs

Session Chairs:
▶ Ass. Prof. Muhammad Wakil Shahzad, Northumbria University
▶ Dr. Heike Glade, Head of Research Group, University of Bremen

08:30 - 08:50
Beenyup Advanced Water Recycling Plant Stage 2: Construction, Commissioning and Integration with Stage 1
▶ Presenter: Ms. Lisa Chan, Innovation & Improvement Manager, SUEZ

08:55 - 09:15
Implementing Direct Potable Reuse for the City of Los Angeles
▶ Presenter: Mr. Greg Wetterau, Vice President, CDM Smith

09:20 - 09:40
Direct Potable Reuse Combining Tertiary Effluent with Seawater Reverse Osmosis: An Opportunity for a Synergy
▶ Presenter: Mr. Alvaro Lagartos, Senior Application Engineer, LG Chem

09:45 - 10:05
Energy Recovery System and its Impact on the Copiapó SWRO Plant: A “Real World” Lifecycle cost Analysis
Mr. Rolando Bosleman, Technical Director, Water Applications, Energy Recovery, Inc.

10:20 - 11:00 AM Break
11:00 - 11:20
Innovative Potable Reuse AWTF puts WRD of Southern California Closer to Water Independence
▶ Presenter: Mr. Mark Donovan, North American Water Treatment & Desalination Lead, GHD

11:25 - 11:45
Innovative Process to Produce Drinking Water from Wastewater for Small & Isolated Communities
▶ Presenter: Dr. Philippe Sauvignet, Industrialization Manager, Veolia

11:50 - 12:10
Jourdain: Paving the Way Towards Planned Indirect Potable Reuse in France
▶ Presenter: Mr. Yvan Poussade, Product Owner - Water Reuse, Veolia

12:15 - 12:35
Satisfying PRW Stakeholder Expectations -- Lessons for Engineers and Project Leaders
▶ Presenter: Mr. Andrew Layson, Senior Principal Water Engineer, Jacobs

12:40 - 13:00
Small-Scale and Household Methods to Remove Salinity & Hardness from Drinking Water - A Case Study of Abyek Qazvin
▶ Presenter: Dr. Mohammad Alizadehfard, CEO in OSMOTEC

13:05 - 14:30 Lunch Break

14:30 - 14:50
The Beenyup Advanced Water Recycling Plant -- Australia’s First Large Indirect Potable Reuse Plant
▶ Presenter: Mr. Keith Andes, Pacific Rim Technical Manager, Nitto Hydranautics

4.4 Cutting Edge Research in Desalination and Renewable Energy

Topic Chair:
▶ Mr. Kevin Price, Principal, AWTT, LLC
Session Chairs:
- Dr. Tariq Nada, Chief Technical Officer, KSA Portfolio, ACWA Power
- Mr. Ties Venema, Group Vice President & Managing Director S3C, H2O Innovation

14:55 - 15:15
A Multifunctional Osmotic Battery for Desalination and Grid Energy Storage
- Presenter: Dr. Qianhong She, Assistant Professor, Singapore Membrane Technology Centre (SMTC)

15:20 - 15:40
Life Hyreward Project: Hybrid System for Renewable Energy Production from Desalination Brine
- Presenter: Ms. Patricia Terrero, R&D Manager, Sacyr Water

15:40 - 16:00 PM Break

16:00 - 16:20
Robust Control and Experimental Validation of a Direct Drive Photovoltaic Electrodialysis Desalination System
- Presenter: Mr. Jonathan Bessette, Graduate Research Assistant, Massachusetts Institute of Technology

16:25 - 16:45
Wave-Powered Desalination: A Sustainable Way to Increase Resilience to Water Scarcity
- Presenter: Ms. Camille St-Pierre, Commercial Manager, Oneka Technologies

16:50 - 17:10
Experience with the New Flex Rotary Energy Recovery Device
- Presenter: Mr. Beat Schneider, Director Global Desalination, Flowserve

17:15 - 17:35
To Be Announced
THEATER 3

9.2 Thermodynamics of Thermal Systems

**Topic Chair:**
▶ Mr. Thomas Altmann, EVP - Innovation & New Technology, ACWA Power

**Session Chair:**
▶ Ass. Prof. Muhammad Wakil Shahzad, Northumbria University

08:30 - 08:50
Computational Fluid Dynamics Modeling of a Novel Multi-Effect Membrane Distillation System
▶ Presenter: Mr. Rishabh Srivastava, PhD Scholar, Indian Institute of Technology Gandhinagar

08:55 - 09:15
Energy Recovery in Thermals Desalination Systems: A Way Forward to Improved Comprehensive Performance
▶ Presenter: Mr. Muhammad Ahmad, PhD Student in Northumbria University

09:20 - 09:40
To Be Announced

09:45 - 10:05
An Innovative Self-Cleaning Floating Solar Still for Low-Cost Water Desalination in Remote Areas
▶ Presenter: Mr. Milad Mohsenzadeh, PhD Candidate, The University of Melbourne

10:20 - 10:30 AM Break
11:00 - 11:20  
To Be Announced

11:25 - 11:45  
Solar Thermal High Efficiency-High Recovery Multi Effect Hybridized with Nanofiltration-Membrane Distillation Emets  
▶ Presenter: Mr. Leon Awerbuch, CEO, International Desalination Consulting Associates

6.1 Advances in Membrane Chemistry and Efficiency

Topic Chair:  
▶ Prof. HK Shon, Professor in School of Civil and Environmental Engineering, University of Technology Sydney

Session Chairs:  
▶ Dr. Hoon Hyung, President, LG Water Solutions  
▶ Dr. Miller Truby, Technical Sales Associate, Synauta

11:50 - 12:10  
3D-Printing of Desalination Device with Anti-Fouling Nanocellulose Membrane  
▶ Presenter: Dr. Liang Ying, Research Engineer, National University of Singapore

12:15 - 12:35  
A New Generation of Multi-Capillary PES Membrane  
▶ Presenter: Mr. Harith Alomar, Global Desalination Marketing Leader & Large Projects, DuPont
12:40 - 13:00
Aminated Silica Grafted Carbon Nanotube-Based Membranes for Oily Wastewater Treatment
▶ Presenter: Ms. Mariam Ouda, PhD Student, Khalifa University

13:05 - 14:30 Lunch Break

14:30 - 14:50
20% Internal Renewable Energy Powering RO Plant
▶ Presenter: Eng. Abdulaziz Al-Ghamdi, Mechanical Engineer, Acwa Power

14:55 - 15:15
Development of Hollow Fiber Asymmetric Membrane for Osmotically Assisted Reverse Osmosis (OARO) Applicable to Brine Concentration and Its Long-Term Experimental Study
▶ Presenter: Mr. Takahito Nakao, Senior Engineer, Toyobo Co., Ltd.

15:20 - 15:40
Next-Generation Membranes: Printing Polyamide Thin-Film Composite Membranes Using Electrospray Technique
▶ Presenter: Mr. Shiyang Huang, Ph.D. candidate, University of New South Wales

15:40 - 16:00 PM Break

16:00 - 16:20
Novel Perforated-Pillar Spacer for Fouling Mitigation and Enhanced Hydrodynamics in Spiral Wound Modules
▶ Presenter: Dr. Sarah Kerdi, Research Scientist, KAUST
16:25 - 16:45
LoWatt: A Highly Resilient and Efficient Design Philosophy
▶ Presenter: Dr. Giancarlo Barassi, Desalination and Reuse Market Manager, Aquatech International

THEATER 4

10.1 Pretreatment Processes Including Media Filtration, Ultrafiltration and other Methods

Topic Chair:
▶ Mrs. Lindsey Brown, Australian Market Leader - Water, GHD

Session Chairs:
▶ Ms. Naomi Jones, Integrated Design Director, McCarthy Building Companies
▶ Mr. Javier Suarez, Technical Service & Development Leader, South Asia - DuPont Water Solutions

08:30 - 08:50
AOM Characterization and Removal Efficiency Using Various SWRO Pretreatment Techniques
▶ Presenter: Dr. Mohammed Al-Namazi, Deputy Executive Director in DTRI, Saline Water Conversion Corporation

08:55 - 09:15
Best Value Solutions for Desalination Pretreatments: Towards Enhanced Flotation
▶ Presenter: Ms. Caroline Barbé, Desalination Process Engineer, SUEZ
09:20 - 09:40  
Breakthrough Solution Against Biofouling at Maspalomas I Desalination Plant Demonstrates the Efficiency of DuPontTM B-FreeTM Pre-Treatment
  ▶ Presenter: Dr. Guillem Gilabert Oriol, Technical Leader, DuPont

