

Daily Program

Day 1 (October 18th, Tuesday)

Pre-Workshop		Chair : Younggyun Choi	Room 323
Water Technology and Products: Verify or Vanish			
16:00-16:30	You got Title 22? Daeik (Derek) Kim <i>Econity, Inc. (USA)</i>		
16:30-17:00	NSF/ANSI standard drinking water products Jin Hee Kim <i>NSF International (Korea)</i>		
17:00-17:30	Introduction of Japanese certification (JARUS) and example Kyu Man Chang <i>Pure Envitech (Korea)</i>		
17:30-18:00	Introduction of certification system for waterworks materials and products of Korea Soon Yeul Cho <i>Korea Water and Wastewater Works (Korea)</i>		
Welcome Reception		18:00-20:00 (Sky Garden, EXCO)	

Daily Program

Day 2 (October 19th, Wednesday)

Conference Opening	10:15-10:45 (Room 324)
KIWW Opening Events	11:00-12:00 (EXCO Auditorium)
Poster Session & Lunch	12:00-13:00 (Room 324)

Plenary Session 1		Chair : Kwang-Ho Choo	Room 324
13:00-13:30	Microgranular adsorptive filtration: A novel and effective way to reduce membrane fouling		
Keynote	Mark M. Benjamin <i>University of Washington (USA)</i>		
13:30-14:00	Membrane biofouling, prediction and control		
Keynote	Roger Ben Aim <i>Institute for Filtration and Liquid Solid Separation (France)</i>		
14:00-14:30	Challenges and opportunities to connect across global business line		
Keynote	Jong Ho Ahn <i>World Bank (USA)</i>		

Industrial Showcase		Chair : Gwanghyeon Nam	Room 324
14:30-15:00	New paradigm in wastewater treatment market as energy production facility		
Keynote	Yang Oh Jin <i>Doosan Heavy Industries and Construction Company (Korea)</i>		
15:00-15:30	Water reuse is a must in USA		
Keynote	Daeik (Derek) Kim <i>Econity, Inc. (USA)</i>		

Coffee Break	15:30-15:45
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Regular Session 1		Chair: Chii Shang Co-chair: Changha Lee	Room 323	Special Session 1		Chair: Gyutae Seo	Room 324
Advanced Oxidation				Smart Recycling: Waste & Wastewater			
15:45-16:05	Keynote	The UV/chlorine process: An energy-chemical efficiency advanced oxidation process for sustainable water supply and its pros and cons		15:45-16:05	Keynote	Introduction of smart recycling technologies in smart city	
		Chii Shang <i>Hong Kong University of Science and Technology (Hong Kong)</i>				Jeong-Ik Oh <i>Land & Housing Institute, Korea</i>	
16:05-16:20	[RS1-1]	Removal of nitrosamines from water : Comparisons of advanced oxidation, carbon adsorption, and nanofiltration processes		16:05-16:20	[SS1-1]	Water service improvement through smart water management	
		Hye Jung Kang , Jeong I. Ahn , Kwang-Ho Choo <i>Kyungpook National University (Korea)</i>				Ju Hwan Kim <i>K-Water Institute (Korea)</i>	
16:20-16:35	[RS1-2]	Performance evaluation and mechanism of surface-active bismuth ferrite as novel peroxymonosulfate activator for sulfamethoxazole removal		16:20-16:35	[SS1-2]	Application of food waste disposer and resource recovery system inside housing complex	
		Wen-Da Oh , Teik-Thye Lim <i>Nanyang Technological University (Singapore)</i>				Munsol Ju <i>Seoul National University (Korea)</i>	
16:35-16:50	[RS1-3]	Elimination efficiency of antibiotics during oxidative treatment of aquaculture wastewater effluent with chlorine, ozone, UV, and chlorine followed by UV		16:35-16:50	[SS1-3]	CURE 1.0: Decision support system for wastewater treatment facility planning in urban context	
		Dong Jang , Yuri Lee , Yunho Lee , Jungsuk Woo <i>Gwangju Institute of Science and Technology (Korea)</i>				Seongju Chang <i>Korea Advanced Institute of Science and Technology (Korea)</i>	
16:50-17:05	[RS1-4]	Oxidation of microcystin-LR by ferrous-tetrapolyphosphate in the presence of oxygen: Kinetics and transformation pathway		16:50-17:05		Discussion	
		Min Sic Kim , H. -H. Kim , K. -M. Lee , C. Lee <i>Ulsan National Institute of Science and Technology (Korea)</i>					

