

SEAWE -14

The 14th International Symposium on
Southeast Asian Water Environment

3 - 5 December 2024
Kuala Lumpur, Malaysia

Programme Book



Organizers:



Co-organizer:



Conference Agenda

<i>Date</i>	<i>Time</i>	<i>Details</i>	<i>Location</i>	
Day 1: Tuesday, 3 Dec 2024	8:00 - 8:45	Registration		
	9:00 - 9:30	Opening Ceremony & Group Photo	Plenary Room	
	9:30 - 10:10	Keynote Speech I: Zaini Bin Ujang	Plenary Room	
	10:10 - 10:50	Keynote Speech II: Satoshi Takizawa	Plenary Room	
	10:50 - 11:20	Coffee and Tea Break		
	11:20 - 12:35	Parallel Session 1		
		<i>Wastewater Treatment and Resource Recovery</i>	Room 1	
		<i>Antibiotic Resistance and Water Quality</i>	Room 2	
		<i>Water Quality Monitoring and Analysis</i>	Room 3	
	12:35 - 14:00	Lunch Break		
	14:00 - 15:20	Parallel Session 2		
		<i>Advanced Oxidation and Membrane Technologies</i>	Room 1	
		<i>Anaerobic Treatment and Microbial Dynamics</i>	Room 2	
		<i>Urban Water Management</i>	Room 3	
	15:20 - 15:50	Coffee and Tea Break		
	15:50 - 17:00	Parallel Session 3		
		<i>Bioreactor and Microbial Fuel Cells</i>	Room 1	
		<i>Groundwater Treatment and Fluoride Removal</i>	Room 2	
<i>Emerging Contaminants and Water Quality</i>		Room 3		
18:00 - 20:00	Conference Dinner			

The 14th International Symposium on Southeast Asian Water Environment (SEAWE-14)
Kuala Lumpur, Malaysia

<i>Date</i>	<i>Time</i>	<i>Details</i>	<i>Location</i>
Day 2: Wednesday, 4 Dec 2024	9:00 - 10:20	Parallel Session 4	
		<i>Wastewater-based Epidemiology</i>	Room 1
		<i>Nutrient Removal and Recovery</i>	Room 2
		<i>Wastewater Treatment</i>	Room 3
	10:20 - 10:50	Coffee and Tea Break	
	10:50 - 11:35	Flash Talk Session	
		<i>Water Quality and Treatment</i>	Room 1
		<i>Water Resource Management and Modeling</i>	Room 2
		<i>Community Engagement, Ecology, and Sanitation</i>	Room 3
	11:35 - 11:45	Short Break	
	11:45 - 12:10	Industry Talk: Eng Loo Ang, CLMO	Plenary Room
	12:10 - 13:30	Lunch Break	
14:00 - 16:00	Technical Visit Site 1: IWK Pantai 2 Sewage Treatment Plant Site 2: Green Street Farm		
Day 3: Thursday, 5 Dec 2024	9:00 - 10:30	Parallel Session 5: Nishihara Session	
		<i>Microplastics and Antimicrobial Resistance</i>	Room 1
		<i>Wastewater Treatment and Circular Economy</i>	Room 2
		<i>Water Treatment and Technological Innovations</i>	Room 3
	10:30 - 11:00	Coffee and Tea Break	
	11:00 - 12:20	Parallel Session 6: Kurita Session	
		<i>Environmental Monitoring and Ecological Impacts</i>	Room 1
		<i>Water Resource Management</i>	Room 2
		<i>Environmental Contaminants and Climate Change</i>	Room 3
	12:20 - 13:40	Lunch Break	
13:40 - 14:20	Keynote Speech III: Khor Bee Chin	Plenary Room	
14:20 - 14:40	Award & Closing Ceremony	Plenary Room	

Keynote Speech I

Before 2050: Climate Actions for Non-State Actors on Water Sustainability



YBhg. Dato' Seri Ir. Dr.
Zaini Bin Ujang

Secretary General
Ministry of Higher Education, Malaysia

Speaker Profile:

- Professional & chartered environmental engineer, experienced public administrator and corporate director.
- Planetary health, climate change, carbon market, and Eco-Shift promoter, environmental sustainability, water & wastewater; energy security and eco-habits; green technology and lifestyle
- ESG (environment, social and governance)
- Higher education financial framework, entrepreneurial university, intellectual ecosystem, human resources, TVET
- Global networking: UNFCCC, UNEP, UNDP, ILO, IWA (Vice-President 2004-6), JICA; Harvard, MIT, Columbia, Imperial College London, Newcastle, Tokyo, Kyoto, Tsukuba, Lund.

Full speaker profile:

https://www.recwet.t.u-tokyo.ac.jp/asian_water2024/image/img_ZAINI_profile.png

Keynote Speech II

Water Supply and Sanitation in Asian Countries under Changing Social and Natural Environments



Dr. **Satoshi Takizawa**

Director, Research Center for Water Environment Technology
Professor, Department of Urban Engineering, the University of
Tokyo, Japan

Member, Board of Directors, International Water Association (IWA)

Speaker Biography:

Professor Satoshi Takizawa graduated from the University of Tokyo. He held positions including Assistant Professor at Nagaoka University of Technology, Senior Researcher at Public Works Research Institute, Ministry of Construction, Government of Japan, Associate Professor at the University of Tokyo, and Associate Professor at Asian Institute of Technology, Bangkok. He is currently Professor and Director of Research Center for Water Environmental Technology, Graduate School of Engineering, the University of Tokyo. He is currently an editor of Water Research and Scientific Reports. His research fields are urban water systems, advanced water treatment, urban groundwater management and management of water utilities.