09:45 - 10:05  
Case Study: The Use of a Novel Antiscalant to Prevent Iron Fouling in a Brackish Water RO System
  ▶ Presenter: Mr. Daniele Strongone, Business Manager, American Water Chemicals

10:20 - 11:00 AM Break

11:00 - 11:20  
Commissioning in Times of Corona: Remote Assistance over Four Time Zones and 11,000 Km Distance Pretreatment Processes Including Media Filtration, Ultrafiltration and other Methods
  ▶ Presenter: Mr. Frans Knops, Product Manager, Pentair

11:25 - 11:45  
Innovative Concept for Ultrafiltration Systems: Integration of Ultrafiltration Cartridges and Strainer in a Single Vessel. Case Study: Barge 150,000 m³/d
  ▶ Presenter: Ms. Marta Otegui Martínez, Engineering & Quality Director, Fluytec

11:50 - 12:10  
Multibore® In-Out Ultrafiltration Replacement for Horizontal Membrane Systems Relation Between Pulse Bubble Aeration and Cake Layer Fouling Removal in Submerged Membrane Systems
  ▶ Presenter: Mr. Harith Alomar, Global Desalination Marketing Leader & Large Projects, DuPont
12:15 - 12:35
Relation Between Pulse Bubble Aeration and Cake Layer Fouling Removal in Submerged Membrane Systems
▶ Presenter: Dr. Elham Radaei, Senior Water Engineer, KBR

12:40 - 13:00
Robustness and Efficiency of an Integrated Flotation-Filtration Pretreatment for Seawater Desalination
▶ Presenter: Mr. Jorge Malfeito-Sanchez, R&D Director Water, ACCIONA

13:05 - 14:30 Lunch Break

14:30 - 14:50
Submerged UF Membranes Pre-Treatment at the Adelaide Desalination Plant Vs Similar Projects with DAF
▶ Presenter: Mr. Huw Lazaredes, Applications Development Manager, DuPont

14:55 - 15:15
The Initiatives of Operation Excellence of Pretreatment System in Ras Al Khair SWRO Plant
▶ Presenter: Dr. Byungsung Park, Senior Desalination Expert, Saline Water Conversion Corporation

15:20 - 15:40
Umm Al Houl SWRO Plant Ultra-Daf® Optimization for Turbidity Removal
▶ Presenter: Mr. Javier Artal Gonzalez, Plant Manager, ACCIONA

15:40 - 16:00 PM Break

16:00 - 16:20
Validation of AFM Filtration Media for Pretreatment of the RO Process in Alicante Desalination Plant
▶ Presenter: Dr. Domingo Zarzo, Innovation and Strategic Projects Manager, Sacyr Water
16:25 - 16:45
Biofouling Risks Control by Reducing the Environmental Footprint and Optimising RO Plant Performance
▶ Presenter: Mr. Harry Polman, Managing Director, H2O Biofouling Solutions B.V.

16:50 - 17:10
The Perils of Using Chloramines for Pretreatment of Water Reuse RO
▶ Presenter: Mr. Mohannad Malki, Technical Director, American Water Chemicals
Day 3
Wednesday
12 October 2022
08:30 - 18:00

THEATER 1
5.1 Emerging Technologies in Desalination and Water Reuse

THEATER 2
7.2 Environmental Impact Assessments
11.3 Digital Twins in Desalination
11.1 Big Data and Data Monitoring in Desalination
12.1 Recovery of Minerals from Seawater

THEATER 3
12.3 Novel Treatment Processes for Resource Recovery
12.2 Recovery of Minerals from Industrial Brines
8.1 Project Delivery Models for Big-Desal

THEATER 4
3.6 Coal Industry Wastewater
9.1 Long Term Case Studies
1.1 Seawater Plant Cases Studies and Process Improvements
THEATER 1

5.1 Emerging Technologies in Desalination and Water Reuse

Topic Chair:
- Prof. David Warsinger, Assistant Professor, Purdue University

Session Chairs:
- Dr. Jaichander Swaminathan, Research Assistant, Massachusetts Institute of Technology (MIT)

08:30 - 08:50
A Comparison of Membrane-Based Brine Concentration Systems: An Analysis of OARO and LSRRO
- Presenter: Dr. Andrew Bouma, PhD, Massachusetts Institute of Technology (MIT)

08:55 - 09:15
Batch Reverse Osmosis Pilot Demonstration and Commercial Applications
- Presenter: Dr. Quantum Wei, Co-founder, Harmony Desal

09:20 - 09:40
Development of Forward Osmosis Membrane with Cellulose Triacetate Hollow Fibers for Enhancement of Desalination Performance
- Presenter: Mr. Yuki Miura, Manager, TOYOBOD CO., LTD.

09:45 - 10:05
From Care and Maintenance to 100% Production and Back Again - Lessons from the Gold Coast and Sydney Desalination Plants
- Presenter: Mrs. Tina Feenstra, General Manager, Water Queensland, Veolia
10:20 - 11:00 AM Break

11:00 - 11:20
Electromagnetic Field as a Tool in Enhancing Water Desalination Processes
▶ Presenter: Dr. Emad Alhseinat, Assistant Professor, Khalifa University

11:25 - 11:45
High Recovery Membrane Brine Concentration
▶ Presenter: Dr. Richard Stover, VP of Technology, Gradiant

11:50 - 12:10
Manipulation of Ion and Water Permeabilities Across Salt Rejecting Membranes Using Magnetic Fields
▶ Presenter: Prof. Jonathan Brant, Professor, University of Wyoming

12:15 - 12:35
Membrane Cleaning Procedures: Performance of Commodities Vs Formulated Cleaners
▶ Presenter: Mrs. Nuria Peña, Laboratory Manager, Genesys Membrane Products

12:40 - 13:00
New PX, Pressure Exchanger, Energy Recovery Device: Improving and Optimizing Performance Over the PX-Q300 for Greater Energy Saving
▶ Presenter: Mr. David Kim-Hak, Sr Director of Product, Energy Recovery Inc.

13:05 - 14:30 Lunch Break

14:30 - 14:50
Membrane Design of a Subsea Desalination System
▶ Presenter: Mr. Borja Blanco, CEO, Aqua Advise
14:55 - 15:15
Rewaise - A Smart Water Ecosystem for a Sustainable and Efficient Water Cycle in Europe
▶ Presenter: Dr. Victor Monsalvo, Head of Eco-efficiency Area, Innovation and Technology, Aqualia

15:20 - 16:00 PM Break

16:00 - 16:20
Validation of Recycled UF Membranes for RO Pretreatment Process
▶ Presenter: Dr. Domingo Zarzo, Innovation and Strategic Projects Manager, Sacyr Water

16:25 - 16:45
Toward the Validation of the World’s Largest MDC Technology for Low Energy Drinking Water Production
▶ Presenter: Dr. Victor Monsalvo, Head of Eco-efficiency Area, Innovation and Technology, Aqualia

16:50 - 17:10
Stand-Alone, Portable Desalination System Based on Ion Concentration Polarization
▶ Presenter: Dr. Junghyo Yoon, Postdoctoral Associate, Massachusetts Institute of Technology (MIT)

17:15 - 17:35
Membrane Based Brine Concentration Solutions and Concentrated Brine Reuse Experiences
▶ Presenter: Mr. Eugenio Páez, Head of Urban Water & Wastewater Treatment, TYPSA

17:40 - 18:00
BIM and the Lifecycle Digitization, the Steps Towards the Future
▶ Presenter: Mr. Ignacio Javier Garcia Galdon, BIM Manager, Aqualia
THEATER 2

7.2 Environmental Impact Assessments

**Topic Chair:**
> Ms. Naomi Jones, Integrated Design Director, McCarthy Building Companies

**Session Chair:**
> Dr. Christine Kleffner, Research Associate (Postdoc), TH Köln

**08:30 - 08:50**
Reverse Osmosis Plants Performance Index
> Presenter: Mr. Amr Seoudy, CEO & Founder, Water Treatment Consulting Office (WTCO)

**08:55 - 09:15**
Virtual Power Plant and Virtual Water Plant
> Mr. Sebastiano Onnis, Energy and Climate Engineering Manager, ILF Consulting Engineers

**09:20 - 09:40**
Multi-Criteria Analysis for Sustainable Development of Desalination Plants in Chile
> Presenter: Mr. Raul Lemes, Operation Director, Sacyr

