

Date / Time	October 21 (Monday)			
9:00-9:30	Registration			
9:30-10:00	[Room: 520]	Opening Ceremony		
10:00-10:40	[Room: 520] Chair: Kyung-Duk ZOH (Seoul National University, Korea) [PL1] Trace Organic Contaminants in a One Water World David L. SEDLAK (University of California, Berkeley, USA)			
10:40-11:00	Break (20 min)			
Room No.	520	517	513	516
Session	Monitoring Method of Micropollutants	Fate and Removal of Micropollutants in Biological Processes-I	Chemistry for Micropollutant Abatement in Oxidative Treatment Processes-I	Kinetics and Ecotoxicity of Micropollutants
Chair	Maria FURHACKER	Peiyang Hong	Sebastien ALLARD	Kenneth M. Y. LEUNG
11:00-11:20	[ORT1-110] Effects of Calibration Sample Size on Fitting an Extended Cumulative Substance-Flow Model for Micropollutant Dynamics within River Networks Geovanni TERAN-VELASQUEZ (TU Dresden, Germany)	(11:00-11:30) [KLT8-315] Enzymatic Cometabolic Biotransformation of Organic Micropollutants Juan M. LEMA (University of Santiago de Compostela, Spain)	[ORT8-264] Optimizing ClO <sub>2</sub> Pre-Oxidation by Predicting Chlorite Oxidation during Chlorination Valentin ROUGE (Curtin University, Australia)	[ORT1-129] Coupling of River and Toxicokinetic Models to Predict the Internal Concentrations of Micropollutants in Field Invertebrates Manacor ARLÓS (Swiss Federal Institute of Aquatic Science and Technology (Eawag), Switzerland)
11:20-11:40	[ORT2-094] Polar Organic Chemical Integrative Sampler (POCIS) and Modified POCIS for the Comprehensive Screening of Micropollutant in Water Environment Yoonah JEONG (Korea Institute of Science and Technology (KIST), Korea)	(11:30-11:50) [ORT8-089] Biodegradation of the Endocrine Disrupting Chemical 17 $\alpha$ -ethynylestradiol (EE2) by Bacterial Cultures Encapsulated in 3D Microfiltration-Membrane Capsules Eyal KURZBAUM (University of Haifa, Israel)	[ORT8-207] Characterization of Seawater Natural Organic Matters (SNOMs) for Ozonation Homin KYE (Yonsei University, Korea)	[ORT6-209] Monitoring and Risk Assessment of the Reactive Oxygen Species Generation in Aquatic Environment Hyojik YOON (Korea University, Korea)
11:40-12:00	[ORT2-181] Toxicological Long-term Monitoring of an Advanced Wastewater Treatment Plant (O3+GAC) under Operational Conditions Heldemarie SCHAAR (Institute for Water Quality and Resource Management, Austria)	(11:50-12:10) The Effects of Individual and Mixture of N-Containing Antibiotics on Nutrient-Removing Organisms and Comammox in Two Nutrient Removal Membrane Bioreactors Ryan DE SOTTO (National University of Singapore, Singapore)	[ORT8-102] Effects of Chlorine/Organic Ratio and pH on the Degradation of Tetracycline Songkeart PHATTARAPATTANAWONG (King Mongkut's University of Technology Thonburi, Bangkok, Thailand)	[ORT3-089] Toxicogenomic Analysis of Triclosan and its Mixture with Methyl Triclosan using Zebrafish Embryos Fu JING (National University of Singapore, Singapore)
12:00-12:20	[ORT2-044] Monitoring of Ecological Effluent Quality Originating from the Chemical Tank Truck Cleaning Sector Michel CALUWÉ (University of Antwerp, Belgium)	(12:10-12:30) [ORT8-114] Enhanced Micropollutants Removal by Application of Fungi Laccase with Lignocellulosic Biomass Bo Ram KANG (Yonsei University, Korea)	[POT4-290] The Reactions of Pyrrole, Imidazole, and Pyrazole with Ozone: Kinetics and Reaction Mechanisms Sungeun LIM (Eawag, École Polytechnique Fédérale de Lausanne (EPFL), Switzerland)	[ORT7-078] Investigation of G Protein-Coupled Receptor-acting Pharmaceuticals Responsible for Biological Activities in Wastewater in England Han ZHANG (Kyoto University, Japan)
12:20-13:30	Lunch			
13:30-14:10	[Room: 520] Chair: Jaesang LEE (Korea University, Korea) [PL2] Nanotechnology-Enabled Water Treatment: A Vision to Enable Decentralized Water Treatment and Address Growing Challenges of the Water Energy Nexus Pedro J.J. ALVAREZ (Rice University, USA)			
14:10-14:30	Break (20 min)			
Room	520	517	513	516
Session	Occurrence and Fates of Micropollutants in Water-I	Fate and Removal of Micropollutants in Biological Processes-II	Innovative Physicochemical Treatment Processes for Micropollutant Control-I	Risk Assessment of Micropollutants
Chair	Jaewon CHOI	Seungdae OH	Jaehong Kim	Kyungho CHOI