Keynote Speech III

Disrupting Business as Usual - IWK's Perspective



Ir. Khor Bee Chin

Senior Manager
Technology and Innovation Section
Planning and Engineering Department
Indah Water Konsortium Sdn Bhd, Malaysia

Speaker Biography:

Ir. Khor Bee Chin is the senior manager of the Technology and Innovation Section, Planning and Engineering Department at Indah Water Konsortium Sdn Bhd, leading the research and development works for the company. She received her Bachelor of Chemical Engineering from The Queen's University of Belfast, UK and Master of Business Administration from The Nottingham Trent University, UK. She is a Professional Engineer with Practising Certificate and a certified Project Management Professional (PMP®). Ir. Khor has 30 years of experience in wastewater industry, specialising in wastewater treatment and management, resource recovery, technology and process gaps analysis and optimisation.

Industry Talk

Ion Chromatography in Environment Analysis



Mr. Eng Loo Ang

General Manager CLMO Technology Sdn Bhd., Malaysia

List of Presentations

Day 1: Tuesday, 3 December 2024

Parallel Session 1 (11:20 – 12:35)

Room 1, Session Chair: Absar Ahmad Kazmi (Indian Institute of Technology Roorkee, India)

Wastewater Treatment and Resource Recovery	
ID	Presentation Title / Authors
A-009	Hydrogen (H ₂) and volatile fatty acids (VFA) production from bread wastes in thermophilic fermentation reaction ●Mamoru Oshiki (Hokkaido University, Japan), Genchi Yamaguchi, Kohei Takahashi, Satoshi Okabe, Shuichi Kawano, Junichi Nakagawa, and Toshikazu Fukushima
A-112	Nutrient recovery and refractory organic removal from palm oil mill effluent through integrated struvite precipitation and Fenton oxidation Yi Fen Sea, Adeline Seak May Chua, Gek Cheng Ngoh and ●Mohamad Fairus Rabuni (Universiti Malaya, Malaysia)
A-037	Integrated non-potable greywater reuse and resource recovery concept using aerobic membrane bioreactor Seow Wah How, Loïc Ruiz, Dongha Kim and ●Di Wu (Ghent University, Belgium)
A-023	From lab-scale to pilot-scale treatment of municipal wastewater through PVA-Gel based system ●Rajpal A (Indian Institute of Technology Roorkee, India), Bhatia A, Ukai Y and Kazmi A A
A-108	Microbial ecology of low-dissolved oxygen biological nitrogen removal in tropical sewage treatment plants Jia Xing Loi, ●Liang Feng (Universiti Malaya, Malaysia), Faidzul Hakim Adnan, Mohamad Fairus Rabuni, Bee Chin Khor, Alijah Mohd Aris, Mamoru Oshiki, Anton Strunov, Stefan Thiele, Joana Séneca, Sarah Al-Ajeel, Ruizhe Pei, Petra Pjevac, Holger Daims, Adeline Seak May Chua

Room 2, Session Chair: Rohan Williams (National University of Singapore, Singapore)

Antibiotic Resistance and Water Quality	
ID	Presentation Title / Authors
A-041	Using qualitative analysis, antibiotic profiling, and genotyping to prevent ESBL-E. coli transmission in a livestock farm ●Yudith Vega Paramitadevi (Universitas Indonesia, Indonesia), Cindy Rianti Priadi, Iftita Rahmatika, Ali Budhi Kusuma, Setyo Sarwanto Moersidik, and Andriansjah Rukmana
A-127	Evaluating the influence of urban sampling locations on antibiotic resistance profiles in a tropical developing city lacking centralized wastewater treatment ●Sulfikar (Universitas Negeri Makassar, Indonesia), Iwan Dini, Zuhrah Adminira, Eda Lolo Allo, Maryono

A-149	<p>Future Research Prospect of Wastewater-based Epidemiology in Indonesia: Identification of Pathogenic Bacteria at Wastewater Treatment Plant in Bandung City</p> <p>●<i>Made Sandhyana Angga (The University of Tokyo, Japan), Annisa Andarini Ruti, Aulia Fajar Rahmani, Ahmad Soleh Setiyawan, Tjandra Setiadi, Masaaki Kitajima, and Eiji Haramoto</i></p>
A-124	<p>Antibiotics contamination and prevalence of antibiotic resistance genes (ARGs) in hospital wastewater and receiving river water in Bangladesh</p> <p>●<i>Anwar Hossain (Ehime University, Japan), Ngure Kagia, Md. Shafiujjaman, Rumi Tanoue, Tatsuya Kunisue, and Kozo Watanabe</i></p>
A-071	<p>Industrial effluents revealed substantial carbapenem resistant bacteria carrying blaKPC, blaIMP, blaVIM, and blaNDM-1 genes in Bangladesh</p> <p>●<i>Salequl Islam (Jahangirnagar University, Bangladesh), Shomaia Yasmin Mitu, Sumia, Marnusa Binte Habib, Kakoli Akter, Sarower Hossen Shuvo, Mamun Al Asad, Shamsun Nahar</i></p>

Room 3, Session Chair: Yoon Li Wan (Sunway University, Malaysia)

