

## TUESDAY, NOVEMBER 12

Time	Joy's Chicken (Near EXCO)
19:00-20:30	Welcome Reception

## WEDNESDAY, NOVEMBER 13

Time	Grand Ballroom B
10:00-12:00	KIWW Opening Ceremony & Exhibition Rounds

12:00-13:00	Lunch & Poster
-------------	----------------

Time	Room 324
13:00-13:30	Opening Ceremony

13:30-13:55	<b>PL1</b> New frontiers in Wastewater-Based Epidemiology (WBE) using environmental proteomics and emerging contaminants chemical information Damia Barcelo, University of Almeria, Spain
13:55-14:20	<b>PL2</b> Quorum quenching in membrane bioreactors for fouling retardation: complexity provides opportunities How Yong Ng, Beijing Normal University at Zhuhai, China Chair: Kwang-Ho Choo, Kyungpook National University, Korea

14:20-14:30	Group Photo Session
-------------	---------------------

Time	Room 324
14:30-16:00	<b>A1</b> Innovative Wastewater Solutions for a Circular Economy Chair: Changsoo Lee, UNIST, Korea

14:30-14:55 **Nanobubbles with mega impacts for circular bioeconomy**  
 Samir Kumar Khanal, University of Hawaii at Manoa, USA

14:55-15:20 **Transmission of antibiotic-resistance plasmids in activated sludge**  
 Mamoru Oshiki, Hokkaido University, Japan

15:20-15:40 **Capturing municipal wastewater resources by anaerobic membrane bioreactor technology for potential reuse**  
 Jeonghwan Kim, Inha University, Korea

15:40-16:00 **Innovating mainstream anaerobic sewage treatment with electroactive granular sludge**  
 Changsoo Lee, UNIST, Korea

16:00-16:15	Coffee Break
-------------	--------------

Time	Room 323
14:30-15:50	<b>B1</b> Water Industry Session 1 (Korean-English simultaneous interpretation provided) Chair : Ji Hwan Hong, Korea Environment Corporation, Korea

14:30-14:40 **Opening Remarks**

14:50-15:05 **Introduction to UNESCO i-WSSM**  
 Bongwoo Shin, UNESCO i-WSSM, Korea

14:50-15:05 **Key achievements and operational direction of the water industry cluster**  
 Kwang Hwan Yang, Korea Environment Corporation, Korea

- 15:05-15:20 **Prior preparations and investment relations**  
Yong Il Shin, Aquaworks INC., Korea
- 15:20-15:35 **Non-contact vibration damping drive coupling**  
Gil Yong Jung, TAEYOUNG PAN GUARD Co., Ltd
- 15:35-16:00 **Joint market entry strategies for global water companies and Korean small giants**  
Jongboo Kim, Veolia Korea, Korea

**16:00-16:10 Coffee Break**

Time	Room 324
16:15-17:45	<b>A2 Seawater Deionization and Electrolysis for Production of Green X</b> Chair : Hyunwoong Park, Kyungpook National University, Korea
16:15-16:35	<b>7 years of municipal large scale seawater reverse osmosis desalination history in Qatar</b> Guillermo Hijós Gago, ACCIONA, Qatar
16:35-16:55	<b>Ultra-low energy seawater desalination plant technology: research trends and future prospects</b> Sangho Lee, Kookmin University, Korea
16:55-17:15	<b>Decarbonizing water desalination with clean energy systems</b> Dongsuk Han, Qatar University, Qatar
17:15-17:35	<b>Recent developments on electrocatalysts and electrochemical processes for water and wastewater reuse</b> Kangwoo Cho, POSTECH, Korea
17:35-17:45	<b>Electrolysis and electrodesalination of high salinity water for production of green chemicals</b> Hyunwoong Park, Kyungpook National University, Korea

Time	Room 323
16:00-17:50	<b>B2 Water Industry Session 2 (Korean-English simultaneous interpretation provided)</b> Chair : Ji Hwan Hong, Korea Environment Corporation, Korea
16:00-16:40	<b>Understanding Water Industry Policy</b> Lee Hyung Kim, Kongju National University, Korea
16:40-17:20	<b>The need for ESG adoption and strategic responses in the water industry</b> Jae Mahn Leen, IAC Global, Korea
17:20-17:50	<b>Discussion</b>

Time	Grand Ballroom B
18:00-19:30	<b>KIWW Welcome Dinner</b>

## THURSDAY, NOVEMBER 14

Time	Room 324
09:00-10:30	<b>A3 Advances in Membrane Technology and Resource Recovery</b> Chair : Chi-Wang Li, Tamkang University, Taiwan
09:00-09:18	<b>Enhanced performance in desalination applications by membrane distillation using a green material</b> Shiao-Shing Chen, Institute of Environmental Engineering and Management, National Taipei University of Technology, Taiwan