14:30-14:50	(14:30-15:00) [KLT] Comparative Aquatic Bioaccumulation of Ionizable Contaminants Across Environmental Complexity Bryan BROOKS (Baylor University, USA)	[ORT8-270] eXeno™: Feast-Famine Optimisation of Pharmaceuticals Biodegradation Capacity of Biofilm Biomass Henrik R. ANDERSEN (Technical University of Denmark, Denmark)	(14:30-15:00) [KLT8-291] Laboratory and Pilot-Scale Studies on Innovative Pathways for Removal and Destruction of Perfluoroalkyl Substances (PFAS) Timothy STRATHMANN (Colorado School of Mines, USA)	(14:30-15:00) [KLT3-297] Environmental Fate and Ecological Risks of Retinoic Acids and their Metabolites in a Highly Urbanised Coastal City Kenneth M. Y. LEUNG (The University of Hong Kong, Hong Kong, China)
14:50-15:10	(15:00-15:20) [ORT1-272] Environmental Fate of Pharmaceuticals - via Wastewater to the Baltic Sea Małgorzata SZOPIŃSKA (Gdańsk University of Technology, Poland)	[ORT8-188] Biodegradation of Pyrazole, Metformin and Guanylurea in Lab-Scale Rapid Sand Filters Nikki VAN BEL (KWR Watercycle Research Institute, New Zealand)	(15:00-15:20) [ORT8-109] Ozone-ceramic Nanofiltration (NF) Hybrid System For The Destruction Of Perfluorinated Chemicals (PFCS) during Drinking Water Treatment Youngkun CHUNG (Korea Advanced Institute of Science and Technology (KAIST), Korea)	(15:00-15:20) [ORT6-126] Impacts of Micropollutants on Single Bacteria and Bacterial Community Yaohui BAI (Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, China)
15:10-15:30	(15:20-15:40) [ORT1-007] Influences of Precipitation on Dilution of Veterinary Medicines in Livestock Wastewater Treatment Plants Seung Joo LIM (Korea Atomic Energy Research Institute, Korea)	[ORT8-191] Anoxic Cometabolism of Organic Micropollutants in an Enriched n-Damo Bacteria Culture Miguel MARTÍNEZ QUINTELA (Universidade de Santiago de Compostela, Spain)	(15:20-15:40) [ORT8-109] Synergistic Micropollutants Removal and Water Reclamation by Hybrid Catalytic Ozonation-Ceramic Membrane Filtration Process Teik-Thye LIM (Nanyang Technological University, Singapore)	(15:20-15:40) [ORT8-154] Activated Carbon Amendment Reduces Mercury Bioavailability and Toxicity Risk to Benthic Organism: A Microcosm Study Mark Xavier BAILON (Korea University, Korea)
15:30-15:50	(15:40-16:00) [ORT1-091] Comparison of the Target Multiclass EDCs in Drinking Water Supply System Ahmad Zaharin ARIS (Universiti Putra Malaysia, Malaysia)	[ORT8-260] Fate and Effects of Antibiotic Ciprofloxacin in Nitrifying Activated Sludge Community Dongseon CHOI (Kyung Hee University, Korea)	(15:40-16:00) [ORT8-026] Electrochemical Treatment of Emerging Contaminants using a Three-Dimensional Electrode Reactor Soobin CHO (Pusan National University, Korea)	(15:40-16:00) [ORT6-082] Chemical Risk Assessment in South Korea using ECECTOC TRA Model: Sensitivity Analysis and Spatial Scenarios Sangsoo BAEK (Ulsan National Institute of Science and Technology (UNIST), Korea)
15:50-16:10	(16:00-16:20) [ORT1-052] Occurrence, Fate and Distribution Profile of VOCs during Coking Wastewater Treatment Processes regarding Industrial Wastewater Framework Directive and Future Regulations Ayman N. SABER (Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, China)	[ORT8-280] Elucidating The Role of Dissolved Organic Carbon in Biodegradation of Micropollutants in Groundwater Nora SUTTON (Wageningen University, The Netherlands)	(16:00-16:20) [ORT8-074] Removal of p-nitrophenol by Electrocoagulation in an Air-Lift Reactor: Optimization through Response Surface Methodology Thiago PEREIRA (The Federal University of Technology - Paraná, Brazil)	
16:10-16:30	Break (20 min)			
Room	520	517	513	516
Session	Occurrence and Fates of Micropollutants in Water-II	Control of Antibiotics and Antibiotic Resistance in Water Disinfection and Oxidation Processes	Innovative Physicochemical Treatment Processes for Micropollutant Control-II	Fate and Control of Micropollutants by Adsorption Processes
Chair	Klaus KÜMMERER	Jiangyong HU	Teik-Thye LIM	Seok Won HONG
16:30-16:50	[ORT1-143] Legacy and Alternative PFASs in Industrial Wastewater Focusing on their Detection Patterns and Contribution in the Environment according to Industry Types KIYONG KIM (Pusan National University, Korea)	[ORS1-144] Elimination of Transforming Activity of Plasmid-Encoded Antibiotic Resistance Genes in Water Oxidation and Disinfection Processes: Kinetics and Mechanisms Younggun YOON (Korea Institute of Toxicology, Korea)	[ORT8-022] Treatment of Fluoroborate (BF <sub>4</sub> <sup>-</sup> ) by Electrocoagulation using Aluminium Electrodes Jui-Yen LIN (National Cheng Kung University, Taiwan)	[ORT1-228] Modelling the Sorption of Macrolide Antibiotic Azithromycin on Sediments Seiya HANAMOTO (Public Works Research Institute (PWRI), Japan)