Water Quality Monitoring and Analysis	
ID	Presentation Title / Authors
A-056	<p>Occurrence and seasonal effects on earthy and musty odor compounds in secondary effluent from a municipal wastewater treatment in Tokyo</p> <p>●<i>Viet-Dung Pham (The University of Tokyo, Japan), Kawachi Koshiro, Ogata Ei and Kato Hiroyuki</i></p>
A-123	<p>Detection of river water contamination using excitation-emission matrix fluorescence spectroscopy and convolutional neural network</p> <p>●<i>Cecilia Burzio (The University of Tokyo, Japan), Michael Welle, Yoshihiko Kawaguchi, Koji Kosaka, Kazuhiro Komatsu, Takashi Hashimoto</i></p>
A-157	<p>Vertical distribution profiling of E. coli and salinity in the Tokyo coastal waters with amenity water fronts after rainfall under various tidal conditions</p> <p>●<i>Chomphunut Poopipattana (Chuo University, Japan), Manish Kumar, and Hiroaki Furumai</i></p>
A-097	<p>Comparison of 2-methylisoborneol (MIB) removal potential of different types of biological filters used for drinking water treatment</p> <p>●<i>Chenrun Jiang (The University of Tokyo, Japan), Naoko Tamai, Kenichi Yoshizawa, Futoshi Kurisu, Ikuro Kasuga</i></p>
A-057	<p>Formation and removal of earthy and musty odor compounds in a step-feed A2O process at a municipal wastewater treatment plant in Tokyo, Japan</p> <p>●<i>Ei Ogata (The University of Tokyo, Japan), Viet-Dung Pham and Hiroyuki Kato</i></p>

Parallel Session 2 (14:00 – 15:20)

Room 1, Session Chair: Tomohiro Tobino (The University of Tokyo, Japan)

Advanced Oxidation and Membrane Technologies	
ID	Presentation Title / Authors
A-068	Fabrication of magnetic biopolymeric carbons for degradative removal of multiple emerging contaminants from wastewater ● <i>Nirav P. Raval (SRM University-AP, India), Laurent Duclaux and Laurence Reinert</i>
A-028	Design and performance evaluation of advanced thin-film composite membrane for desalination application ● <i>Shubham Ketan Sharma (Indian Institute of Technology Roorkee, India) and Bhaskar Jyoti Deka</i>
A-117	PMS-activated catalytic membrane reactor based on CuO@CeO ₂ /PET membranes for degradation of organic pollutants in wastewater ● <i>Hong-Quang Luu (Chung Yuan Christian University, Taiwan), Rositasari Putri Redita, Ya-Fen Wang and Sheng-Jie You</i>
A-045	Tannic acid exfoliated graphitic carbon nitride thin-film nanocomposite membrane for the removal of emerging pollutants in potable water reuse ● <i>Yan Tung Lo (The University of Tokyo, Japan), Takashi Hashimoto and Satoshi Takizawa</i>
A-105	Roles of Fe ₃ O ₄ @PANI composite coating PVDF membrane in improving antifouling performance in membrane bioreactor ● <i>Duyen Phuc-Hanh Tran (Chung Yuan Christian University, Taiwan), Tomohiro Tobino, Fumiyuki Nakajima, Ya-Fen Wang, Sheng-Jie You</i>

Room 2, Session Chair: Benjaphon Suraraksa (National Science and Technology Development Agency, Thailand)

Anaerobic Treatment and Microbial Dynamics	
ID	Presentation Title / Authors
A-029	Enhancement of anaerobic degradation of acetone in an UASB system by feeding 2-propanol ● <i>Hong Dao Nguyen Pham (Nagaoka University of Technology, Japan), Kazuaki Syutsubo, Masataka Aoki, Akinori Iguchi and Takashi Yamaguchi</i>
A-079	Effect of long-term ammonia deficiency on nitrification performance and microbial dynamics in Downflow Sponge Biofilm (DSB) reactor ● <i>Jia Xing Loi (Universiti Malaya, Malaysia), Masataka Aoki, Mohamad Fairus Rabuni, Yasuyuki Takemura, Kazuaki Syutsubo, and Adeline Seak May Chua</i>
A-131	Anaerobic treatment of isopropyl alcohol-containing wastewater: feasibility and the microbial community ● <i>Yen-Chen Chen (National Cheng Kung University, Taiwan), Hai-Hsuan Cheng, Jia-Lin Chen and Liang-Ming Whang</i>
A-161	The role of comammox microorganism in the three full-scale municipal wastewater treatment plants ● <i>Yi-Ju Wu (National Cheng Kung University, Taiwan), Chih-Chieh Lin, Ting-Yin Chen, Jhao-Ning Cai, and Liang-Ming Whang</i>

A-049	<p>Enhancing microbial detection in engineered anaerobic systems: improved efficiency of hybridization chain reaction fluorescence in situ hybridization (HCR-FISH) with cell wall treat</p> <p>●<i>Nasrul Hidayah (King Mongkut's University of Technology Thonburi, Thailand), Wantanasak Suksong, Nimaradee Boonapatcharoen, Varunee Kongduan, Duanganong Phalaphol, Janphen Ainthakhlai, Naruemon Aekkawatchai, Onamon Laopitinan, Chaiwat Waewsak, and Benjaphon Suraraksa</i></p>
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Room 3, Session Chair: Manish Kumar (Tecnológico de Monterrey, Mexico)