- 09:18-09:36 **Novel use of ferrous iron/peroxymonosulfate for high-performance seawater desalination pretreatment under harmful algal blooms**  
Boyan Xu, Beijing Normal University at Zhuhai, China
- 09:36-09:54 **Case studies of reclaimed water infrastructure in Taiwan**  
Yi-Ming Chen, HeMing Environmental Engineering Consultant Company, Ltd., Taiwan
- 09:54-10:12 **The development of electro-chemical processes for enhancing industrial wastewater treatment efficiency: mechanisms and performances**  
Vinh Ya, Tamkang University, Taiwan
- 10:12-10:30 **Sustainable recovery of critical nutrients: ammonium and phosphate from semiconductor industry**  
Chi-Wang Li, Tamkang University, Taiwan

Time	Room 323
09:00-10:30	<b>B3 Innovative Water Purification Methods</b> Chair : Sangho Lee, Kookmin University, Korea
09:00-09:20	<b>Fostering resilience in arid areas: a case of facilitated multi-stakeholder engagement for improving access to water</b> June Samo, Millennium Water Alliance, Kenya
09:20-09:35	<b>Microbial diversity of biofilms in drinking water distribution networks and the influential factors</b> Yeyuan Roger Xiao, Shantou University, China
09:35-09:50	<b>Optimizing synthesis condition of electrospun CNTs-coated membranes via machine learning</b> Kyunghyun Son, Kookmin University, Korea
09:50-10:05	<b>Effect of CuO-NPs incorporation on the characteristics and performances of PVDF/PVP nanofiltration membranes in salt ions rejection</b> Fitri Khoerunnisa, Indonesia University of Education, Indonesia
10:05-10:20	<b>Influence of iron doped aluminium oxide nanoparticles on PSf nanocomposite membranes for heavy metals removal and antifouling property</b> Prajwal Sherugar, Jain University, India
10:20-10:30	<b>Discussion</b>
10:30-10:45	<b>Coffee Break</b>

Time	Room 324
10:45-12:15	<b>A4 Sustainable Approaches of Wastewater Treatment for Decentralization Systems</b> Chair : Pongsak (Iek) Noophan, Kasetsart University, Thailand
10:45-11:25	<b>Development of an energy-self-sufficient MFC-MBR integrated wastewater treatment system</b> Satoshi Okabe, Hokkaido University, Japan
11:25-11:45	<b>Comparisons of nitrogen removal efficiencies and microbial communities of partial nitrification and anammox processes among two full-scales and laboratory-scale</b> Pongsak (Iek) Noophan, Kasetsart University, Thailand
11:45-12:15	<b>Electrochemical innovations for sustainable urban farming</b> Olivier Lefebvre, National University of Singapore, Singapore

Time	Room 323
10:45-12:15	<b>B4 Challenges and Opportunities in Water and Resource Recovery from Wastewater Streams</b> Chair : Byung Joon Lee, Kyungpook National University, Korea
10:45-11:05	<b>Turning challenges into solutions: advancing water and resource recovery from wastewater streams for sustainable futures</b> Ignacio Deregibus, International Water Resources Association, France
11:05-11:20	<b>Effect of multiple <i>N</i>-acyl-homoserine lactones injections at high 5-hydroxymethylfurfural inhibitor loading in continuous bio-hydrogen reactor</b> Bich-Phuong Dang, Seoul National University of Science and Technology, Korea
11:20-11:35	<b>Mechanistic study of biomethane recovery in anaerobic digestion: effects of quorum sensing and quorum quenching</b> You Mit Prohim, Seoul National University of Science & Technology, Korea
11:35-11:50	<b>Application of membrane capacitive deionization as a pretreatment strategy for enhancing salinity gradient power generation</b> Seoyeon Lee, Kookmin University, Korea
11:50-12:05	<b>Assessment of extracellular polymeric substances recovered from sewage sludge for its application in sand fixation</b> Sudan Lin, Qingdao University of Technology, China
12:05-12:15	<b>Discussion</b>
12:15-13:30	<b>Lunch &amp; Poster</b>
Time	Room 324
13:30-15:00	<b>A5 Sustainable Desalination and Resources Recovery Technologies</b> Chair : Tran Le Luu, Vietnamese-German University, Vietnam
13:30-13:43	<b>Recent advances in redox-mediated electro dialysis for valorization of sodium sulfate discharged from spent lithium-ion battery recycling</b> Choonsoo Kim, Kongju National University, Korea
13:43-13:56	<b>Optimize deionization efficiency of the Membrane Capacitive Deionization (MCDI) system using porous carbon electrode derived from rubber nutshell</b> Tran Le Luu, Vietnamese-German University, Vietnam
13:56-14:09	<b>Development of water treatment technology using low-energy integrated FPF (Flash Pressurized Flotation); lab and pilot scale</b> Minsoo Maeng, Dankook University, Korea
14:09-14:22	<b>Prussian blue materials for faradaic electrode in capacitive deionization</b> Jaehan Lee, Hongik University, Korea
14:22-14:35	<b>Capacitive deionization for wastewater treatment: target applications, performance, and energy consumption</b> Hongsik Yoon, Korea Institute of Machinery & Materials, Korea
14:35-14:48	<b>Performance of DHS-USB system for textile wastewater treatment under high salinity conditions</b> Phan Nhu Nguyet, HCMC University of Science, VNU-HCM, Vietnam
14:48-15:00	<b>Electrochemical resource recovery from seawater: focusing on lithium and magnesium</b> Seoni Kim, Ewha Womans University, Korea