**09:45 - 10:05**
Positive Futures as Decision-Support Tools for Urban Water Planning
> Presenter: Ms. Varsha Sivagurunathan, Postgraduate Student, The University of New South Wales

**10:20 - 11:00 AM Break**

**11:00 - 11:20**
A Thermodynamic Platform for Evaluating Energy Efficiency of Multifarious Desalination Processes
> Presenter: Prof. Kim Choon NG, Professor, KAUST
11:25 - 11:45
Membrane Autopsy and Targeted Cleaning with Specialty Cleaners
  ▶ Presenter: Dr. Amit Sankhe, Product Development Manager, PWT Chemicals

11.3 Digital Twins in Desalination

Topic Chair:
  ▶ Prof. Tony G Fane Ph. D, University of New South Wales

Session Chairs:
  ▶ Dr. Antonella De Luca, Head of Competence Center Environmental Solutions, Omya
  ▶ Mr. Juan Miguel Pinto, Director, Sales and Strategy, Americas, Energy Recovery

11:50 - 12:10
Digital Services Applied to Desalination Plants: Process Guidance, Problem Detection, Operating Point Optimization
  Presenter: Mr. Jean-Baptiste Thubert, CTO, Veolia Water Technologies

11:1 Big Data and Data Monitoring in Desalination

Topic Chair:
  ▶ Prof. Tony G Fane Ph. D, University of New South Wales

Session Chairs:
  ▶ Dr. Antonella De Luca, Head of Competence Center Environmental Solutions, Omya
  ▶ Mr. Juan Miguel Pinto, Director, Sales and Strategy, Americas, Energy Recovery

12:15 - 12:35
Designing Digital for Desalination Delivery
  Presenter: Dr. Jesus Ortiz, Business Development Manager, ACCIONA Agua
12:40 - 13:00
An AHP Model to Select Remineralization Process in the Desalination Industry
▶ Presenter: Mr. Mohsen Al-Salmi, CEO, Shuaibah III IWP

13:05 - 14:30 Lunch Break

14:30 - 14:50
Plant Performance Optimization Using Smartopstm
▶ Presenter: Dr. Jia Shin Ho, NPI Scientist, Gradiant

14:55 - 15:15
Transforming the Digital Space of Desalination Through the DuPontWaterApp, the FT-Norm PRO and the Enhanced Digital Tools
▶ Presenter: Dr. Maria Angeles Perez, Senior Technical Service Engineer, DuPont

15:20 - 15:40 PM Break

12.1 Recovery of Minerals from Seawater

Topic Chair:
▶ Mr. Felix Wang, VP of Marketing, Gradiant

Session Chairs:
▶ Mr. Greg Wetterau, Vice President, CDM Smith
▶ Eng. Nikolay Voutchkov, President, Water Globe Consultants, LLC

16:00 - 16:20
Circular Processing of Seawater Brines from Saltworks for Recovery of Valuable Raw Materials (Searcularmine): Project Update
▶ Presenter: Ms. Delia Pastorelli, Process Engineer, SUEZ

16:25 - 16:45
Investigating the Salt Crystallization Phenomena of Red Sea and Arabian Gulf SWRO Brines by Solar Evaporation
▶ Presenter: Mr. Ammar Alnumani, Researcher, Saline Water Conversion Corporation (SWCC)
16:50 - 17:10
Investigating the Potential For Closed Circuit Reverse Osmosis (CCRO) to Reduce Concentrate Flows on a Future Inland Water Reuse Application
▶ Presenter: Mr. Christian Sanders, Environmental Engineer, CDM Smith

17:15 - 17:35
Pilot Scale Demonstration of Desalination of Acid Mine Drainage Water From an Australian Coal Mine
▶ Presenter: Mr. Neil Palmer, Chief Technology Officer, Osmoflo

17:40 - 18:00
Long-term operating results of membrane brine concentration system integrated with a Seawater Reverse osmosis desalination plant.
▶ Presenter: Mr. Keith Lampi, President, FTS, Inc.

THEATER 3

12.3 Novel Treatment Processes for Resource Recovery

Topic Chair:
▶ Mr. Felix Wang, VP of Marketing, Gradiant

Session Chairs:
▶ Mr. Greg Wetterau, Vice President, CDM Smith
▶ Eng. Nikolay Voutchkov, President, Water Globe Consultants, LLC

08:30 - 08:50
A Long-Term Simulation Model under Super/Hyper/Ultra Salinity and High Hydraulic Pressure Condition for CTA Hollow Fiber Membrane Module for Brine Concentration Application
▶ Presenter: Mr. Shohei Goda, TOYOBO CO., LTD.
08:55 - 09:15
Fouling of Reverse Osmosis Membrane: Autopsy Results from a Wastewater Treatment Facility at Central Park, Sydney
▶ Presenter: Prof. HK Shon, Professor in School of Civil and Environmental Engineering, University of Technology Sydney

09:20 - 09:40
Redefining a Desalination Business Model to Achieve Zero Potential for Environmental Impact.
▶ Presenter: Mr. Rob Garner, Director (Water Supply), ENOWA - NEOM

09:45 - 10:05
Lithium Recovery from Hypersaline Brines: Enhancing Selectivity and Optimizing Energy Consumption
▶ Presenter: Mr. Danyal Rehman, PhD Candidate, MIT

10:20 - 11:00 AM Break

11:00 - 11:20
Modeling and Simulation for the Use of Pervaporation in Treating the Brine from Seawater Reverse Osmosis Desalination Process
▶ Presenter: Mr. Abdullah Albiladi, Researcher in DTRI, Saline Water Conversion Corporation

11:25 - 11:45
Modeling, Optimization and Control of Convection-Enhanced Evaporation System (CEE) for Brine Volume Reduction
▶ Presenter: Prof. Natasha Wright, Assistant Professor, University of Minnesota

11:50 - 12:10
Novel Nanofiltration Remix Process and Water Recovery Leading to Minimum Liquid Discharge (MLD)
▶ Presenter: Mr. Leon Awerbuch, CEO, International Desalination Consulting Associates
12:15 - 12:35
Novel Polymer Composite Evaporator Tubes for Brine Concentration: Heat Transfer, Wetting and Scale Formation
   ▶ Presenter: Dr. Heike Glade, Head of Research Group, University of Bremen

12:40 - 13:00
Sea4value: Novel Technologies in Seawater Desalination to Extract Minerals and Metals from Seawater Brines
   Presenter: Dr. Victor Monsalvo, Head of Eco-efficiency Area, Innovation and Technology, Aqualia

13:05 - 14:30 Lunch Break

14:30 - 14:50
RO Brine Treatment and Desalination by Modified EDR and LPRO
   ▶ Presenter: Dr. Mohammad Alizadehfard, CEO, OSMOTEC

14:55 - 15:15
Sustainable Minimum Liquid Discharge for Inland Desalination
   Presenter: Dr. Siva Kumar Kota, Gradiant

15:20 - 16:00 PM Break

12.2 Recovery of Minerals from Industrial Brines

Topic Chair:
   ▶ Mr. Felix Wang, VP of Marketing, Gradiant

Session Chairs:
   ▶ Mr. Greg Wetterau, Vice President, CDM Smith
   ▶ Eng. Nikolay Voutchkov, President, Water Globe Consultants, LLC
16:00 - 16:20
Lithium Recovery from Hypersaline Salt-Lake Brine with Selective Nanofiltration and Electrodialysis
▶ Presenter: Mr. Zi Hao Foo, Ph.D. Candidate, Massachusetts Institute of Technology

16:25 - 16:45
Successful Field Demonstration of a New High Recovery Semi-Batch Reverse Osmosis Technology
▶ Presenter: Mr. John Korpiel, Principal Engineer at Veolia Water Technologies

8.1 Project Delivery Models for Big-Desal

Topic Chair:
▶ Dr. Veronique Bonnelye, Technical Support Manager, SUEZ International

Session Chairs:
▶ Ms. Naomi Jones, Integrated Design Director, McCarthy Building Companies

16:50 - 17:10
Membrane Loader for the Reverse Osmosis Membrane Replacement at Gold Coast Desalination Plant
▶ Presenter: Mr. Jonathan Jo, Process Engineer, Veolia Australia New Zealand

17:15 - 17:35
The Importance of Shared Management to Promote Access to Water in the Brazilian Semi-Arid Region: Programa Água Doce
▶ Presenter: Dr. Emilio Gabbrielli, International Water Advisor

17:40 - 18:00
Collaborative Contracting: A Decade of Operating in an Alliance Contract Model
▶ Presenter: Mr. Bradd Hamersley, Alliance Manager, Southern SeaWater Alliance
THEATER 4

3.6 Coal Industry Wastewater

Topic Chair:
▶ Dr. Rick Stover, Vice President of Technology, Gradiant

Session Chairs:
▶ Dr. Ahmad Al Amoudi, Director General, Desalination Technologies Research Institute (DTRI)
▶ Mr. Victor Verbeek, ANZ Regional GM, Toray Membrane Australia

08:30 - 08:50
Advanced Wastewater Treatment System Using Multiple Membrane Processes and Chemicals
▶ Presenter: Mr. Bharat Dharamwani, GM - South Asia, Toray Industries, Inc.