Urban Water Management	
ID	Presentation Title / Authors
A-121	<p>Flood risk assessment under Nature-based Solutions (NbS) design scenario using PCSWMM model in Pathum Thani agrihood model, informal housing resettlement community Thailand</p> <p><i>Kim Irvine, ●Sunantana Nuanla-or (Thammasat University, Thailand), Stuti Shakya, Chayut Sansabay, Sameera Sandaruwan Yakdehi Kankanamge</i></p>
A-031	<p>Research on operational efficiency improvement through PPP introduction in Japanese WWTPs</p> <p>●<i>Shuhei Murakami (The University of Tokyo, Japan) and Hiroyuki Kato</i></p>
A-061	<p>A comparative study of non-revenue water management strategies between the Nairobi City Water and Sewage Company and the Phnom Penh water supply authority</p> <p>●<i>Kilonzi Peter Muindi (Nagasaki University, Japan) and Hironori Hamasaki</i></p>
A-063	<p>Waters of Buddhiscape: A political industrial ecology of water in Bodh Gaya, India</p> <p>●<i>Ritika Rajput (The United Nations University, Tokyo, Japan) and Jian Pu</i></p>
A-066	<p>Evaluating schedule delays and cost overruns in major water supply projects in Nepal: Implications for sustainable water management</p> <p><i>Nawa Raj Khatiwada, Tara Nidhi Bhattarai and ●Situ Sainju (Urban Water Supply and Sanitation (Sector) Project, Nepal)</i></p>

Parallel Session 3 (15:50 – 17:00)

Room 1, Session Chair: Pham Viet Dung (The University of Tokyo, Japan)

Bioreactor and Microbial Fuel Cells	
ID	Presentation Title / Authors
A-103	Impact of high-frequency, low-intensity alternating electric fields on single species biofilm development processes and activated sludge characteristics ● <i>Patthranit Kunlasubpreedee (The University of Tokyo, Japan), Tomohiro Tobino and Fumiyuki Nakajima</i>
A-136	Effect of heat treatment temperature of pre-air activation on structure of N-doped activated carbon catalysts and cathode performance in microbial fuel cells ● <i>Kizuku Mori (Gifu University, Japan) and Kayako Hirooka</i>
A-087	Development of an energy self-sufficient hybrid electrochemical membrane bioreactor (H-eMBR) equipped with low-voltage booster (LVB) ● <i>Tomoaki Tamura (Hokkaido University, Japan), Hiroshi Yamamura and Satoshi Okabe</i>
A-048	Data-driven membrane bioreactor monitoring for greywater reuse ● <i>Siyuan Wang (Ghent University, Belgium), Seow Wah How, Mariane Y. Schneider, Eveline I.P. Volcke and Di Wu</i>

Room 2, Session Chair: Tushara Chaminda (University of Ruhuna, Sri Lanka)

Groundwater Treatment and Fluoride Removal	
ID	Presentation Title / Authors
A-010	Ion exchange membrane bioreactor for treating nitrate contaminated ground water: a pilot scale study ● <i>Akshaya Kumar Verma (Siksha 'O' Anusandhan University, India), Zeev Ronen, Yoram Oren and Jack Gilron</i>
A-017	Comprehensive assessment of electrocoagulation technology for arsenic and fluoride removal from groundwater: Scale-up, Life cycle assessment, and Economic analysis ● <i>Hemant Goyal (Indian Institute of Technology Roorkee, India) and Prasenjit Mondal</i>
A-019	Fluoride removal from groundwater by using natural organic adsorbents such as rice grain and rice powder ● <i>Benyapa Sawangjang (The University of Tokyo, Japan) and Satoshi Takizawa</i>
A-137	Fluoride removal from wastewater by coagulation method ● <i>Hwang Sheng Lee (Universiti Tunku Abdul Rahman, Malaysia) and Sin Yee Ko</i>

Room 3, Session Chair: Ikuro Kasuga (The University of Tokyo, Japan)

Emerging Contaminants and Water Quality	
ID	Presentation Title / Authors
A-129	Temporal trends of per- and polyalkyl substances (PFAS) levels in the ambient waters of Yorkshire County, United Kingdom <i>Manish Kumar, ●Kanika Dogra (UPES, Dehradun, India), Deepa Lalwani, Jurgen Mahlknecht, and Vivek Agrawal</i>
A-130	Seasonal dynamics of antimicrobial resistance in the Himalayan urban wastewater: the urbanization, lifestyle, pandemic, and treatment influences <i>Shiwangi Dogra and ●Manish Kumar (Tecnológico de Monterrey, Mexico)</i>
A-138	Evaluation of acute toxicity with tropical crustacean in sucralose-contaminated water treated by UV-based advanced oxidation process <i>●Surapong Rattanakul (King Mongkut's University of Technology Thonburi, Thailand), Chutikarn Kaewpradit and Ananya Pumphuk</i>
A-092	Target and suspect screening of multicomponent contaminants of emerging concerns in beach plastic debris by LC-QTOF/MS: surveys on two different beaches in Japan <i>●Moe Hane (Gifu University, Japan), Yuji Suzuki, Yusuke Suzuki, Shin Furui, Toshiyuki Nakamura, Daiki Inui and Tatsunori Kimura</i>

Day 2: Wednesday, 4 December 2024

Parallel Session 4 (09:00 – 10:20)

Room 1, Session Chair: Surapong Rattanakul (King Mongkut's University of Technology Thonburi, Thailand)