16:50-17:10	[ORT2-214] Application of Deep Neural Network in Micro-pollutants Analysis for Identification of NOM as an Internal Standard Jongkwon PARK (Ulsan National Institute of Science and Technology (UNIST), Korea)	[GENS-182] UV-LEDs in Antibiotic Resistance Genes Inactivation Efficiency Monitored with qPCR and Transformation Muhammad UMAR (Norwegian Institute for Water Research (NIVA), Norway)	[ORT8-116] The Use of Positively Charged Graphite Capacitor for Organic Degradation in Water via a Mechanism Analogous to Anodic Oxidation Liangliang XIONG (Wuhan University, China)	[ORT8-151] Selective Adsorption of Aqueous Cesium by Filter Materials Containing Prussian Blue Yuhoon HWANG (Seoul National University of Science and Technology, Korea)
17:10-17:30	[ORT1-275] Effect of Sludge Treatment Process Type on Fate of PAHs, Nonylphenols and Pharmaceuticals Products Nicolas SERTILLANGES (Institut National de la recherche Agronomique, France)	[ORS1-249] Energy Efficient Ampicillin (AMP) Degradation and AMP Resistant <i>E.coli</i> and its gene Removal by UV-LED/Chlorine Process Tae-Kyung KIM (Seoul National University, Korea)	[ORT8-271] Macro- and Micropollutants Removal from Landfill Leachates using Nb/BDD and Si/BDD Anodic Oxidation Sylvia FUDALA - KSIAZEK (Gdańsk University of Technology, Poland)	[ORT8-125] Adsorption of EE2 and BPA by Phosphonated Levans: A Comparative Study Zehra Semra CAN (Marmara University, Turkey)
17:30-17:50	[ORT1-277] Does Wastewater Discharge to the Admiralty Bay May Influence Antarctic environment? Case study of Arctowski Station Małgorzata SZOPIŃSKA (Gdańsk University of Technology, Poland)	[ORT8-189] Application of Ozone Pre-Treatment for Removal of Antibiotic Ciprofloxacin P. BALAKRISHNAN (Indian Institute of Technology Madras, India)	[ORT4-103] Factors Affecting N-nitrosodimethylamine (NDMA) Formation during Electrochemical Oxidation of Ranitidine in the Presence of Ammonium Ion Mingizem Gashaw SEID (University of Science and Technology (UST), Korea)	[ORT8-225] A Feasibility Study of Cesium Removal using Rhodococcus erythropolis Seong-Sik KIM (Kyungpook National University, Korea)
17:50-18:30	Poster Session 1			

Date/ Time	October 22 (Tuesday)			
9:00-9:30	Registration			
9:30-10:10	(Room: 520) Chair: Jeong-Eun OH (Pusan National University, Korea)	[PL3] Advanced Techniques for Non-Targeted Analyses Shane A. SNYDER (Nanyang Environment & Water Research Institute (NEWRI), Nanyang Technological University, Singapore)		
10:10-10:30	Break (20 min)			
Room No.	520	517	513	516
Session	Micropollutants in Drinking Water	Fate and Removal of Micropollutants in Biological Processes-III	Nano-Enabled Water Technologies for Micropollutant Control-I	Special Topic I. Antibiotic Resistance-1
Chair	Shane A. SNYDER	Juan M. LEMA	Pedro J.J. ALVAREZ	Diana S. AGA
10:30-10:50	(10:30-11:00) [KLT7-292] Pesticides and Volatile Compounds in Drinking Water Quality Standard: Chemical Mixtures and Indirect Exposure Assessment Yoshihiko MATSUI (Hokkaido University, Japan)	[ORTB-030] Influence of Macro-Substrate Composition in Wastewater on Micropollutant Removal Kerim CHRISTEN (University of Luxembourg, Luxembourg)	[ORTS-100] Simple Preparation Method of EPS-TiO <sub>2</sub> Composite as a Floating Photocatalyst for Water Purification Chang-Gu LEE (Ajou University, USA)	[ORS1-178] Acquisition of Extracellular DNA by <i>Acinetobacter Bayly</i> ADP1 in Response to Mutagenic Stress from Disinfection Strategies Paying HONG (King Abdullah University of Science and Technology (KAUST), Saudi Arabia)
10:50-11:10	(11:00-11:20) [ORT7-003] Metabolites of Chloroacetamides within Various French Drinking Water Treatment Plants: Occurrence and Treatability Amélie GUILLOIN (SUEZ-CIRSEE, France)	[ORTB-123] Biological Pre-Treatment for Ozonation of Micropollutants in Wastewater Treatment Plant Effluent Koen VAN DER WAGENINGEN (Wageningen University, The Netherlands)	[ORTS-016] Activation of Peroxymonosulfate by g-C <sub>3</sub> N <sub>4</sub> under Visible Light Irradiation for Carbamazepam Degradation LI LING (The Hong Kong University of Science and Technology, Hong Kong, China)	[ORS1-057] Occurrence and Fate of Antibiotics, ARB, and ARGs in a Full-scale Wastewater Treatment Plant Ngoc Han TRAM (National Institute of Singapore, Singapore)