08:55 - 09:15
Continuous Batch Reverse Osmosis at Industrial Scale
▶ Presenter: Mr. Saravana Perumal Shanmukham, Director, S P Elements

09:20 - 09:40
Effects of Antiscalants and Cleaning Agents in Membrane Distillation for Brine Concentration
▶ Presenter: Dr. Heike Glade, Head of Research Group, University of Bremen

09:45 - 10:05
Shifting the Economics of ZLD By Using Energy Recovery Devices
Presenter: Mr. Simon Bae, Technical Manager, Energy Recovery, Inc

10:20 - 11:00 AM Break
05 TECHNICAL PROGRAM & SCHEDULE

THEATER 4

11:00 - 11:20
Innovative Brine Concentration Membranes to Lower the Cost of MLD/ZLD Treatment
▶ Presenter: Dr. Guillem Gilabert Oriol, Technical Leader, DuPont

11:25 - 11:45
Novel Antiscalant to Inhibit Ultra-High Calcium Sulfate Scale Formation in High Stress Conditions
▶ Presenter: Mr. Ankesh Bansal, Technical Development Manager, APAC, Italmatch Chemicals

11:50 - 12:10
Pre-Treatment Requirements for Produced Water Treatment Using FO-MD Hybrid System
▶ Presenter: Dr. Muhammad Saqib Nawaz, Postdoctoral Research Fellow, KAUST

12:15 - 12:35
The UF-FO-MD Hybrid System for Resources Recycle from Wastewater Using SWRO Brine as FO Draw Solution
▶ Presenter: Dr. Sheng Li, Water Expert, DTRI, Saline Water Conversion Corporation

12:40 - 13:00
High-Pressure Membrane Processes with Energy Recovery: New Perspectives for Efficient Brine Concentration
▶ Presenter: Dr. Christine Kleffner, Postdoc, TH Köln

13:05 - 14:30 Lunch Break

14:30 - 14:50
Overview of Reverse Osmosis Silica Scaling and Management
▶ Presenter: Prof. Stephen Gray, Executive Director, Institute for Sustainable Industries and Liveable Cities, Victoria University
9.1 Long Term Case Studies

**Topic Chair:**
- Mr. Thomas Altmann, EVP - Innovation & New Technology, ACWA Power

**Session Chairs:**
- Ass. Prof. Muhammad Wakil Shahzad, Northumbria University
- Prof. Seungkwan Hong, Professor, Korea University

14:55 - 15:15
Developing a New and Novel Antiscalant as a Targeted Approach to Maintaining Thermal Plant Performance
- Presenter: Mr. Ankesh Bansal, Technical Development Manager, APAC, Italmatch Chemicals

15:20 - 16:00 PM Break

16:00 - 16:20
Israel as a Model for Environmentally Responsible Desalination
- Presenter: Mrs. Miriam Brusilovsky, Technical Director -Assets at IDE Technologies and Media Manager at Israeli Desalination Society

1.1 Seawater Plant Cases Studies and Process Improvements

**Topic Chair:**
- Mr. Miguel Angel Sanz, Independent Consultant

**Session Chairs:**
- Dr. Giancarlo Barassi, Desalination and Reuse Market Manager, Aquatech Int
- Mr. Guillaume Clairet, Chief Operating Officer, H2O Innovation
16:25 - 16:45
Seawater RO Desalination Process: A Cost-Effective Solution for Potable Water Scarcity
▶ Presenter: Mr. Ghulam Mustafa, Saline Water Conversion Corporation

16:50 - 17:10
Boosting Permeate Production without Compromising on Sec: 60% Recovery and Beyond in SWRO
▶ Presenter: Mr. Haytham Ahmed, Engineering Manager, Fluid Equipment Development Co. - (FEDCO)

17:15 - 17:35
Tecno- Economic Evaluation of Magnesium Replenishment Options After Desalination
▶ Presenter: Dr. Antonella De Luca, Head of Competence Center Environmental Solutions, Omya
Day 4
Thursday
13 October 2022
08:30 - 12:35

THEATER 1
1.1 Seawater Plant Case Studies and Process Improvements

THEATER 2
11.2 Artificial Intelligence in Desalination
11.3 Digital Twins in Desalination

THEATER 3
2.5 New Treatment Techniques for Water Reuse
2.6 Virus and Bacteria Removal Including Log Credit Techniques
3.1 Environmental Issues in the Mining Industry

THEATER 4
4.1 Zero Liquid Discharge and Brine Concentration Techniques
4.2 Improvements for Hybrid Renewable Projects
4.3 Mega Projects Using Renewable Energy
THEATER 1

1.1 Seawater Plant Case Studies and Process Improvements

**Topic Chair:**
- Mr. Miguel Angel Sanz, Independent Consultant

**Session Chairs:**
- Dr. Giancarlo Barassi, Desalination and Reuse Market Manager, Aquatech International
- Mr. Guillaume Clairet, Chief Operating Officer, H2O Innovation

**08:30 - 08:50**
A Pilot Study of Low-Energy Seawater Desalination with Innovative Membranes and Pretreatment Systems
- **Presenter:** Dr. Jungbin Kim, Postdoctoral researcher, Korea University

**08:55 - 09:15**
20 Years of Data from 500 Seawater Membrane Autopsies
- **Presenter:** Ms. Nuria Peña, Laboratory Manager, Genesys Membrane Products

**09:20 - 09:40**
Application of New Technologies for Energy Savings in Desalination
- **Presenter:** Mr. Francisco Jimenez-Castellanos, Global RO Application Manager Desalination & Water Reuse Market, Danfoss

**09:45 - 10:05**
Comparison and Evaluation of Centralized & Decentralized Systems for Nuweibaa SWRO Desalination Plant - Case Study
- **Presenter:** Mr. Amr Seoudy, CEO & Founder, Water Treatment Consulting Office (WTCO)
10:20 - 11:00 AM Break

11:00 - 11:20
Control of SWRO Membrane Biofouling Through Removal of Planktonic Colloidal Biofilms Coming from RO Pretreatment and Rotary Energy Recovery Device
▶ Presenter: Prof. Harvey Winters, Professor, Fairleigh Dickinson University

11:25 - 11:45
High Recovery Reverse Osmosis Water Challenging
▶ Presenter: Mr. Juan de Beristain, Regional Sales Manager Latin America, Fluid Equipment Development Co. (FEDCO)

11:50 - 12:10
Energy Optimization and Management Of Mega Sea Water Reverse Osmosis (SWRO) Desalination Plants
▶ Presenter: Dr. Yehuda Shevah, Consultant, Independent

12:15 - 12:35
Dry Seawater Reverse Osmosis Elements
▶ Presenter: Dr. Maria Angeles Perez, Senior Technical Service Engineer, DuPont
THEATER 2

11.2 Artificial Intelligence in Desalination

Topic Chair:
▶ Prof. Tony G Fane Ph. D, University of New South Wales

Session Chairs:
▶ Dr. Antonella De Luca, Head of Competence Center Environmental Solutions, Omya
▶ Mr. Juan Miguel Pinto, Director, Sales and Strategy, Americas, Energy Recovery

08:30 - 08:50
A Theoretical Deep Neural Network Framework for Mapping Biofouling with Hydrodynamic Parameters
▶ Presenter: Dr. Adnan Qamar, System Modeling and Data Specialist, KAUST

08:55 - 09:15
Artificial Intelligent in Designing Water Desalination Plant
▶ Presenter: Mr. Essam Albishi, Head of Artificial Intelligence, Saline Water Conversion Corporation

09:20 - 09:40
A Machine Learning Deployment to a Large Middle East Sea Water Reverse Osmosis Plant to Save Energy
▶ Presenter: Dr. Mike Dixon, CEO, Synauta

09:45 - 10:05
Data-Driven Digital Tool for Smart Ro Membrane Management in a Large Scale Seawater Desalination Plant
▶ Presenter: Ms. Marie Gaveriaux, Digital Product Owner, Veolia Water Technologies
10:20 - 11:00 AM Break