Wastewater-based Epidemiology	
ID	Presentation Title / Authors
A-151	Treatment reduction of SARS-CoV-2 and gastroenteritis viruses in municipal wastewater treatment revealed by the EPISSENS-M method <i>Hiroki Ando, Satoshi Okabe, ●Masaaki Kitajima (The University of Tokyo, Japan)</i>
A-038	Assessing the applicability of a wastewater-based epidemiology model for norovirus in a Japanese city <i>●Kanji Watanabe (The University of Tokyo, Japan), Kiyo Kurisu, Daisuke Sano, Kensuke Fukushi</i>
A-156	Monitoring antimicrobial resistance genes in Japan using wastewater-based epidemiology: from Pre- to Post- COVID-19 <i>●Miaomiao Liu (The University of Tokyo, Japan), Ikuro Kasuga, Hiroyuki Katayama, Masaaki Kitajima</i>
A-133	Application of Kalman filter for estimation and forecast of epidemic trends in wastewater-based epidemiology on COVID-19 <i>●Abbas Normsars (Kanazawa University, Japan), Daisuke Murakami, Hiroe Hara-Yamamura and Ryo Honda</i>

- A-070 Assessing nontuberculous mycobacteria in household and hospital water sources
●*Kamila Nurhusna (Universitas Indonesia, Indonesia), Fakhira Nur Ramadhani, Ifita Rahmatika, Ikuro Kasuga*

Room 2, Session Chair: *Kazuaki Syutsubo (National Institute for Environmental Studies, Japan)*

Nutrient Removal and Recovery

ID	Presentation Title / Authors
A-060	Additional nutrient removal from treated effluent of SBR based STP by using graphene-like biochar adsorbent: Column experiment study ● <i>Muntjeer Ali (Indian Institute of Technology Roorkee, India), Nehaun, Mandeep Singh, Gaurav Goyal, Absar Ahmad Kazmi</i>
A-036	An influence model of extracellular polymeric substances on crystal growth and morphology of vivianite <i>Tingting Yang, ●Weihua Li (Anhui Jianzhu University, China), Ping Zhang, Zhihao Chen, Yixin Liu</i>
A-141	Feasibility analysis of treating low nitrogen loading wastewater using Anammox process ● <i>Ting-Yu Yeh (National Cheng Kung University, Taiwan), Tzu-Ya Weng, Yi-Ju Wu and Liang-Ming Whang</i>
A-135	Application of digester effluent from food waste for the cultivation of a haptophyte <i>Tisochrysis lutea</i> <i>Akiko Inoue, Kohei Yoneda, Yoshiaki Maeda and ●Iwane Suzuki (University of Tsukuba, Japan)</i>
A-113	Recovery of sulphuric acid from high-concentration acid liquid waste through air gap membrane distillation ● <i>Dian Qoriati (Chung Yuan Christian University, Taiwan), Sheng-Jie You, and Ya-Fen Wang</i>

Room 3, Session Chair: *Ngoh Gek Cheng (Universiti Malaya, Malaysia)*

Wastewater Treatment

ID	Presentation Title / Authors
A-059	Optimization of operational parameters for enhanced dyeing wastewater treatment and fouling control in integrated HF-sAnMBR-DHS system <i>Syed Saquib, Helen Julian, Sri Harjati Suhardi, ●Tjandra Setiadi (Institut Teknologi Bandung, Indonesia)</i>
A-099	Optimization of an advanced Johkasou system for on-site treatment of domestic wastewater under various conditions <i>Rajpal A, Bhatia A, Tomar A and ●Kazmi A A (Indian Institute of Technology Roorkee, India)</i>
A-111	Enhancing water quality in Malaysia: A study on the lab-scale bioball integrated DHS-G3 reactor's efficiency in wastewater treatment <i>Han Chuan Hau, ●Ying Hui Ong (MILA University, Malaysia), Woon Chan Chong, Li Wan Yoon, Kean Long Lim</i>

A-100	Integration of electrochemical oxidation and adsorption for colour and cod removal from leachate landfill treatment <i>Sean F. T. Hin, M. H. Che Harun, Roslaini Abd Ghani, and •Sofiah Hamzah (Universiti Malaysia Terengganu, Malaysia)</i>
A-016	Application of hydrogen-based denitrification: simultaneous removal of nitrate and reactive black 5 dye from textile wastewater containing organic matter <i>•Tippawan Singhopon (Khon Kaen University, Thailand) and Futaba Kazama</i>

Flash Talk Session (10:50 – 11:35)

Room 1, Session Chair: Chomphunut Poopipattana (Chuo University, Japan)

Water Quality and Treatment	
ID	Presentation Title / Authors
A-033	Innovative water remediation: utilizing maize stems to extract manganese <i>Yahaya Yahaya Kassimu, Shubham Ketan Sharma, •Samriddhi Sharma (Indian Institute of Technology Roorkee, India) and Bhaskar Jyoti Deka</i>
A-062	Influence of pore size and material on ultrafiltration membrane performance as pre-treatment of SWRO <i>•Abdillah Winata (Universitas Indonesia, Indonesia) and Sucipta Laksono</i>
A-082	Reuse of fly ash as a catalyst for the heterogenous Fenton process in a hybrid oxidation membrane reactor: wastewater treatment in winery industry <i>Fadhila Malahayati Kamal, •Sucipta Laksono (Universitas Indonesia, Indonesia), Sandyanto Adityosulindro</i>
A-083	Fenton-like treatment for dyes degradation: Effect of radical and catalyst and cost comparison <i>•Guntur Adisurya Ismail (Institute Technology Bandung, Indonesia) and Hiroshi Sakai</i>
A-106	Food and beverage wastewater treatment through microalgae cultivation <i>•Pavithira Sathinathan (Universiti Malaya, Malaysia), Ngho Gek Cheng and Rozita Yusoff C</i>
A-102	Sustainable acid mine drainage remediation via eggshell waste and microalgae <i>Chlorella pyrenoidosa</i> cultivation <i>•Susmit Chitransh (Indian Institute of Technology Roorkee, India) and Prasenjit Mondal</i>
A-128	Interaction of primary microplastics during sand filtration and possibility of cake filtration and its consequences on filtration performance <i>Mariha Feroz and •Khalid Muzamil Gani (National Institute of Technology, Srinagar, India)</i>