11:10-11:30	(11:20-11:40) [ORT10-096] Occurrences of Pharmaceuticals and Personal Care Products in Drinking Water of Taiwan and their Removals in Water Treatment Processes Chih-Wei PAI (National Taiwan University, Taiwan)	[ORTB-128] Combining PAC-adsorption and Nitritation in an MBBR Elin EDEFELL (Lund University, Sweden)	[ORTS-097] Photocatalysis Assisted by Peroxymonosulfate for Perfluorooctanoic Acid Removal in Ca <sub>2</sub> O <sub>2</sub> /UV system John ZHOU (University of Technology Sydney, Australia)	[ORS1-077] Modeling Transport of Escherichia Coli and Antibiotic Resistance Genes (ARGs) in a Recreational Beach Jinyoung KIM (Korean National Institute of Science and Technology (KIST), Korea)
11:30-11:50	(11:40-12:00) [ORT1-088] Target Multiclass EDCs in Tap Water of Different Housing Types in an Urban Settlement Sze Yee WEE (Universiti Putra Malaysia, Malaysia)	[ORTB-171] Fate of Organic Micropollutants during the Preconcentration Step of Organic Carbon in Novel Wastewater Treatment Plant Configurations Francisco OMIL (Universidad de Santiago de Compostela, Spain)	[ORT9-071] Degradation of Bisphenol A by Peroxymonosulfate Activated with Cu(II)/H <sub>2</sub> O <sub>2</sub> Nanoparticles: Efficiency and Mechanism Bin DENG (Wuhan University, China)	[ORS1-244] The Fate of Antibiotic Resistance Genes during Start-Up of Thermophilic Anaerobic Digestion Jinyoung SHIN (Gwangju Institute of Science and Technology (GIST), Korea)
11:50-12:10	(12:00-12:20) [ORT2-103] Exploring Microbial Communities in Aquifers used for Drinking Water Production in The Netherlands Andrea ALDAS-VARGAS (Wageningen University, The Netherlands)	[ORTB-197] How Should ECOHAZARD of MICROPOLLUTANTS in Wastewater Be Gauged? Using Bioassays to Profile Alternative Tertiary Treatments Matteo PAPA (University of Brescia, Italy)	[ORTS-196] Chitosan-MnO <sub>2</sub> Nanocomposite for Effective Removal of Cr (VI) from Aqueous Solutions Van-Phuc DINH (Duy Tan University, Vietnam)	[ORS1-274] Emerging Antimicrobial Resistance Phenotypes in Liquid By-Products Generated at Municipal Solid Waste Plant Ewa KOTLASSKA (Polish Academy of Sciences, Poland)
12:20-13:30	Lunch			
Room No.	520	517	513	516
Session	Screening and Analytical Methods of Micropollutants in Water	Fate and Removal of Micropollutants in Biological Processes-IV	Nano-Enabled Water Technologies for Micropollutant Control-II	Special Topic I. Antibiotic Resistance - 2
Chair	Yoshihiko MATSUI	Jeonghwan KIM	Timothy STRATHMANN	Sunggyo KIM
13:30-13:50	[ORTB-138] Nontarget Screening of Pharmaceuticals during Production of Urine-derived Fertilizers William TARPEN (Stanford University, USA)	[ORTB-253] Cosmetic Biotransformation of Organic Micropollutants under Aerobic Heterotrophic Conditions David M. KENNES-VEIGA (Universidade de Santiago de Compostela, Spain)	(13:30-14:00) [KLT5-301] Toward Single Atom Catalysis for Environmental Application Jeonghwan KIM (Yale University, USA)	(13:30-14:00) [KLT2-308] Global Reconnaissance of Antimicrobials in Surface Water by Target and Non-target Analysis Diana S. AGA (University at Buffalo, USA)
13:50-14:10	[ORT1-202] Target, Suspect and Nontarget Screening for Tracking Organic Contaminants in Nakdong River and its Tributaries, Korea Naree PARK (Changwon National University, Korea)	[ORTB-256] Removal of Contaminants of Emerging Concern from High Nitrogenous and NRK Effluent with Advanced Oxidation and Granular Activated Carbon Nicolas AÜSSBURGER (King Abdullah University of Science and Technology (KAUST), Saudi Arabia)	(14:00-14:20) [ORT9-255] V <sub>2</sub> O <sub>5</sub> Nanoparticle-Doped Ceramic Ultrafiltration Membrane for the Enhanced Ozonation of Emerging Contaminants in Drinking Water Treatment Hyeyeon TAK (Korea Advanced Institute of Science and Technology (KAIST), Korea)	(14:00-14:20) [ORS1-084] Are ESBL-Producing <i>E. Coli</i> Isolated from a WWTP Effluent More Resistant to UV Light at Different Wavelengths? Orsina JOVANOVIĆ (The Hong Kong University of Science and Technology, Hong Kong, China)