Social Tour Night	17:40-22:00 (Daegu's Landmark 83 Tower & Seomun Night Market)
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Daily Program

Day 3 (October 20th, Thursday)

Plenary Session 2		Chair: Woong Kim	Room 324
09:00-09:30	How to save energy in MBR for wastewater treatment: Let microorganisms handle their business.		
Keynote	Chung-Hak Lee Seoul National University (Korea)		
09:30-10:00	"TBA"		
Keynote	Rick Warner Water Environment Federation (USA)		
Coffee Break		10:00-10:15	
Regular Session 2		Chair: Sascha Rexroth Co-chair: Hun-Kyun Bae	Room 323
Water-Health Nexus			
10:15-10:35	Cyanobacterial biotechnology and its potential for water treatment		
Keynote	Sascha Rexroth Ruhr University of Bochum (Germany)		
10:35-10:50	Coagulation-flotation process for algae and organic matter removal using a new coagulant, Water Health		
[RS2-1]	Yirga Weldu Abrha , Doora Lee , Minhwan Kwon , Youmi Jung , Joon-Wun Kang Yonsei University (Korea)		
10:50-11:05	Colorimetric measurement of carbohydrates in biological wastewater treatment systems: A critical evaluation		
[RS2-2]	Le Chencheng , D. C. Stuckey Nanyang Technological University (Singapore)		
11:05-11:20	Wet weather sewerage policy and countermeasures in Korea compared with advanced countries		
[RS2-3]	Changhwan Lee , Sangwon Han , Junsu Yook , Jung-gyu Han , Jung-hyun Han , Ik-hoon Choi Korea Environment Corporation (Korea)		
11:20-11:35	Remarks on water environment in the south of Vietnam		
[RS2-4]	Tran Le Luu Vietnamese German University (Vietnam)		
11:35-11:50	Analytical method for low MW soluble microbial products (SMP) (MW< 2,000) in biological processes		
[RS2-5]	Chinagarn Kunacheva , C.Le , Y.N.A. Soh , D. C. Stuckey Nanyang Technological University (Singapore)		
Special Session 2		Chair: Ismail Koyuncu Co-chair: Kwang-Ho Choo	Room 324
Quorum Quenching Membrane Bioreactor			
10:15-10:35	Comparison of QQ Bacterias isolated from marine, pond, saltern and landfill leachate for biofouling control in MBR		
Keynote	Ismail Koyuncu Istanbul Technical University (Turkey)		
10:35-10:50	Challenge of MBR and chance for QQ-MBR, thinking from cases of industrial wastewater treatment		
[SS2-1]	Wenzhao Wang Fairylands Environmental Technology Co. Ltd. (China)		
10:50-11:05	Hydrodynamics characterization of free-moving particles in a gas-liquid-solid quorum-quenching membrane bio-reactor (QQ-MBR)		
[SS2-2]	Naila Bouyaed University of Toulouse (France)		
11:05-11:20	Effect of SRT on QS/ QQ in MBR and biofouling control by biostimulation of quorum quenching bacteria in MBR		
[SS2-3]	Huarong Yu Harbin Institute of Technology (China)		
11:20-11:35	Optimization of quorum quenching strategies for biofouling control		
[SS2-4]	Kwang-Ho Choo Kyungpook National University (Korea)		
11:35-11:50	Discussion		
Poster Session & Lunch		11:50-13:00 (Room 324)	