Room 2, Session Chair: Ong Ying Hui (MILA University, Malaysia)

Water Resource Management and Modeling	
ID	Presentation Title / Authors
A-002	Indicators for resilience assessment of urban water supply sources and urban waterways due to climate change and extreme events ● <i>Maria Anjelica P. Ancheta (Asian Institute of Technology, Thailand), S. Shrestha, T. Kooattatep, M. S. Shanmugam</i>
A-077	Multi-sectoral pollution reduction strategies: WASP-based modeling for water quality assessment of Citarik River, Indonesia ● <i>Zahrani Imtyaz (Bandung Institute of Technology, Indonesia) and Miftah Firdaus</i>
A-078	Navigating flood risks in a rapidly changing tropical watershed: a comparative assessment of HEC-HMS and SWAT in Indonesia's Citarik Sub-watershed ● <i>Miftah Firdaus (Institut Teknologi Bandung, Indonesia) and Zahrani Imtyaz</i>
A-081	Discharge forecasting in rapidly changing tropical watershed (case study: Citarik Sub-watershed, Indonesia) : a comparative analysis of F. J. Mock, Markov, ARIMA, SWAT, and HEC-HMS models ● <i>Miftah Firdaus (Institut Teknologi Bandung, Indonesia) and Zahrani Imtyaz</i>
A-146	Electrocoagulation for sustainable water treatment: role of computational fluid dynamics simulation towards energy transition ● <i>Amina Tahreen (International Islamic University Malaysia, Malaysia) and Mohammed Saedi J</i>
A-050	Emerging lithium pollution in surface and ground water - A futuristic approach using Artificial intelligence ● <i>S. Anuradha (Anna University, India), R. Manimegalai, and Devasena M</i>
A-086	Water governance and hydropolitics in the Mekong River Basin <i>Hironori Hamasaki, ●Kilonzi Peter Muindi (Nagasaki University, Japan), and Nguyen Dieu Linh</i>

Room 3, Session Chair: Iftita Rahmatika (Universitas Indonesia, Indonesia)

Community Engagement, Ecology, and Sanitation	
ID	Presentation Title / Authors
A-030	Elevated methane production and microbial community shifts through the removal of phenolic compounds from palm oil mill effluent <i>Thamonwan Woraruthai, Cheerapat Supawatkon, Sasithorn Rungjaroenchaiwat, ●Thanyaporn Wongnate (Vidyasirimedhi Institute of Science and Technology, Thailand)</i>
A-122	Enhancing community resilience to climate change: A case of urban flood mitigation in Dhaka Bangladesh ● <i>Bushra Shahriar (Indian Institute of Technology Roorkee, India), Uttam K. Roy</i>
A-132	Survey of recent progress in analysing wastewater treatment microbial communities using genome-resolved metagenome sequencing: with application to tropical climate domestic and industrial WWTP ● <i>Rohan B. H. Williams (National University of Singapore, Singapore)</i>
A-144	Strengthening of public data systems for sanitation - Bangladesh case ● <i>Sichu Shrestha (Asian Institute of Technology, Thailand), Makfie Farah, Bussakorn Krittanusarn, Santosh Dhungana, Kavinda Gunasekara, Sangam Shrestha, Thammarat Koottatep</i>
A-139	Identifying non-point sources of surface water contamination in Laguna Lake Basin, Philippines <i>Mozo Michael Jason L, Gigantone Catherine B, Gapan Emmanuel Zeus S, Lomod Jay-ann Q, Sanchez Patrica Ann J, Sevilla-Nastor Janice B, ●Abejero Alma Lorelei DJ (University of the Philippines Los Baños, Philippines), Villanueva-Peyraube Jessica D</i>
A-013	Development of a watershed health assessment framework integrating ecological, social, cultural, economic and policy attributes ● <i>Shella I. Talampas (Asian Institute of Technology, Thailand) and Sangam Shrestha</i>
A-125	Wastewater surveillance of human bocavirus and streptococcus pneumoniae in Japan <i>Vu Duc Canh, Motoki Kawashima, Akihiro Kawaguchi, Miaomiao Liu, Hiroyuki Katayama, Satoshi Okabe and ●Masaaki Kitajima (University of Tokyo, Japan)</i>

Day 3: Thursday, 5 December 2024

Parallel Session 5 (09:00 – 10:30): Sponsored by Nishihara Cultural Foundation

Room 1, Session Chair: Masaaki Kitajima (The University of Tokyo, Japan)