14:10-14:30	[ORT2-320] Nanostructure-Based Raman Spectroscopy for Monitoring Waterborne Micropollutants and Biohazards Sang-Woo JOO (Soongsil University, Korea)	[ORTB-261] How Can be Boosted the Biotransformation of Organic Micropollutants during Anaerobic Digestion? Juan M. LEMA (University of Santiago de Compostela, Spain)	(14:20-14:40) [ORTB-172] Simple Iron Immobilization on Graphene Oxide for Persulfate Activation: Radicals and Singlet Oxygen Mediated Oxidation Yu-Gyeong KANG (Pohang University of Science and Technology (POSTECH), Korea)	(14:20-14:40) [ORS1-124] Free Extracellular DNA Removal from Water and WWTP Effluent by Adsorption on Activated Carbon and Zeolites Daniela REIF (TU Wien, Austria)
14:30-14:50	[ORT2-132] Monitoring of the Natural Toxin Psittaculid in Groundwater - a Novel Simple Preparation Method Natasia SKRIBIC (University of Copenhagen, Denmark)	[ORS1-279] Influence of Side Stream Supersaturated Aeration Technology on Membrane Fouling and Azithromycin Removal in a Membrane Bioreactor Sang Yeob KIM (HSE Delft Institute for Water Education, The Netherlands)	(14:40-15:00) [ORTB-174] Effect of Structure and Fluorine Position on Hydrodefluorination of Fluoroaromatic Pollutants by Zeolite Supported Rh-Based Catalysts Seon Young AN (Seoul National University, Korea)	(14:40-15:00) [ORS1-218] The Effects of the Reactive Diffusion Species on Antibiotic Gene Transfer Jungyu KIM (Korea University, Korea)
14:50-15:10	[ORT2-237] Effect-Directed Analysis with a Combination of HPTLC and a Bioassay for the Simultaneous Detection of Three Endocrine Effects Nicola BARETTI (Institute of Energy- and Environmental Technology, Germany)	[ORTB-042] Elucidation of Micropollutants Biodegradation Mechanisms in Tertiary MBBR Treatment Albani CLAIRE (Université de Toulouse, France)	(15:00-15:20) [ORTS-043] Surface Defective Multi-Walled Carbon Nanotubes with Enhanced Catalytic Activity in Fenton-Like Reactions Sawara ADIL (Korea Institute of Science and Technology (KIST), Korea)	
15:10-15:30	Break (20 min)			
Room No.	520	517	513	516
Session	Special Topic II. Microplastics -1	Innovative Oxidative Treatment Processes for Micropollutant Control	Chemistry for Micropollutant Abatement in Oxidative Treatment Processes-II	Special Session I - Fight-Back Strategy against the Spread of Antibiotics and Antibiotic Resistance in Aquatic Environment: A Holistic Approach for Livestock Manure Management
Chair	Patrick BAUERLEIN	Jochen TUERK	Urs Von GUNTEN	Sunggyo KIM
15:30-15:50	(15:30-16:00) [KLS2-147] Transport of Microplastics from Rivers to Oceans Eddy Y. ZENG (Jnan University, China)	[ORTB-064] The Electro-Peroxone Process for the Abatement of Emerging Contaminants: From Batch to Pilot Scale Huijiao WANG (Tsinghua University, China)	[ORTB-282] Roles of Halogen Radicals in the Degradation of Emerging Contaminants by the UV/chlorine Process Jingyun FANG (Sun Yat-sen University, China)	(15:30-15:35) Opening address Kyung-Duk ZOH (Seoul National University, Korea) (15:35-15:40) Welcome Remarks (Y. S. AHN)
15:50-16:10	(16:00-16:20) [ORS2-158] Occurrence of Microplastics in Korean Agricultural Environment Seung-Kyu KIM (Incheon National University, Korea)	[ORTB-119] Effect of Ozonation on Ecotoxicity Removal from Tank Truck Cleaning Wastewater Sven POELMANS (University of Antwerp, Belgium)	[ORTB-311] A Robust Ti/Sb-SnO <sub>2</sub> Anode with N/C-doped Interlayers for Enhanced 1,4-Dioxane Degradation Naresh MAMEDA (Kyungpook National University, Korea)	(15:40-16:00) [SS1-3] Comparison of Different Workflows in Non-Target Analysis of Surface Water Samples using Orbitrap LC-MS Diana S. AGA (University at Buffalo, USA)
16:10-16:30	(16:20-16:40) [ORS2-222] Distribution of Microplastics in Han River and Fish in the River Tae-Jin PARK (National Institute of Environmental Research, Korea)	[ORT10-055] Effect of Ozonation and Photo-Oxidation of Organic Micropollutants in Municipal Sewage Nikolai OTTO (University of Stuttgart, Germany)	[ORTB-037] Micropollutant Removal by UV-LED/chlorine Advanced Oxidation Process Followed by Activated Carbon Adsorption Ran YIN (The Hong Kong University of Science and Technology, Hong Kong, China)	(16:00-16:20) [SS1-2] Source and Mechanisms of Occurrence of Antimicrobial Resistance in the Aquatic Environment Sungsoo BAE (National Institute of Singapore, Singapore)
