Program

IDA-SWCC DTRI
International Specialty Conference on
Ocean Brine Mining
March 21-23, 2022
Le Meridien Hotel, Al Khobar, Saudi Arabia
International Specialty Conference on Ocean Brine Mining

This conference is organized by the International Desalination Association (IDA) and the Desalination Technologies Research Institute (DTRI) of the Saline Water Conversion Corporation (SWCC) under the patronage of the Ministry of the Environment, Water and Agriculture of the Kingdom of Saudi Arabia.

Focus on the Value of Brine form Desalination Plants

Brine from desalination plants contains valuable minerals and Desalination Brine mining has the potential to surpass earth mining as a source of rare-earth metals such as lithium, strontium, cesium, rubidium, barium and others. Desalination brine mining brings a new era of exploration of the vast water resources of the planet. This conference opens a venue for presenting and discussing the latest advanced technologies for extraction of minerals and rare metals from brine generated by desalination plants.

Purpose of this Conference

The main purpose of the 3-day Desalination Brine Mining Conference is to provide a forum for expert scientists, applied researchers, practitioners and innovators in the field of desalination brine mining to share their latest technologies and experience of mineral and metal extraction.

Emphasis will be given to membrane based ocean brine concentration and advanced extraction methods and technologies which combine low energy use and competitive production of rare metals and minerals.

The focus of the presentations will be technologies and systems that are advanced to the point of proof-of-concept and beyond, that have potential to yield minerals and rare metals at cost lower than that of earth mining and conventional methods of production. Presentations sharing case studies for demonstration or full-scale implementation of brine concentration and mineral extraction technologies are very welcome.

Conference Venue and Time

The conference venue is the Conference Auditorium of the InterContinental Hotel in the City of Jubail, Saudi Arabia. The conference dates are March 21-23, 2022.

Key Themes of the Ocean Brine Mining for Desalination

The presentations of the Ocean Brine Mining for Desalination will be divided into three days. Each day will have one morning and one afternoon session and each session will include six 25-minute presentations each followed by 10-minute discussions.
DAY 1 Monday, March 21st

Morning Themes
• State of the Art of Thermal Brine Concentration
• Advanced Technologies for Membrane Brine Concentration
• Non-thermal & Non-membrane Brine Concentration Technologies
• Brine Concentration for Harvesting of Minerals
• Brine Concentration for Harvesting of Rare Metals

Afternoon Themes
• Brine Concentration for Zero Liquid Discharge
• Case Studies for Brine Concentration
• Case Studies for Zero Liquid Discharge
• Lowering Cost and Energy Use Barriers for Brine Concentration
• The Future of Brine Concentration – Next Generation Technologies

DAY 2 Tuesday, March 22nd

Morning Themes
• Keynote - State of the Art of Mineral Mining – What Minerals at What Cost?
• Advanced Technologies for Mining of Sodium Chloride
• Advanced Technologies for Mining of Calcium and Magnesium Salts
• Market Survey for Desalination Brine Minerals
• Case Studies for Mining of Minerals

Afternoon Themes
• Keynote - State of the Art of Metal Mining – What Metals at What Cost?
• Advanced Technologies for Mining of Lithium, Rubidium and Cesium
• Advanced Technologies for Mining of Other Rare Metals
• Market Survey for Mining of Rare Metals from Desalination Brine
• Case Studies for Mining of Rare Metals from Desalination Brine
DAY 3 Wednesday, March 23rd

Case Study Themes
- Market Survey for Desalination Brine Minerals
- Mining of Minerals from Desalination Brine
- Zero Liquid Discharge Projects
- Combined Desalination and Brine Mining Projects

Expert Panel on Brine Mining – Challenges and Solutions
- State of the Brine Mining Science and Technology
- Brine Concentration – Targets and Solutions
- The Future of Zero and Near Liquid Discharge
- Cost and Energy Use for Brine Concentration and Mining

Afternoon Site Visits
- DTRI Brine Concentration Demonstration Plant in Jubail
- Ras Al Khair SWRO Desalination Plant on Arabian Gulf Coast

Cash & Scholarship Awards

An independent panel of experts will review and evaluate the presented technologies for Desalination Brine mining and will award three Cash Awards as follows:

- The Premier Best Paper Award | US$10,000
- The Best Paper Award | US$5,000

Two researchers will be awarded 6-month DTRI Scholarships for funding and pilot testing of their research at the DTRI in Jubail. The scholarships will cover all expenses of the selected scientists to travel to Jubail and to pilot test and advance the development of their technologies for 6 months at the DTRI and will provide 6-month stipendium/salary for the period of the scholarship. The two scholarships to be awarded by DTRI/SWCC are:
• Scholarship for Advancement of Mineral Extraction Technology
• Scholarship for Advancement of Rare Metal Extraction Technology

Conference Chairman:

Dr. Ahmad S. Al-Amoudi, President

Conference Technical Program Committee Chairman:

Mr. Nikolay Voutchkov, Senior Expert

Conference Technical Program Committee:

Dr. Christopher Fellows, Senior Expert
Mr. Fritz Alt, Senior Expert
Dr. Basel Al Sharkh, Senior Expert
Dr. Seungwon Ihm, Senior Expert
Dr. Young Yoo, Senior Expert
Mr. Borja Blanco, CEO, Aqua Advise, Spain
Mr. Devesh Sharma, Managing Director, Aquatech, USA
Mr. Miguel Angel Sanz, Director of Strategic Development, Suez, France
Mr. Silvio Oliva, Chief Executive Officer, Fisia Italimpianti S.p.A., Italy
Mr. Victor Verbeek, General Manager for Australia & New Zealand Regional, Toray Membrane Australia
Dr. Domingo Zarzo, Technical and R&D Manager, Sacyr Water, Spain
Dr. Miriam Balaban, Desalination and Water Treatment Journal, Editor-in-Chief, European Desalination Society, Secretary General
You are Invited...

*Accepted Technical papers may also be considered for the IDA WC 2022 Technical Program.

To submit your extended abstract visit here. Shortlisted authors will be notified by January 10, 2021 with full papers due by January 30, 2022. Final ppt presentations are due by February 10, 2022. For questions regarding the conference please contact papers@idadesal.org

Accepted technical papers will be published in the Desalination and Water Treatment Journal published by Dr. Miriam Balaban:

How to Submit Your Extended Abstract

Please submit your Extended Abstract by December 1, 2021.

Topics include:

1. State of the Art of Thermal Brine Concentration
2. Advanced Technologies for Membrane Brine Concentration
3. Non-thermal & Non-membrane Brine Concentration Technologies
4. Brine Concentration for Harvesting of Minerals
5. Brine Concentration for Harvesting of Rare Metals
6. Brine Concentration for Zero Liquid Discharge
7. Case Studies for Brine Concentration
8. Case Studies for Zero Liquid Discharge
9. Lowering Cost and Energy Use Barriers for Brine Concentration
10. The Future of Brine Concentration – Next Generation Technologies
For questions regarding the conference please contact papers@idadesal.org, or Dr. Christopher Fellows at: +966-13-343-0333, ext. 31703; or Eng. Nikolay Voutchkov: +1-203-253-1312; +966-54-043-5425; or +966-13-343-0333, ext. 31700. We look forward to meeting you in Al Khobar on March 21-23, 2022.