Microplastics and Antimicrobial Resistance	
ID	Presentation Title / Authors
A-021	Deciphering the source contribution of microplastics in the glacial environments of North-Western Himalayas ● <i>Shahid Ahmad Dar (National institute of Technology Srinagar, India) and Khalid Muzamil Gani</i>
A-075	Elimination of Microplastics in Urban Decentralized Wastewater Treatment: A Case Study in the Bangkok Metropolitan Region, Thailand ● <i>Mutita Wattanasuk (Asian Institute of Technology, Thailand) and Wenchao Xue</i>
A-126	Impact of Microplastics on Lab-scale Constructed Wetland Treatment Performance ● <i>Saurabh Dwivedi (CSIR Institute of Minerals and Materials Technology, India), Ashmita Patro and Asheesh Kumar Yadav</i>
A-152	Transport and retention of microplastics in subsurface environment: Impact of different hydrological conditions and particle characteristics ● <i>Jaswant Singh (Indian Institute of Technology Roorkee, India), Uwe Schneidewind, Reza Dehbandi, Neeraj Chauhan, Brijesh Kumar Yadav, and Stefan Krause</i>
A-069	Profiling antibiotic resistance genes in small-scale wastewater treatment facilities using high-throughput qPCR: A case study from Jakarta, Indonesia ● <i>Iftita Rahmatika (Universitas Indonesia, Indonesia), Isravani Valencia, Shafa Amusyiah, Farah Chairunnisa, Immanuela Karina, Cindy Rianti Priadia, Windi Muziasari, Ikuro Kasuga</i>
A-052	Environmental dissemination of blaCTX-M-15 gene and the fate of β -lactam antibiotics ● <i>Marnusa Binte Habib (Jahangirnagar University, Bangladesh), Kakoli Akter, Sarower Hossen Shuvo, Shomaia Yasmin Mitu, Sumia, Mamun Al Asad, Shamsun Nahar, Salequl Islam</i>

Room 2, Session Chair: Tippawan Singhopon (Khon Kaen University, Thailand)

Wastewater Treatment and Circular Economy	
ID	Presentation Title / Authors
A-046	Development and cultivation of <i>Euglena gracilis</i> in different types of wastewater nature ● <i>Nurlydia Mohd Azmil (MJIIT Universiti Teknologi Malaysia, Malaysia), Norhayati Abdullah, Ali Yuzir, Shaza Eva Mohamad and Mostafa El Sheekh</i>
A-163	Hydrothermal conversion of waste human hair as a biomaterial for wastewater treatment ● <i>Yan Ying Tan (Universiti Malaya, Malaysia), Archina Buthiyappan, Mohd Izzudin Izzat Zainal Abidin, and Abdul Aziz Abdul Raman</i>

A-110	Extracellular polymeric substances (EPS) from industrial glycerin pitch: Production and application as bio-flocculants for wastewater treatment ● <i>Wai Lun Ng (Sunway University, Malaysia), Li Wan Yoon, Jiun Hor Low, and Adeline Seak May Chua</i>
A-025	Feasibility of independent water circulatory system with inexpensive nutrient recycling using spirulina: case study in Malaysia ● <i>Azalea Dyah Maysarah Satya (University of Nottingham, Malaysia), Sara Kazemi Yazdi, Awalina Satya, Tjandra Chrismadha, and Show Pau-Loke</i>
A-143	Driving investments in the sanitation sector to support the SDG 6.2 agenda in the South and Southeast Asian region ● <i>Kimberly Tupaz (Asian Institute of Technology, Thailand), Isha Basyal, Kavinda Gunasekara, Thammarat Koottatep, Sangam Shrestha</i>

Room 3, Session Chair: Yuji Suzuki (Gifu University, Japan)

Water Treatment and Technological Innovations

ID	Presentation Title / Authors
A-053	Modified graphene oxide-ZrO ₂ /TiO ₂ ceramic membrane for organic and inorganic substances removal in seawater ● <i>Brilly.Najmussabah (Universitas Indonesia, Indonesia), R.A.Kusumadewi, S.Laksono, A.F. Madsuha, S.Adityosulindro, I.Rahmatika</i>
A-085	Development of high salinity resistant biofilm for pilot-scale application of anaerobic hybrid reactor (AHR) treating high salinity wastewater ● <i>Wantanasak Suksong (King Mongkut's University of Technology Thonburi, Thailand), Varunee Kongduan, Duanganong Phalaphol, Janphen Ainthakhlai, Naruemon Aekkawatchai, Nimaradee Boonapatcharoen, Nasrul Hidayah, Chaiwat Waewsak, Onamon Laopitinan, and Benjaphon Suraraksa</i>
A-047	Innovative pyrite-based Constructed Wetland-Microbial Fuel Cell for enhancing nutrients removal and bioelectricity generation ● <i>Houyun Yang (Anhui Jianzhu University, China), Shu Feng, Wei-Hua Li and Xian-Huai Huang</i>
A-015	A critical review of the use of smartphone cameras as part of water quality analysis methods ● <i>Chotiawat Jantarakasem (Chulabhorn Royal Academy/Imperial College London, Thailand), Laure Sioné and Michael R. Templeton</i>
A-101	Evolution of manganese mitigation in LMTP 1 and 2 <i>Geronimo A. and ●Publico G. (Maynilad Water Services, Inc., Philippines)</i>
A-148	Adsorption of iodinated trihalomethanes (i-thms) onto hkust-1(cu)-derived carbons ● <i>Alongorn Siri (Chulalongkorn University, Thailand), Aunnop Wongrueng, Pharkphum Rakruam and Patiparn Punyapalukul</i>

Parallel Session 6 (11:00 – 12:20): Sponsored by Kurita Water and Environment Foundation

Room 1, Session Chair: Loi Jia Xing (Universiti Malaya, Malaysia)