11:00 - 11:20
Digitization of a Novel HDH System: An AI Framework to Optimize and Guide the Technology Development
▶ Presenter: Prof. Bahman Abbasi, Assistant Professor, Oregon State University

11.3 Digital Twins in Desalination

Topic Chair:
▶ Prof. Tony G Fane Ph. D, University of New South Wales

Session Chairs:
▶ Dr. Antonella De Luca, Head of Competence Center Environmental Solutions, Omya
▶ Mr. Juan Miguel Pinto, Director, Sales and Strategy, Americas, Energy Recovery

11:25 - 11:45
Pre-Commissioning Digital Twin for Optimising Operation and Knowledge Transfer of Tseung Kwan O Desalination Plant
▶ Presenter: Mr. Chaim Kolominskas, Manager - EVS Water, Envirosuite

11:50 - 12:10
Process Simulation for Design and De-Risking of a Complex Mine and Power Station Water Re-Use and Brine Project
▶ Presenter: Dr. Matthew Brannock, Technical Director - Water & Brine Process, GHD

12:15 - 12:35
The Barrel: The Next Generation of Desalination Plants
▶ Presenter: Mr. Jean-Baptiste Thubert, CTO, Veolia Water Technologies
THEATER 3

2.5 New Treatment Techniques for Water Reuse

Topic Chair:
- Dr. Domingo Zarzo, Innovation and Strategic Projects Manager, Sacyr Water

Session Chairs:
- Dr. Monica Boodhan, Lecturer, the University of Trinidad and Tobago
- Mr. Alejandro Sturniolo, Global Head of Water Reuse & Strategic Partnerships, H2O Innovation

08:30 - 08:50
Clarification of RO Biofouling Mechanism and Development of New PVDF UF Membranes for RO Pretreatment
- Presenter: Dr. Shigehisa Hanada, Research Associate, Toray Industries, Inc.

08:55 - 9:15
Evaluating And Visualizing the Effect of Membrane and Feed Spacer in Biofouling Development Through FilmTecTM FortilifeTM Director Tool
- Presenter: Dr. Guillem Gilabert Oriol, Technical Leader, DuPont

09:20 - 09:40
High Recovery Water Treatment for Non-Potable Reuse Using an Integration of Ion Exchange and Reverse Osmosis
- Presenter: Mr. Will McLean, Business Development Coordinator, Clean TeQ Water

09:45 - 10:05
Implementing Desalitec™ Soar CCRO to Increase Efficiency and Reliability in Wastewater Reuse
- Presenter: Dr. Santhosh Ramalingam, Technical Services Manager, DuPont
10:20 - 11:00 AM Break

11:00 - 11:20
Investigating the Potential for Closed Circuit Reverse Osmosis (CCRO) to Reduce Concentrate Flows on a Future Inland Water Reuse Application
  ▶ Presenter: Mr. Christian Sanders, Environmental Engineer, CDM Smith

2.6 Virus and Bacteria Removal Including Log Credit Techniques

Topic Chair:
  ▶ Mr. Jim Lozier, VP, Global Tech Leader for Desalination, Jacobs

Session Chairs:
  ▶ Ass. Prof. Muhammad Wakil Shahzad, Northumbria University
  ▶ Dr. Heike Glade, Head of Research Group, University of Bremen

11:25 - 11:45
RO and NF Membranes Performance Monitoring in Water Reuse Applications by Continuous Measuring of Adenosine Triphosphate
  ▶ Presenter: Mr. Luis Navarro, Business Development Manager, Hach

3.1 Environmental Issues in the Mining Industry

Topic Chair:
  ▶ Mr. Borja Blanco, CEO, Aqua Advise

Session Chairs:
  ▶ Mr. Roberto Mangano, Managing Director, ILF Consulting Engineers Abu Dhabi
  ▶ Prof. Long Ngheim, Professor, Director of the Centre for Technology in Water and Wastewater, University of Technology Sydney
11:50 - 12:10
A Novel Ion Exchange and Encapsulated Bacteria System for Complete Nitrate Removal
	Presenter: Mr. Will McLean, Business Development Coordinator, Clean TeQ Water

12:15 - 12:40
Solution Alternatives Study for Fouling MBR Membranes in an Industrial Wastewater Treatment Plant Ice Cream Factory
	Presenter: Mrs. Patricia Terrero, Sacyr Agua

THEATER 4

4.1 Zero Liquid Discharge and Brine Concentration Techniques

Topic Chair:
	Mr. Neil Palmer, Chief Technology Officer, Osmoflo

Session Chairs:
	Mr. Devesh Sharma, CEO, Aquatech International
	Mr. Victor Verbeek, ANZ Regional GM, Toray Membrane Australia

08:30 - 08:50
Analytical Study of a Low-Grade Solar Heat Based Thermal Compressor Actuating a Novel Off-Grid Water Desalination
	Presenter: Prof. Bahman Abbasi, Assistant Professor, Oregon State University

08:55 - 09:15
Innovative Solar Driven Tri-Hybrid Cycle for Future Sustainability
	Presenter: Ass. Prof. Muhammad Wakil Shahzad, Northumbria University
4.2 Improvements for Hybrid Renewable Projects

**Topic Chair:**
- Mr. Kevin Price, Principal, AWTT, LLC

**Session Chairs:**
- Dr. Tariq Nada, Chief Technical Officer, KSA Portfolio, ACWA Power
- Mr. Ties Venema, Group Vice President & Managing Director S3C, H2O Innovation

**09:20 - 09:40**
Application of Artificial Neural Network to Model Hydrogen Production from Wastewater by Dark Fermentation Process
- **Presenter:** Mr. Ahmad Hosseinzadeh, University of Technology Sydney (UTS)

**09:45 - 10:05**
Energy and Water without Carbon: Integrated Nuclear Power and Large-Scale Desalination at Diablo Canyon
- **Presenter:** Dr. Andrew Bouma, PhD, Massachusetts Institute of Technology (MIT)

**10:20 - 11:00 AM Break**

**11:00 - 11:20**
Noble Approach for Net Zero Carbon Emission Desalination Configuration Facilitated in Hydrogen Production
- **Presenter:** Mr. Youngwook Yoo, Senior Water Expert, Saudi Water Conversion Corporation (SWCC)

**11:25 - 11:45**
Predictive Time-Variant Photovoltaic-Electrodialysis: A Novel Design Using Machine Learning and Control Theory
- **Presenter:** Dr. Amos G. Winter, Associate Professor of Mechanical Engineering, Massachusetts Institute of Technology
4.3 Mega Projects Using Renewable Energy

**Topic Chair:**
- Mr. Kevin Price, Principal, AWTT, LLC

**Session Chairs:**
- Dr. Tariq Nada, Chief Technical Officer, KSA Portfolio, ACWA Power
- Mr. Ties Venema, Group Vice President & Managing Director S3C, H2O Innovation

11:50 - 12:10
Analysis of Solar Thermal Driven Membrane Distillation System Developed for Desalination in Different Conditions
- Presenter: Ms. Yingfei Huang, Ph.D. Candidate, University of New South Wales

12:15 - 12:35
- Presenter: Dr. Lahcen Hasnaoui, Hydro Advisor
Outback Discussions
Outback Theater
Exhibition Hall 5-6
Day 1
Monday, 10 October 2022

14:00 - 15:00  IDA - WRA Panel

Water Reuse: Moving Toward the Future of Water Management

Whether it is irrigation, industrial cooling, or drinking water, today’s technology allows us to treat any water source to a quality suitable for any use. This panel will explore the steps to launch a successful water reuse project, including the decision path for communities, piloting, design and facility start-up. Learn about the use of membrane technology to allow potable and non-potable reuse, examples of innovative projects, and the evolution of purified recycled water for drinking around the world.
Moderator:
Mr. Paul Sciuto, General Manager, Monterey One Water, USA

Panelists:
Mr. Michael Bourke, Director of Business Development, Wigen Water Technologies, USA

Mrs. Danielle Francis, Manager Liveable Communities, Water Services Association of Australia

Mr. Greg Wetterau, Vice President, CDM Smith, USA

15:00 - 15:30 The Future of Water

15:30 - 16:00 Refreshment Break

16:00 - 17:30 Let's Hear from the Leading Water Reuse Facilities of the World

This panel discussion will focus on real life testimony from major utilities around the World on how they made their Water Reuse program become a reality. Going from ideation, to convincing, to budgeting, to designing and to finally operating a Water Reuse facility requires resilience and perseverance. Many challenges of very...
different nature depending on the stage of the project have to be overcome to develop such meaningful infrastructure. Our panelists, leaders of major utilities from around the World, will share with the audience the most interesting parts of their journey towards building a successful Water Reuse Program.