Regular Session 3		Chair: Chi-Wang Li Co-chair: Hyunwoong Park	Room 323	Special Session 3		Chair: Jeonghwan Kim	Room 324
Resource Recovery from Wastewater				Water-Energy Nexus: Biotechnological Solutions			
13:00-13:20	Chemical reduction and membrane filtration for removal and recovery of metals from PCB wastewater			13:00-13:20	Biological C, N, S removal from TFT-LCD wastewaters in Taiwan		
Keynote	Chi-Wang Li <i>Tamkang University (Taiwan)</i>			Keynote	Liang Ming Whang <i>National Cheng Kung University (Taiwan)</i>		
13:20-13:35	Effect of doping sulfated-TiO ₂ nanomaterials on properties of polyethersulfone mixed matrix membrane for water treatment			13:20-13:35	Anaerobic osmotic membrane bioreactors for water reclamation and resource recovery		
[RS3-1]	Jing Guo , Jeonghwan Kim <i>Inha University (Korea)</i>			[SS3-1]	Chuyang Tang <i>The University of Hong Kong (Hong Kong)</i>		
13:35-13:50	Effective boron rejection using configuration analysis of membrane numbers and positions for single-pass seawater reverse osmosis hybrid membrane inter-stage design (HID)			13:35-13:50	Biofouling in anaerobic fluidized bed membrane bioreactor in low-strength wastewater		
[RS3-2]	Doseon Han , Moonhyun Hwang , In S. Kim <i>Gwangju Institute of Science and Technology (Korea)</i>			[SS3-2]	Jeonghwan Kim <i>Inha University (Korea)</i>		
13:50-14:05	Application of novel OsMBR-MD hybrid system for municipal wastewater reclamation, reuse and phosphorus recovery			13:50-14:05	Fouling modeling in anaerobic membrane bioreactors: Combining biological and filtration models		
[RS3-3]	Hau-Ming Chang , Shiao-Shing Chen , Nguyen Cong Nguyen <i>National Taipei University of Technology (Taiwan)</i>			[SS3-3]	Amine Charfi <i>Inha University (Korea)</i>		
14:05-14:20	Upconversion: Extraordinary photon-energy manipulating technique for photocatalysis			14:05-14:20	Mitigating biofouling by quorum quenching on FO membrane		
[RS3-4]	Jaehyuk Kim , S. J. Shin <i>Pusan National University (Korea)</i>			[SS3-4]	Seungju Choi , D.K. Park , S.T. Kang <i>Korea Advanced Institute of Science and Technology (Korea)</i>		
14:20-14:35	Membrane scouring and fouling control under the fluidization of non-adsorbing media for anaerobic fluidized membrane bioreactor applications			14:20-14:35			
[RS3-5]	Muhammad Aslam , Amine Charfi , Jeonghwan Kim <i>Inha University (Korea)</i>						Discussion
14:35-14:50	Autotrophic nitrate removal from water and its advantages over other methods						
[RS3-6]	Fariba Rezvani , Mohammad Hossein Sarrafzadeh , Sirous Ebrahimi , Hee-Mock Oh <i>University of Tehran (Iran)</i>						

Coffee Break	14:50-15:10
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Regular Session 4		Chair: Ho Kyong Shon Co-chair: Jin Yong Park	Room 323	Special Session 4		Chair: Florencio C. Ballesteros, Jr. Co-chair: Vincenzo Naddeo	Room 324
Innovative Water Technologies				Challenges in Water Treatment			
15:10-15:30	Pros and cons of forward osmosis: Current progress and update			15:10-15:30	Control of emerging contaminants by the combination of electrochemical processes and membrane bioreactors		
Keynote	Ho Kyong Shon <i>University of Technology, Sydney (Australia)</i>			Keynote	Vincenzo Naddeo <i>University of Salerno (Italy)</i>		
15:30-15:45	Recovery of EDTA-2Na draw solution for forward osmosis using nanofiltration			15:30-15:45	Fate of selected drugs in the wastewater treatment plants (WWTPs) for domestic sewage		
[RS4-1]	Saba Zam Zam , Am Jang <i>Sungkyunkwan University (Korea)</i>			[SS4-1]	Agostina Chiavola <i>Sapienza University of Rome (Italy)</i>		
15:45-16:00	Enhancement of permeate flux in reverse osmosis membrane process by the feeding of air nano micro bubbles			15:45-16:00	Water quality and resource management in the dairy industry		
[RS4-2]	H.N.P Dayarathne , Am Jang <i>Sungkyunkwan University (Korea)</i>			[SS4-2]	Iwona Klosok-Bazan <i>Opole University of Technology (Poland)</i>		
16:00-16:15	Recovery of draw solution in forward osmosis by direct contact membrane distillation			16:00-16:15	Fuzzy-assisted ultrafiltration of wastewater from milk industries		
[RS4-3]	Su-Thing Ho , Shiao-Shing Chen, Nguyen Cong Nguyen, Hau Thi Nguyen <i>National Taipei University of Technology (Taiwan)</i>			[SS4-3]	Francesco Villecco <i>University of Salerno (Italy)</i>		
16:15-16:30	Effect of pH and polypropylene beads in hybrid water treatment process of alumina ceramic microfiltration and PP beads with air back flushing			16:15-16:30	Enhanced photocatalytic oxidation of organic compounds by S-TiO ₂ coupled with the Fenton-like reagent (Fe(III)/H ₂ O ₂) under visible light irradiation		
[RS4-4]	Jin Yong Park , Seunghwa Song <i>Hallym University (Korea)</i>			[SS4-4]	Jiwon Seo , C. Lee <i>Ulsan National Institute of Science and Technology (Korea)</i>		
16:30-16:45	The removal of low molecular weight soluble microbial products (SMPs) from submerged anaerobic membrane bioreactor (SAMBR) effluent by activated carbons			16:30-16:45	Promising heterogeneous Fenton-like technology for water treatment: Kinetics and micro-interface implications		
[RS4-5]	Do Thi Mai , C. Kunacheva, D. C. Stuckey <i>Nanyang Technological University (Singapore)</i>			[SS4-5]	Dongsheng Wang <i>Chinese Academy of Sciences (China)</i>		
16:45-17:00	Understanding chemical equilibria of the potabilization process using hydrated lime and carbon dioxide in seawater reverse osmosis desalination			16:45-17:00			
[RS4-6]	Yong-Shin So , Kwang-Ho Choo <i>Hyundai Heavy Industries (Korea)</i>			[SS4-6]	Discussion		