16:30-16:50	(16:40-17:00) [ORS2-281] Fate and Occurrence of Microplastic in Chi River, Thailand Jutamas KAEWSUK (Mahasarakham University, Thailand)	[ORTB-023] Pharmaceuticals Removal by UV and UV/H <sub>2</sub> O <sub>2</sub> in a Wide Range of Water And Wastewater Matrices Gustavo BÜTTIGLIERI (ICRA - Catalan Institute for Water Research, Spain)	[ORTB-012] Determination of Rate Constants for the Reaction of Cl <sub>2</sub> with Trace Organic Contaminants Yu LEI (Sun Yat-sen University, China)	(16:20-16:40) [SS1-4] Spread of Antibiotics from Livestock Manure and Holistic Approach for Developing Fight-Back Strategies S. J. BYUN (Jeollanam-do Environmental Industries Promotion Institute, Korea)
16:50-17:10	(17:00-17:20) [ORS2-167] Occurrence and Discharge of MPs from the Five Major Rivers of South Korea: Abundance, Composition Pattern, and Discharge Hee-Jee LEE (Incheon National University, Korea)	[ORTB-028] Microbubble Ozonation of the Antioxidant Butylated Hydroxytoluene: Degradation Kinetics and Toxicity Reduction Jerry COLLINCE ACHAR (Korea University, Korea)	[ORTB-130] Comparison of Soil Washing Effluent Treatment by UVB activation of Persulfate and Hydrogen Peroxide Processes Fujiang TAO (Wuhan University, China)	(16:40-17:00) [SS1-4] Advanced Oxidation Processes for Decomposing Contaminants of Emerging Concern in the Effluent of Manure Treatment C. Han (HNU University, Korea)
17:10-18:00	Poster Session 2			
18:00-19:00	Banquet			

Date/ Time	October 23 (Wednesday)			
9:00-9:30	Registration			
9:30-10:10	[Room: 520] Chair: Yunho LEE (Gwangju Institute of Science and Technology (GIST), Korea) [PL4] Oxidation Processes in Water Treatment: Are We on Track? Urs Von GURTEN (Eawag- Swiss Federal Institute of Aquatic Science and Technology, Switzerland)			
10:10-10:30	Break (20 min)			
Room No.	520	517	513	516
Session	Fate and Removal of Micropollutants in Eco-Engineered Treatment Processes	Control and Management of Micropollutants in Water Reuse	Special Topic II: Microplastics-2	Special Session II: Effect-Based Methods such as Epigenetic and Neurotoxicity and Monitoring
Chair	Am JIANG	Changha LEE	Eddy Y. ZENG	Maria FURHACKER, JIANGYONG HU
10:30-10:50	[ORT4-076] Combined Treatment of Organic Contaminants in Reverse Osmosis Concentrate using Ozone and Open-Water Wetlands. Rachel SCHOLEX (University of California, USA)	[10:30-11:00] [K179-299] Towards a Better Understanding and Enhancement of Wastewater Reuse in Agriculture Despo FATTA-KASSINOS (University of Cyprus, Cyprus)	[ORS2-112] Microplastics in Combined Sewer Systems Vanessa SPELTHHORN (RWTH Aachen University, Germany)	(10:30-10:40) Introduction to the Topic Maria FURHACKER (BOKU-University of Natural Resources and Life Sciences, Austria) (10:40-11:00) [SS2-1] Use of Bioassays for the Toxicological Evaluation of Trace Substances in the Water Cycle T. GRUMMT
10:50-11:10	[ORT8-020] Degradation of Climbazole and Fluconazole in Intermittently Loaded Constructed Wetlands. Adam SOCHACKI (Czech University of Life Sciences Prague, Czech Republic)	(11:00-11:20) [ORT9-073] Assessment of Post Treatment of Biologically Treated Wastewater of Small Sized Settlements through UV Degradation of Pharmaceutical Residues Victor G. MIHUCZ (ELTE - Eotvos Lorand University, Hungary)	[ORS2-069] Quantification of Semi-Crystalline Microplastics in Industrial Wastewaters using Differential Scanning Calorimetry (DSC) Hajo BITTNER (Technische Universität Darmstadt, Germany)	(11:00-11:20) [SS2-2] Methodological Concepts for the Evaluation of the Interaction of Toxicological Effects using the Example of Neurotoxicity J. KUCKELKORN, T. GRUMMT
11:10-11:30	[ORT8-024] Iron Turning Waste Filter For Treating Chlorinated Pesticides in Water and Microbial Regeneration of Filter Media Eakalak KHAN (University of Nevada, Las Vegas, USA)	(11:20-11:40) [ORT9-131] Vital Urban Filter: A Novel Solution to Remove Pharmaceuticals from Urban Wastewater for Healthy Reuse Elaçkyı SITHAMPARANATHAN (Wageningen University & Research, The Netherlands)	[ORS2-159] Occurrence of Microplastic around the King Sejong Station, the Antarctic Ji-Su KIM (Incheon National University, Korea)	(11:20-11:40) [SS2-3] Epigenetic Effects - Another Issue Which Needs to be Handled Maria FURHACKER (BOKU-University of Natural Resources and Life Sciences, Austria), A. HÄSSLBERGER