Moderator:
Mr. Guillaume Clairet, H2O Innovation, Canada

Panelists:
Dr. Marcio José, Aquapolo Ambiental, Brazil

Mr. Paul Sciuto, Monterey One, USA

Mr. Evan Hambleton, Assets Planning & Delivery Manager, Water Corporation

Mr. Ryan Yuen, Managing Director, SIWW, PUB, Singapore
Day 2
Tuesday, 11 October 2022

08:30 - 09:30 A Circular Future for Water

09:30 - 10:30 TORAY

10:30 - 11:00 Coffee Break

11:00 - 11:30 ROPV

11:30 - 12:30 Leading Sustainable Desalination Now

12:30 - 13:00 Stantec Innovation Office Equity Investment in Tech Start-Ups
Dr. Marshall Davert, Head of Innovation, Stantec

13:00 - 14:00 Lunch Break

14:00 - 14:30 LG Chem
14:30 - 15:00

Nanostone Water Innovative Ceramic Membrane Technology in Water Treatment Applications

15:00 - 15:30

Refreshment Break

16:00 - 16:30

Planning and Concept Design of Perth’s Third SWRO Desalination Plant, Co-development with Groundwater

16:30 - 17:30

YLP Forum Facing Water Availability and Sanitation Challenges: Thoughts from Industry leaders
Day 3
Wednesday, 12 October 2022

08:30 - 09:30  Trends in Desalination Technology, is RO Mature Enough? Do we Have Another Sustainable Technology on the Horizon?

09:30 - 10:00  Challenging New Ways to Manage Water
Mr. Carlos Cosín, CEO, Almar Water Solutions
Mr. Gonzalo Gomez-Rodulfo, Chief Operation Officer, Almar Water Solutions

10:00 - 10:30  Coffee Break

11:00 - 13:00  SWCC: The Journey Beyond

13:00 - 14:00  Lunch Break

14:00 - 15:00  Innovation in Desalination
15:00 - 15:30  Refreshment Break

15:30 - 16:30  Dams Development under the PPP Model & Future SWPC Projects

16:30 - 17:30

17:30 - 18:30  IDA Membership Meeting

Day 4
Thursday, 13 October 2022

08:30 - 09:00  Innovation to Tackle the Water Tariff Inflation

09:00 - 10:30  IDA Innovation Forum
The IDA Innovation Forum, new to the World Congress, is specifically designed to introduce new and innovative solutions from universities, research centers, technology developers, and start-up companies to major organizations in the water and energy sectors, venture capitalists, developers, and investor’s.

Moderators:

Dr. Victor Monsalvo, Aqualia, Spain
Mrs. Olga Sallangos, Caramondani Desalination Plants, Cyprus

Selection Committee:

Dr. Emilio Gabbrielli, International Water Advisor, Australia

Mr. Robert Garner, Director (Water Supply), ENOWA - NEOM, Saudi Arabia

Prof. John H Lienhard V, MIT, USA

Mr. Kevin Price, Independent Consultant, USA

Dr. Miriam Balaban, Secretary General, European Desalination Society, Israel

Dr. Jauad El Kharraz, Executive Director, ICREE, Egypt
Dr. Masura Kurihara, Toray, Japan

10:30 - 11:00  Coffee Break
11:00 - 12:00  Addressing Global Membrane System Safety and Reliability

A Call to Action for Newer and Aging Installations. Description: Pressure Vessel technology utilizing FRP with flexible grooved end couplings became the industry standard in the early 1980s. In those early days, Pressure Vessel Service Life was estimated to be 15 to 20 years. Today, tens of thousands of membrane pressure vessels and interfacing connections throughout the desalination industry are reaching a critical period where many may be nearing the end of their service life and creating risks for plant operators.

This panel discussion will contain End Users, System Integrators, Consultants, Pressure Vessel and Coupling Suppliers to discuss the industry’s current state and clearly identify the challenges ahead for the membrane system industry.

Moderator:

Mr. Doug Eisberg, Vice President of Sales, Avista Technologies, Inc., USA
Panelists:

Mrs. Sharon McNeil, Manager – Desalination Operations, Water Corporation of Western Australia

Mr. Con Sikallos, Principal Mechanical Engineer, Jacobs, USA

Mr. Greg Finlayson, Senior Technical Director of Water and Strategy, GHD

Mr. Sean McCagh, Commissioning Start Up Engineer, RO-TEG, USA

Mr. Guillaume Clairet, Chief Operating Officer, H2O /Piedmont, Canada

Mrs. Miriam Brusilovsky, Technical Director IDE Water Assets, IDE Technologies, Israel

Mr. Olivier Bedague, Sales Director, Protec / Arisawa, USA
Mr. Atul Kakkar, General Manager, CodeLine, USA

12:00 - 12:30

13:00 - 15:00 Closing Lunch and Awards
The effects of climate change and the ever-growing demand for clean water globally underscore the urgency of sustainable water solutions. We must chart resilient water solutions and enlist the global community in this mission.

The Leaders Summit takes us one step closer to addressing such solutions. The Summit will provide a shared space for meaningful conversations among executives from various sectors, including finance, legal, project development, public and private utilities, industrial water users, and technical solution providers. Topics include addressing the looming water crisis, the effect on food security, and the water-energy-food nexus. ESG Criteria and Ensuring Water Sector PPPs also fit the 2030 UN Agenda, how water will drive hydrogen, capture the value of water, how to innovate the water sector, and net zero and water positive goals for the industry.
Mr. Imad Makhzoumi  
IDA Board Member, CEO, ENOIA

Ms. Shannon McCarthy  
IDA Secretary General

Mr. Carlos Cosin  
IDA President and CEO of Almar Water Solutions

H.E. Eng. Ahmed Mohammed Belajar Al Rumaithi  
Under Secretary for the Department of Energy, Abu Dhabi

Dr. Gonzalo Delacamara, Director  
IE Centre for Water & Climate Adaptation

Prof. John H. Lienhard V  
Professor and the founding Director of the Abdul Latif Jameel Water and Food Systems Lab J-WAFS, MIT, USA

Mrs. Katrina Donaghy  
CEO of Civic Ledgers

Mr. Adam Wilson  
CEO, Essential Services Commission of South Australia (ESCOSA)

H.E. Eng. Khaled Al Qureshi  
CEO, SWPC

Dr. Tariq Nada  
Vice President, ACWA Power Water CTS

Mr. Roch Cheroux  
CEO, Sydney Water

Mr. Paul Sciuto  
CEO, Monterey One Water

Mr. Jose Diaz Caneja  
CEO, Acciona Agua

Dr. Juan Carlos de Pablo  
Managing Partner, Ecoinversol
Schedule

Room E5.2 & 3, above exhibition hall on level 5

Emcee Morning Session:
Mr. Imad Makhzoumi, IDA Board Member,
CEO, ENOIA, UAE

09:00 - 09:15
Welcome Remarks
▶ Ms. Shannon McCarthy, IDA Secretary
   General, Italy
▶ Mr. Carlos Cosin, IDA President and CEO of
   Almar Water Solutions, Spain

09:15 - 09:30
Keynote: Addressing the Energy-Water Nexus
▶ H.E. Eng. Ahmed Mohammed Belajar
   Al Rumaithi, Under Secretary for the
   Department of Energy, Abu Dhabi, UAE

09:30 - 10:30
Panel 1: The Looming Water Crisis and the
Effect on Food Security
As the global population grows from 7 billion in
2010 to 9.8 billion in 2050, and incomes steadily
grow across the developing world, despite
current sluggish rates, overall food demand is
on course to increase by more than 50%, and
demand for animal-based foods by nearly 70%.
Cropland area has been slightly rising over
the last decades (only as the outcome of the
expansion of agriculture and cattle breeding in
emerging economies, which offset the decrease
in the most advanced economies). Cropland per
capita, though, has collapsed. Producing more
calories in less land per capita is only feasible
through significant increases in yields per land
unit. Some productivity improvements have
actually been observed, yet at a pace that would
not allow us to hit the target. This has driven
major pressures on water resources and soil,
thus showing that enhanced water security (including through the diversification of water supply sources) within the context of climate change adaptation is a binding condition for food security. This Leaders Summit session will look at this critical linkage from three atypical standpoints: the emphasis on food and water systems (rather than just on their long-term security), the importance of taking a long-term perspective from the regulatory point of view to pave the way for dialogue and to facilitate adaptation, and next generation marketplaces for water.