Banquet	18:30-21:00 (Grand Ballroom, 3F)
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Daily Program

Day 4 (October 21st, Friday)

Plenary Session 3		Chair : Jinyoung Jung	Room 323
09:00-09:30	Application of membrane technology in water and wastewater treatment in China		
Keynote	Xia Huang <i>Tsinghua University (China)</i>		
09:30-10:00	Performance of membrane composed of carbon nanotubes in water treatment under electrochemical assistance		
Keynote	Xie Quan <i>Dalian University of Technology (China)</i>		

Coffee Break	10:00-10:15
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Regular Session 5		Chair: Xie Quan Co-chair: Byung Joon Lee	Room 323
Advanced Troubleshooting			
10:15-10:30	Inorganic scale reduction in reverse osmosis membrane during waste water reclamation by purging CO ₂		
[RS5-1]	Muhammad Kashif Shahid , Minsoo Pyo , Younggyun Choi <i>Daegu University (Korea)</i>		
10:30-10:45	Anaerobic, partial nitrification and anammox treatment processes in municipal wastewater for water reclamation and alternative energy production		
[RS5-2]	Pongsak (Lek) Noophan , Peerakarn Banjerdki , Sanya Sirivitayaprakorn <i>Kasetsart University (Thailand)</i>		
10:45-11:00	Preparation of alumina-zirconia ceramic nanofiltration membrane by versatile filtration coating methods for the removal of geosmin		
[RS5-3]	Youngkun Chung , HyoJeon Kim , M.Y. Lee , H.S. Park , Y.I. Park , D.W. Jung , S.T. Kang <i>Korea Advanced Institute of Science and Technology (Korea)</i>		
11:00-11:15	Surface modifications of polypropylene mat by PVA-TX for improved water flux in membrane distillation process		
[RS5-4]	Saikat Sinha Ray , Shiao-Shing Chen , Nguyen Cong Nguyen , Hau Thi Nguyen , Chi-Wang Li <i>National Taipei University of Technology (Taiwan)</i>		
11:15-11:30	Characteristics and biodegradability of wastewater organic matter in municipal wastewater treatment plants collecting domestic wastewater and industrial discharge		
[RS5-5]	Byung Joon Lee , S.R. Baek , G.H. Shim , J. Hur , T.U. Lee , C.J. Park <i>Kyungpook National University (Korea)</i>		

Closing Remarks	11:30-12:00 (Room 323)
Lunch	12:00-13:00 (Room 323)
Daegu Technocultural Tour	13:00-18:00 (Munsan and Maegok water purification plants, Gangjeong Goryeong barrage & experiencing segway, Sanmunjin ferry)