11:30-11:50	[ORT8-185] Influence of Algal Organic Matter on the Removal of Trace Organic Contaminants in Managed Aquifer Recharge Sung Kyu MAENG (Sejong University, Korea)	(11:40-12:00) [ORT9-058] Comparison of Ozone-Based Advanced Oxidation Processes for Micropollutant Abatement and Bromate Inhibition Yang QUD (Tsinghua University, China)	[ORS2-085] Quantification of the Microplastic Pollution in the Chattahoochee River Watershed (Southeast USA) and its Associated Microbiome Gyuhyon CHA (Georgia Institute of Technology, USA)	(11:40-12:00) [SS2-4] Ecotoxicogenomic Analysis using High-throughput Transcriptomics and Metabolomics for Comprehensive Toxicity Testing Sungwoo BAE (National University of Singapore, Singapore)
11:50-12:10	[ORT8-039] Diffusion of Hydrophilic Micropollutants in Granular Activated Carbons with Different Pore Sizes Laura PIAI (Wageningen University, The Netherlands)	(12:00-12:20) [ORT8-298] Understanding Removal of Micropollutants in Aerobic Fluidized Bed Membrane Bioreactor Treating Low-Strength Wastewater Jeonghwan KIM (Inha University, Korea)	[ORS2-194] Microplastics as Effective Carriers of Antibiotic Resistance Genes in Wastewater Treatment Plants with Antibiotic Selector Prince Mar ALETA (Korea University, Korea)	(12:00-12:10) Discussion and Exchange of Experience between the Participants/Summary JIANGYONG HU (National University of Singapore, Singapore)
12:20-13:30	Lunch			
Room No.	520	517	513	516
Session	Transformation Products in Natural and Technical Treatment Systems-I	Pilot- and Full-Scale Studies for Micropollutant Removal-I	Special Topic II: Microplastics-3	Special Session III: Management of Micropollutants in the Developed and Developing Countries
Chair	Chi SHANG	Despo FATTA-KASSINOS	Seung-Kyu KIM	Gen-Shuh WANG, JIANGYONG HU
13:30-13:50	[ORT4-040] Ozonation Transformation Products in Water and Wastewater Treatment with Ozone and Biological Post-Treatment Christa S. McARDELL (Eawag, Switzerland)	[ORT10-108] Elimination of Micropollutants by Activated Carbon from Wastewater Screenings Julian FIRK (RWTH Aachen University, Germany)	[ORS2-273] Float-Cast Microsieves Werner A. GOEDEL (Chemnitz University of Technology, Germany)	(13:30-13:40) Introduction Gen-Shuh WANG (National Taiwan University, Taiwan) (13:40-14:00) [SS3-1] Progress of the Management Framework in Taiwan Gen-Shuh WANG (National Taiwan University, Taiwan)
13:50-14:10	[ORT4-041] NO Reduces Cosmopolitan Biotransformation and NO-Mediated Abiotic Transformation of Amines in Denitrifying Sludge Serge CHIRON (Montpellier University, France)	[ORT10-116] Impact of Operation Mode for Biochar and Zeolite-Based Planted Vertical Flow Wetlands: How to Enhance the Removal of 27 Micropollutants in Medium-Sized WWTP Hana SIBINKOVA (University of Luxembourg, Luxembourg)	[ORS2-245] Micro and Nano-Particles of Expanded Polystyrene Exposed to Sunlight in Facial Scrub Products Khatyia OUNIAI (Kyoto University and Ocean Science and Technology (KIOT), Korea)	(14:00-14:20) [SS3-2, ORT7-136] Upgrade of WWTPs for Micropollutant Removal – the “Micropollutant strategy” of the German Federal State Baden-Württemberg Marie LAUNAY (University of Stuttgart, Germany)
14:10-14:30	[ORT4-011] Transformation of an Amine Mixture of Alenolol during Water Treatment with Chemical/UV Reaction Kinetics, Products, and Mechanisms Jiwon RA (Gwangju Institute of Science and Technology (GIST), Korea)	[ORT10-137] Evaluation of a Biological Post-Treatment after Full-Scale Ozonation at a Municipal Waste Water Treatment Plant Jochen TUERK (Institut für Energie- und Umwelttechnik e.V., University Duisburg-Essen, Germany)	[ORS2-285] Characterization, Quantity, and Size of Microplastics Used as Scrub Materials in Facial Scrub Products Khatyia OUNIAI (Kyoto University and Mahidol University (Double Degree Program), Thailand)	(14:20-14:40) [SS3-3] Current Status of Micropollutant Monitoring and Management Improvement Plan in South Korea Tae-Jin PARK (National Institute of Environmental Research, Korea)
14:30-14:50	[ORT4-065] Prioritizing Drug IPs Solved by Photolysis in Surface Waters using LC-HR-MS Sandra PEREZ (IDAEA-CSIC, Spain)	[ORT10-140] Catalytic Ozonation of Wastewater: Disinfection, Removal of Micropollutants and Residual Toxicity Roshan MAHARUDOV (Air Liquide- Delaware Innovation Center, USA)	[ORS2-067] From Surface Water to Tap Water – Removal of Anthropogenic Nanoparticles – and Plastics by Various Treatment Steps Patrick BAUERLEIN (KWR Watercycle Research Institute, The Netherlands)	(14:40-15:00) [SS3-4] Potential Surrogates for Monitoring of Micropollutants in Water JIANGYONG HU (National University of Singapore, Singapore)