Moderator:
▶ Dr. Gonzalo Delacamara, Director, IE Centre for Water & Climate Adaptation, Spain

Panelists:
▶ Prof. John H. Lienhard V, Professor and the founding Director of the Abdul Latif Jameel Water and Food Systems Lab J-WAFS, Massachusetts Institute of Technology (MIT), USA
▶ Mrs. Katrina Donaghy, CEO of Civic Ledgers, Australia
▶ Mr. Adam Wilson, CEO, Essential Services Commission of South Australia (ESCOSA)

10:30 - 11:00
Refreshment Break
Foyer at Room E5.2 & 3, above exhibition hall on level 5

11:00 - 12:00
Panel 2: ESG Criteria and Ensuring Water Sector PPPs fit the 2030 UN Agenda
This panel brings developers, regulators, and lenders together to discuss the outcomes and success stories of PPP projects in the water sector and how this model has helped meet ESG criteria. World-class investors are conscious of the importance of sustainability to the success of long-term projects, which PPP projects are.
Moderator:
▶ H.E. Eng. Khaled Al Qureshi, CEO, SWPC, Saudi Arabia
Co-Moderator:
▶ Dr. Tariq Nada, Vice President, ACWA Power Water CTS, Saudi Arabia

Panelists:
▶ Mr. Roch Cheroux, CEO, Sydney Water, Australia
▶ Mr. Paul Sciuto, CEO, Monterey One Water, USA
▶ Mr. Jose Diaz Caneja, CEO, Acciona Agua, Spain

12:00 - 13:00
Panel 3: The Future of Clean Energy through Green Hydrogen is Non-conventional Water
While solar and wind are well established in the renewable energy mix with significant market share, Hydrogen is now taking an innovative step towards opening a new path as a clean, local, and efficient energy source with commercial viability. Clean water is a critical resource for the electrolysis process, and it will (no doubt) take a distinct role in redefining the energy, mobility, and other vital sectors by producing green Hydrogen.

Moderator:
▶ Mr. Carlos Cosin, IDA President, CEO, Almar Water Solutions, Spain

Panelists:
▶ H.E. Eng. Ahmed Mohammed Belajar Al Rumaithi, Under Secretary, Department of Energy, Abu Dhabi, UAE
▶ Dr. Juan Carlos de Pablo, Managing Partner, Ecoinversol, Spain

13:00 - 14:30 Lunch Lunchroom, Hall 5-6
Emcee Afternoon Session:
Mr. Borja Blanco, IDA Board Member, CEO, Aqua Advise, Spain

14:30 - 15:15  
Panel 4: Capturing the Value of Water  
Moderator:  
▶ Mr. Gavin Van Tonder, Water Sector Head, NEOM, Saudi Arabia  
Panelists:  
▶ Mr. Johnny Obeid, Vice President, Veolia Water Technologies, MENA  
▶ Dr. Hu Fleming, Partner, Upwell Water, USA  

15:15 - 15:30  
Keynote: H.E. Eng. Abdullah Ibrahim Al-Abdulkarim, Governor of SWCC, Saudi Arabia  

15:30 - 15:45 Refreshment  
Foyer at Room E5.2 & 3, above Exhibition Hall on level 5  

15:45 - 16:00  
IDA Talk: Future of Industrial Water  
▶ Mr. Devesh Sharma, IDA Vice President, CEO, Aquatech International, USA  

16:00 - 16:15  
IDA Talk: Building an Innovative Future  
▶ Dr. Marshall Davert, Head of Innovation, Stantec, USA  

16:15 - 16:30  
IDA Talk: The Red Book  
▶ Mr. Eduardo Orteu, Counsel, Gómez-Acebo & Pombo Abogados, SLP, Spain  

16:30 - 17:15  
Panel 5: Net Zero and Water Positive Goals for Industry  
The global community’s dedication to ESGs has reached new levels. Industry represents a key stakeholder in this process and the growing commitment to reach net zero carbon and
water positivity is a daily conversation. But....can this really be done? Join panelists representing industrial water to discuss the various challenges and approaches to achieving this very important target.

Moderator:
▶ Mr. Fady Juez, Managing Director, Metito, UAE

Co-Moderator:
▶ Mr. Alejandro Sturniolo, Global Head of Water Reuse & Strategic Partnerships, H2O Innovation, Canada

Panelists:
▶ Mrs. Eva Jalon, CEO, Sacyr Water, Spain
▶ Mrs. Marta Verde, CEO, GS Inima Environment, Spain

17:15 - 17:30
Closing Remarks: Outgoing and Incoming IDA Presidents

18:30 - 20:30
Cocktail Reception (Invite Only)
Special Programs
The IDA Innovation Forum, new to the World Congress, is specifically designed to introduce new and innovative solutions from universities, research centers, technology developers, and start-up companies to major organizations in the water and energy sectors, venture capitalists, developers, and investor’s.

This new event at the World Congress will be held on Thursday 13 October, 09:00-10:30, Outback Discussion Theater.
YLP ROUND TABLE SESSION

The IDA Young Leaders Program was officially launched at the 2009 World Congress in Dubai. The goals of this exciting initiative are to help promote opportunities in the industry, support career advancement, and provide a forum for communication and the exchange of ideas among young professionals and the industry at large. The YLP is open to any IDA member 35 years of age or under.

Schedule

Wednesday, October 12, 16:00-17:00, Lunchroom Exhibition Hall 5-6

Tackling SDG Goals
Dr. Monica Boodhan
At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries - developed and developing - in a global partnership. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, water and sanitation, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests. Join us in this discussion.

Wave to Water Technologies
Mr. Dragan Tutic
Learn about the latest advancements and how wave powered desalination is pushing for new standards of sustainability.
Energy Efficiency
Ms. Zaina Naser
Let’s discuss about the energy efficiency and inefficiencies in Desalination and how to reduce the carbon footprint.

Brine Mining
Mr. Rory Weaver
Open discussion on technical and economic feasibility of brine mining, stimulated by progress in Saudi Arabian pilot aimed at extracting high purity sodium chloride for the chlor-alkali industry.

Next Generation Desal
Mr. Quantum Wei
Join me for a round table discussion on how the next generation of desalination systems may solve SDG6.

Thermal Desalination
Dr. Mohammad Wakil Shazad
At this round table we will discuss about state-of-the-art thermal desalination and their hybrids with other processes to improve overall performance. Panel will also shed light on performance evaluation of integrated desalination plants when operated with assorted form of energies.

Biofouling in Membrane Systems
Dr. Guillem Gilabert Oriol
Biofouling is one of the biggest pain points in desalination. Let’s discuss how to prevent, mitigate and deal with biofouling.

Building your Personal Brand for Career Growth
Dr. Giancarlo Barassi
Let’s discuss your plan short, mid and long term. What actions have you taken that will have a positive impact towards your career growth? What seems to work what doesn’t. Let’s share our experiences with one another.
The Role of Chemicals in Desalination
Mr. Daniele Strongone
Next generation of chemicals leading to environmentally friendly desalination and higher plant availability.

Remineralization
Dr. Antonella De Luca
Let’s review the importance of minerals in drinking water and new techniques for remineralization.

AI and Machine Learning
Mr. Devesh Bharadwaj
Artificial intelligence enables operational teams at treatment facilities to do more with less. By pairing operators with AI, facilities are able to get predictive performance analysis and actionable recommendations on things like where to adjust a set point to lower energy consumption or when is the best time to service an asset, like conducting a membrane cleaning. AI empowers teams with the latest plant data so they can make better operational decisions, reducing risks and costs, as well as a plant’s overall carbon footprint.

Life in Academia
Dr. Motasem Abushaban
Finishing your PhD there may be many paths. Academia is one. Learn more about this transition.
Sydney Desalination Plant Tour

An essential component of Sydney’s water supply resilience supplying up to 250 megalitres per day of drinking water (15% of Sydney’s water needs), the Sydney Desalination Plant was built between 2008 and 2010 in response to the millennium drought and operated successfully for two years. With water storage dams recovering to high levels, a decision was made to place the plant in a state of long term preservation ready to respond to the next drought. In late 2015 a tornado hit the plant causing extensive damage, and requiring thorough inspection and reinstatement to its pre-storm condition. This was completed successfully in late 2018. In January 2019, after seven years of preservation, the plant was successfully restarted and continues to be available to assist the supply of water to Sydney’s customers. A tour of the Sydney Desalination Plant provides a unique insight to a large scale reverse osmosis plant that has faced many challenges that include full operations to deep preservation and the recovery from extensive tornado damage.