Environmental Monitoring and Ecological Impacts	
ID	Presentation Title / Authors
A-040	Environmental influences on microbial dynamics in urban waters of Southern Sri Lanka ● <i>S. Shaseevarajan (University of Ruhuna, Sri Lanka), Mohomed Shayan, W.M.K.R.T.W. Bandara, G.G. Chaminda Tushara and Hisashi Satoh</i>
A-098	Wastewater surveillance to track the Influenza dynamics in Tropical climate ● <i>Sunita Samantararat (Chulalongkorn University, Thailand) and Jatuwat Sangsanont</i>
A-014	Seasonal changes of bacterial communities in water, losses deposits and biofilms of municipal drinking water pipelines during hydraulic control in Southeast China ● <i>Yu Liu (Fuzhou University, China), Jia Niu, Liang Xiao and Xiaochen Chen</i>
A-054	Cadmium concentration in small-eyed squillid mantis shrimp (<i>Miyakea nepa</i> , Latreille, 1828) from Manila Bay, Philippines: Potential bioaccumulation and health risks ● <i>Rizaldy A. David (University of the Philippines Los Baños, Philippines), Janice B. Sevilla-Nastor, Jessica D. Villanueva-Peyraube, and Loucel E. Cui</i>
A-026	Climate change impacts on flood hazards and surface-subsurface water interactions in the Lancang Mekong River basin ● <i>Salik Bhusal (Department of Water Resources and Irrigation, Nepal), Sangam Shrestha, Tilasmi Aryal</i>

Room 2, Session Chair: Benyapa Sawangjang (The University of Tokyo, Japan)

Water Resource Management	
ID	Presentation Title / Authors
A-018	A novel approach for river discharge prediction in Lancang Mekong River basin: Incorporation of multisource remote sensing and LSTM model ● <i>Tilasmi Aryal (Department of Water Resources and Irrigation, Nepal), Sangam Shrestha, Salik Bhusal</i>
A-011	Navigating groundwater stresses: An outlook for future groundwater availability in Khon Kaen, Thailand, under SSP scenarios ● <i>Saurav K C (Center of Research for Environment, Energy and Water, Nepal) and Sangam Shrestha</i>
A-032	Assessment of groundwater governance in the Transboundary Cambodia-Mekong River Delta Aquifer System: Framework formulation and application ● <i>Tungish Uprety (Asian Institute of Technology, Thailand), Sangam Shrestha, Saurav KC, Mohana Sundaram Shanmugam, and Natthachet Tangdamrongsub</i>

A-096	<p>Institutional Challenges for a Sustainable Management of Selected Philippine Watersheds</p> <p><i>Patricia Ann J. Sanchez, Marisa J. Sobremisana, ●Alma Lorelei de Jesus-Abejero (University of the Philippines Los Baños, Philippines), Antonio P. Sobremisana, Catherine B. Gigantone, Michael Jason L. Mozo, Emmanuel Zeus S. Gapan, Jay Ann Q. Lomod, Denise Kamyll M. Navarro, and Ralden F. Lozada</i></p>
A-094	<p>Humanity bond with water: empowering indigenous STEM education using water inspired artscience approach</p> <p>●<i>Sithi V Muniandy (Universiti Malaya, Malaysia), Norlidah Alias, Dorothy Dewitt, Mohd Razip Bajuri, Mohd Nazri Abdul Rahman, MohD Shahril Nizam Shaharom, Roslina Ismail and Dzul Afiq Zakaria</i></p>

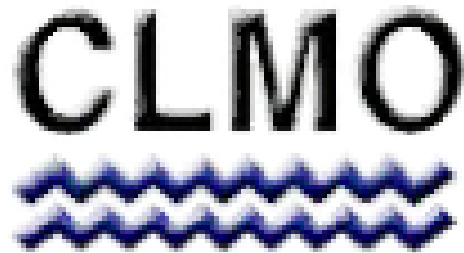
Room 3, Session Chair: Patiparn Punyapalakul (Chulalongkorn University, Thailand)

Environmental Contaminants and Climate Change	
ID	Presentation Title / Authors
A-012	<p>Watershed vulnerability assessment in the context of climate change, land use change, and water use change in the Nan River Basin, Northern Thailand</p> <p>●<i>Shella I. Talampas (Asian Institute of Technology, Thailand) and Sangam Shrestha</i></p>
A-027	<p>Adsorption of organic substances in seawater and brine using corncob, oil palm shell, and graphite adsorbents</p> <p>●<i>Riana Ayu Kusumadewi (Universitas Indonesia, Indonesia), Firdaus Ali, Sucipta Laksono, Nandy Putra, Adya Dipta Amari, Febi Azizah Permata Sari, and Muhammad Kafka Alghifari</i></p>
A-116	<p>Vulnerability of urban waters in Sri Lanka to Pharmaceutical Contaminants in the development of Antibacterial Resistance</p> <p>●<i>Tushara Chaminda GG (University of Ruhuna, Sri Lanka), Ryo Honda, Manish Kumar, Yurina Otaki and Masahiro Otaki</i></p>
A-055	<p>The combined effect of rising temperature and increased nutrients on the growth and toxin production of <i>Microcystis aeruginosa</i></p> <p>●<i>Li Yu (Anhui Jianzhu University, China), Fan Chen, Wei Hua Li, Hou-Yun Yang</i></p>
A-039	<p>Evaluating the environmental impact of diaper-derived super absorbent polymers on Carbendazim contamination in water bodies</p> <p><i>Mavra Farooq, Saheem Rasool, and ●Khalid Muzamil Gani (National Institute of Technology Srinagar, India)</i></p>



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