14:50-15:10	[ORT4-305] Screening of Micropollutants and their Transformation Products in Perfluorinated Acid Treated Wastewater Maolida NIHEMATI (Université Paris-Est Créteil, France)	[ORT8-258] eXeno™: New Operational Strategy of MBR for Removal of Micropollutants in Municipal Wastewater—Results from Pilot Operation Elena TOBRESI (Veolia Water Technologies AnoxKaldnes, Sweden)	[ORS2-164] Sinking Mechanism of Microplastic Particles in the Aquatic Environment Hwang LEE (Incheon National University, Korea)	(15:00-15:10) Discussion / Wrap up JIANGYONG HU (National University of Singapore, Singapore)
15:10-15:30	Break (20 min)			
Room No.	520	517	513	516
Session	Transformation Products in Natural and Technical Treatment Systems-II	Pilot- and Full-Scale Studies for Micropollutant Removal-II	Innovative Physicochemical Treatment Processes for Micropollutant Control-III	Special Session IV-Monitoring of Unregulated Micropollutants in the Water Environment
Chair	Christa S. McARDELL	Eakalak KHAN	Gianluigi BUTTIGLIERI	TBA
15:30-15:50	[ORT1-046] Quaternary Ammonium Compounds as Potential Catalysts for the Formation of Carcinogenic N-nitrosamines in Water Florian BREIDER (EPFL-Swiss Federal Institute of Technology Lausanne, Switzerland)	[ORT10-230] Behaviour of Dielutic and Carbamazepine in Wastewater and Sludge: Comparison of Activated Sludge Process and Waste Stabilization Ponds Taylan DOLU (Konya Technical University, Turkey)	[ORT8-025] Impact of EBCT on Loading and Operation Strategies of GAC Filters Thomas FUNDNEIDER (Technische Universität Darmstadt, Germany)	(15:30-16:00) [K172-293] Green and Sustainable Chemistry Measures for Input Prevention of Micropollutants at the Source Klaus KUMMERER (Leuphana University of Lüneburg, Germany)
15:50-16:10	[ORT4-079] Ozonation of Microcystins: Kinetics and Toxicity Decrease Min Sik KIM (Seoul National University, Korea)	[ORT10-236] Pilot-Scale Removal of Pharmaceuticals and Toxicity in Staged Biofilm Systems Combined with Ozone Kai YANG (Technical University of Denmark, Denmark)	[ORT8-259] Role of Organic Fouling Layers during the Rejection of Micropollutant by FO Membrane Duksoo JIANG (Korea Advanced Institute of Science and Technology (KAIST), Korea)	
16:10-16:30	[ORT4-265] Oxidative Removal of Micropollutants by Fenton and Ozonation and Qualitative Determination of By-Products Havva ATES (Konya Technical University, Turkey)	[ORT10-266] VOC Removal by Innovative Hydrophobic Membrane Technology: Benchmarking against Conventional Processes Séghed HASSANZADEH (SUEZ, France)	[ORT1-104] Behaviour of Illicit Drugs and Psychopharmaceuticals in Wastewater Treatment Luís RESTREPO VIEIRA (Curtin University, Australia)	(16:00-16:30) [K171-304] The Current Status of Micropollutants in Korean Water Environment Jeong-Eun OH (Pusan National University, Korea)
16:30-16:50	[ORT4-278] Estimation of the Formation Mechanism of Trichloroacetic Acid from Phenolic Compounds in Water Chlorination by using <sup>13</sup> C-labelled Phenols Erika OKUTA (Kyoto University, Japan)	[ORT10-267] Micropollutant Removal with Granulated Activated Carbon under Wet Weather Conditions at the WWTP Mannheim Johanna NEF (University of Stuttgart, Germany)	[ORT3-031] The Ecotoxicity of Gabapentin to Early Developmental Stage of Zebrafish Yi-He (Nanjing Tech University, China)	[POT2-175] Development of UHPLC-Orbitrap MS Method for the Identification of Unknown Micropollutants in Surface Water Jinah OH (National Institute of Environmental Research, Korea)
16:50-17:10	[ORT8-093] Sulfonamide Antibiotics Degradation by Air-Assisted Non-Thermal Plasma in the Aqueous Phase: Proposed Pathways and Chemical Transformation Hyun-Woo KIM (Chonbuk National University, Korea)	[ORT10-093] Micropollutants Removal from Landfill Leachate in a Full Scale Advanced Treatment Plant Meltem Erin ARGUN (Konya Technical University, Turkey)	[ORTS-133] Characterization of Zinc Oxide Nanoparticle by Sulfidation and Its Effect on Toxicity Gyu-Dong LEE (Seoul National University of Science and Technology, Korea)	[ORT2-241] Establishment of Analytical Method for Pharmaceuticals in Water Samples from the Livestock Farm Area Gyu-Dong LEE (National Institute of Environmental Research, Korea)
17:10-17:30	Break (20 min)			
17:30-17:50	[Room: 520]	Closing Ceremony		