Tour Details:
Date: Friday, October 14, 2022
Duration: 08:30am – 12:30pm (Overall time from pickup to return 3.5 to 4 hours)
Pickup/Dropoff Location: ICC Sydney
Description: A detailed tour of all process treatment facilities from the seawater intake system through pretreatment, reverse osmosis, remineralization and on-site storage/pumping into distribution
Important Information:
Must bring a photo ID.
Smoking, snacking or drinking is not permitted.
Clothing requirements are long pants, long sleeve shirts and closed shoes.
The tour will take place rain or shine. Picture and video taking is allowed. Attendees must demonstrate that they are fully vaccinated. Overall temperature in October is 20°Celsius/68°Fahrenheit. The tour may be subject to change in the event of a Covid Outbreak.

To be waitlisted for the tour contact: jlandini@idadesal.org
UNESCO Centre for Membrane Science and Technology at UNSW Tour

The UNESCO Centre for Membrane Science and Technology at UNSW is Australia’s oldest and continually operating academic research centre focused on membrane separations. Founded in 1980, with UNESCO accreditation in 1992, the UCMST is a multidisciplinary centre of fundamental and applied research on gas and liquid separations. Our research is divided across six themes including membrane development; water and wastewater, food and agriculture, process design, greenhouse gas technology and bioseparation. Facilities at UNSW include membrane fabrication and characterisation, membrane module design, small scale pilot equipment, gas separation and food and bio-processing systems.

Tour Details:
Duration: 1.5 hours including presentation and morning tea with Centre founders, Emeritus Professors Tony G Fane and Chris Fell.
Location: UNSW Sydney, 20 minutes from Circular Quay on the Sydney light rail. The membrane centre is located on the 5th floor of the Science and Engineering Building. (Grid Reference E8) at the UNSW Sydney Kensington campus.
Guests: The tour and morning tea is limited to 30 participants.
Date: Friday, October 14, 2022. Arrive 15 mins before start time.
Security & Safety: Closed toe shoes. Safety glasses and lab coats will be provided.
Transportation: Participants can take the local train/tram to the Centre. Cost is AUD2.75 each way and can be paid for at stations by Sydney transport card or credit card. There are two stations near the ICC – one across from the entrance of the Sofitel Hotel.

For more information contact kzilinek@idadesal.org.
Industry and Sustainability Awards

IDA is delighted to announce that, at this year’s World Congress Gala event in Sydney, held on Wednesday, Monday October 10, 2022, we will honor the efforts of selected companies, organizations, and even cities with outstanding industry and sustainability awards. The nomination period for these awards is now open. Those who challenge themselves to innovate and meet the increasing demands for municipal and industrial water needs, will be acknowledged for their exceptional contributions. These awards reflect the diversity of contributions present in the water community. From municipalities to corporations, these award categories recognize the varied ways in which the global community is tackling water scarcity in order to ensure a future in which clean water and sanitation are universal.

The Awards are open to IDA members and non-members.
Industry and Sustainability Awards Committee

Meet the I&S Awards Committee members. The Industry and Sustainability Awards acknowledges leaders throughout the water reuse industry and this year’s winners are selected by the I&S committee members using a weighted percentage score process.

Our committee members bring a vast amount of experience in the water sector. We thank all of you for your participation in this important and prestigious presentation at our World Congress.

Professor DucLong Nghiem
Director
Centre for Technology in Water & Wastewater, University of Technology Sydney

Dr. Michael R. Markus, P.E., D.WRE, BCEE, F.ASCE
General Manager
Orange County Water District

Dr. Jantje Johnson
Founder and Chief Technology Officer
Orangeboat, LLC.

Dr. Gonzalo Delacamara
Director
Centre for Water & Climate Adaptation, IE University

Mr. Randy Truby
Consultant, R L Truby & Associates
Industry Awards

01 Best Public-Private Partnership
The company exemplifies collaboration with a public utility.

02 Most Innovative Utility
A national or local utility that brings innovation to secure clean and fresh water for their consumers.

03 Best Private Company (Global)
The company makes an overall contribution to water sustainability using non-conventional water resources, to be Water Positive, in its region.

04 Most Innovative Company
The company that executed the project we all wish we had thought of and employed a breakthrough technology enhancing the desalination process.

05 The Most Progressive Disruptive Policy in Water Reuse
The project is moving the needle in the public sector to support and grow water reuse implementation.

06 Best Performing Company in Water Reuse
The company has exemplified efficiency, best-in-class technology, and operations to earn the highest quality plant performance.
## Sustainability Awards

### 07
**The Most Resilient City**
The city has created infrastructures and best practices for a community that can thrive and adapts to climate change and water scarcity.

### 08
**Most Innovative Water-Energy Nexus Project**
The project that bridges the gap and capitalizes on the synergies between its community's water and energy needs.

### 09
**Best Implementor of UN Sustainability Development Goal 6 Water for All (SDG6)**
The company that ensured availability and sustainable management of water and sanitation for all.

### 10
**Best Corporate Social Responsibility Project**
The company that utilized desalination or water reuse technology to improve the lives of a community by creating a regenerative water economy to be Water Positive.
**Technical Paper Awards**

At each World Congress, IDA gives awards for the best oral and written papers presented as part of the Technical Program in five categories. Winners are selected by members of the World Congress Awards Committee, using a weighted percentage score. These awards are presented at the Closing Luncheon.

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
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<tr>
<td>State-of-the Art</td>
<td>Best paper that presents the application of an established desalination or water reuse technology in a way that reflects the best engineering practices in all aspects of the project or topic presented that is significant for the global industry.</td>
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<tr>
<td>Innovation</td>
<td>Best paper that presents an innovative desalination or water reuse technology that has reached the commercial stage, is not yet considered to be widely adopted but is likely to become a game-changer for the industry.</td>
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<tr>
<td>Research and Development</td>
<td>Best paper that presents fundamental or applied research of a technology or concept related to desalination or water reuse that is at a pre-commercialization stage but shows interesting signs of development which could lead to impactful discoveries or technologies once at maturity.</td>
</tr>
<tr>
<td>Environment and Sustainability</td>
<td>Best paper presenting a desalination or water reuse topic, case study, a technology or any project in such a way that demonstrates how desalination can be applied while respecting the environment and applying the best sustainability principles.</td>
</tr>
<tr>
<td>Young Leader</td>
<td>Best paper presented by a member of the IDA Young Leaders Program demonstrating scientific originality relevant and important to the fields of desalination and/or water reuse.</td>
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**Special Awards**

**Presidential**

The Presidential Awards are conferred upon individuals and organizations whose work on behalf of IDA and the desalination industry demonstrate outstanding achievement, leadership and vision. The awards will be bestowed by the IDA President, Mr. Carlos Cosin.

**Lifetime Achievement**

IDA’s Lifetime Achievement Award recognizes outstanding achievements and contributions to our industry. All IDA Lifetime Awardees receive a commemorative plaque and lifetime access to attend all IDA events at no registration fee.

**Emerging Leader Achievement Award**

Introduced in 2011, this award is given to one member of the IDA Young Leader’s Program whose contribution to the desalination and water reuse industry has shown a track record of positive leadership and originality.

**Delegate-Voted Awards**

Delegates at the World Congress cast their votes for winners in the following four categories via the mobile app:

- **Best Moderator**
- **Best Session Chairman**
- **Best Presenter**
- **Best Poster**
The World’s Most Extensive Desalination and Water Reuse Exhibition

The IDA World Congress is the most extensive desalination and water reuse exhibition globally. It's where world-leading private and public companies share the latest innovations in technologies, equipment, projects, and knowledge about desalination, water reuse, and advanced water treatment. And it’s the best place for networking opportunities with stakeholders and professionals from the water sector.

View the floor map
Exhibitors

Exhibitors include companies such as Dupont, Toray, ICWA Power, Almar, Osmoflo, Ropv, Nanostone, Suez, Gradiant, GS Inima, Sacyr, Jacobs, Veolia, Ruhrpumpen, Lantania, Stantec, Acciona, Andritz, Agseplence Group, and Arflu.
## Exhibitor Listing

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<td>ACWA Power</td>
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<td>Almar Water Solutions</td>
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<td>American Water Chemicals</td>
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<td>Andritz</td>
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<td>Arflu</td>
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<td>Avista</td>
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<td>Duchting Pumpen</td>
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<td>H2O Innovation Group Companies</td>
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<td>Hubert Water Treatment Solutions</td>
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Contact
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info@idadesal.org