Time	Room 323
<b>13:30-15:00</b>	<b>B5 Membrane Technologies for Advanced Wastewater Treatment</b> Chair : Jeonghwan Kim, Inha University, Korea
13:30-13:50	<b>Spray assisted assembly of PDA wrapped CNT layer on PES membranes for electroassisted fouling mitigation of greywater</b> Paulomi Bose, Inha University, Korea
13:50-14:10	<b>Advances in conductive membranes for enhanced water desalination and purification: integration of electrochemical functionality and filtration</b> Priyamjeet Deka, Kyungpook National University, Korea
14:10-14:30	<b>Secondary battery wastewater treatment by air gap membrane distillation using PVDF/kraft lignin membranes</b> Kyungjae Yun, Kookmin University, Korea
14:30-14:50	<b>Feasibility of using Reverse Osmosis (RO) concentrate from wastewater reclamation for hydrogen production by Polymer Electrolyte Membrane (PEM) water electrolysis</b> Yesong Jeong, Kookmin University, Korea
14:50-15:00	<b>Discussion</b>
<b>15:00-15:15</b>	<b>Coffee Break</b>
Time	Room 324
<b>15:15-16:45</b>	<b>A6 Advances in Biofilm Systems in Water Treatment Processes</b> Chair : How Yong Ng, Beijing Normal University at Zhuhai, China
15:15-15:30	<b>Novel use of ferrous iron/peroxymonosulfate for high-performance seawater desalination pretreatment under harmful algal blooms</b> How Yong Ng, Beijing Normal University at Zhuhai, China
15:30-15:45	<b>An innovative biofilm process for biopolymer recovery during wastewater treatment</b> Xueqing Shi, Qingdao University of Technology, China
15:45-16:00	<b>Eco-friendly quorum quenching materials for biofouling management in anaerobic membrane bioreactors</b> Syed Salman Ali Shah, Beijing Normal University at Zhuhai, China
16:00-16:15	<b>Methane production and nutrients removal using AnMBR and hydroxyapatite-based anammox system</b> Yujie Chen, Tohoku University, Japan
16:15-16:30	<b>Application of a new strain of UV tolerant quorum quenching bacterium to enhance the efficiency of UV disinfection pretreatment for biofouling control in RO</b> Xiaolei Zhang, Shanghai University, China
16:30-16:45	<b>Discussion</b>
Time	Room 323
<b>15:15-16:45</b>	<b>B6 Emerging Strategies in Wastewater Treatment and Analysis</b> Chair : Kwiyong Kim, Ulsan National University of Science & Technology, Korea
15:15-15:35	<b>Selective electrochemical separations for wastewater remediation</b> Kwiyong Kim, Ulsan National Institute of Science and Technology, Korea
15:35-15:55	<b>Analysis of total nitro compounds in water via batch reactor UV photolysis and colorimetric detection of nitrite</b> Cong Hau Nguyen, Gwangju Institute of Science and Technology (GIST), Korea

- 15:55-16:15 **Self-cleaning conductive membranes for fouling mitigation in electrochemical membrane bioreactors**  
Hyeona Park, Kyungpook National University, Korea
- 16:15-16:35 **Investigation into the structure of extracellular polymeric substances of bio-mineral flocs using fluorescence microscope**  
Trang Pham Thi Thuy, Kyungpook National University, Korea
- 16:35-16:45 **Discussion**

**16:45-16:55** Break

Time	Room 324
16:55-17:20	<b>PL3 Investigating the biodegradability of novel antiprotozoal drugs in aquatic environments and their impact on wastewater treatment plants</b> Massimiliano Fabbicino, University of Naples Federico II, Italy
17:20-17:45	<b>PL4 Assessment of organic micropollutant occurrence and fate in wastewater effluents, receiving waters, and downstream drinking waters using advanced analytical tools</b> Yunho Lee, GIST, Korea
<b>Chair: Kwang-Ho Choo, Kyungpook National University, Korea</b>	

Time	Room 324
17:45-18:15	<b>Award &amp; Closing Ceremony</b>

## FRIDAY, NOVEMBER 15

Time	Korea Water Cluster & Kansong Museum Daegu
09:00-17:00	<b>Technical &amp; Cultural Tour</b>