ACEER 2025

I-Shou University
Department of
Civil Engineering

The 7th International Conference on

Advances in Civil and Ecological Engineering Research

Conference Program

July 21-24, 2025 Matsue, Japan

香港教育大學
The Education University of Hong Kong

MAPÚA UNIVERSITY

The Chinese Institute of Environmental Engineering, Taiwan

The 7th International Conference on
Advances in Civil and Ecological Engineering Research
(ACEER 2025)

CONFERENCE PROGRAM

July 21st-24th, 2025
Matsue, Japan

Table of Contents

*** For ACEER 2025 Academic Exchange Only**

Part I Conference Schedule Summary

July 21st, 2025 / Japan Standard Time (UTC+9)
Location: In front of Small Hall, Kunibiki Messe

14:00-18:00	On-site Registration

Notes for registration:

* Please show us your name or paper ID for registration.

* Please pick up all the conference materials at the registration desk (Name Card, Conference Program, Lunch & Dinner Tickets, etc.).

July 22nd, 2025 / Japan Standard Time (UTC+9)
Location: Small Hall, Kunibiki Messe

Opening Ceremony and Keynote Speeches are chaired by:
Emeritus Prof. Chih-Huang Weng, *I-Shou University*
Distinguished Prof. Zhimin Qiang, *Shanghai Jiao Tong University*

08:40-08:50	**Opening & Welcome Speech** ***Prof. Emeritus Hisayoshi Hayashi****, University of Tsukuba*
08:50-09:20	**Keynote Speech 1:** The Roles of Urban Wetlands for Water Purification, Biological Conservation, and Aquatic Production: The Case of Hong Kong, South China ***Prof. Ming Hung Wong****, Advisor/Research Chair Professor (Environmental Science), The Education University of Hong Kong*
09:20-09:50	**Keynote Speech 2:** Optimizing O_3-UV Process for Wastewater Advanced Treatment with A Novel Mini-Fluidic Experimental System to Minimize Energy Consumption: Chemical Oxidation Vs. Advanced Oxidation ***Prof. Zhimin Qiang****, School of Environmental Science and Engineering, Shanghai Jiao Tong University*
09:50-10:10	**Group Photo**
10:10-10:30	**Coffee Break**
10:30-11:00	**Keynote Speech 3:** Application of Fluidized-Bed Fenton Process for Industrial Wastewater Treatment ***Prof. Ming-Chun Lu****, Distinguished Professor, Department of Environmental Engineering, National Chung Hsing University*
11:00-11:30	**Keynote Speech 4:** Biochar: An Eco-Friendly and Sustainable Material for Versatile Applications ***Prof. Emeritus Chih-Huang Weng****, Department of Civil Engineering, I-Shou University*
11:30-12:20	**Poster Session**
12:20-13:20	**Lunch Break**
13:20-17:56	**Invited Speeches Session**

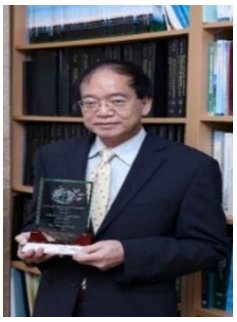
July 23rd, 2025 / Japan Standard Time (UTC+9)		
Time	**Schedule**	**Location**
08:40-10:40	**Student Oral Presentations Session I**	Small Hall, Kunibiki Messe
10:40-11:00	**Coffee Break**	
11:00-13:00	**Student Oral Presentations Session II**	
13:00-14:00	**Lunch Break**	
14:00-17:20	**Invited & Oral Session I:** Water Treatment and Environmental Sciences	
14:00-17:10	**Invited & Oral Session II:** Structural Engineering, Geological Engineering and Sustainable City	Meeting Room 401, Kunibiki Messe
17:30-20:30	**Awarding Banquet** (Please gather at the entrance of Kunibiki Messe)	YUUSHIEN Garden in Daikonshima

July 24th, 2025 / Japan Standard Time (UTC+9)	
09:10	**Departure from Kunibiki Messe** (Please gather at the entrance of Kunibiki Messe)
09:30-10:30	**Visit Matsue Castle**
10:40-11:40	**Horikawa Sightseeing Boat Ride**
11:50-12:40	**Lunch Break**
13:00-15:00	**Matsue Vogel Park**
15:30	**Arrival at JR Matsue Station at 15:30** (Subject to no traffic delays)

Notes: Please note that the itinerary, including the order of visits and time spent at each location, is subject to change based on actual circumstances.

Part II Keynote Speeches

Keynote Speech 1: The Roles of Urban Wetlands for Water Purification, Biological Conservation, and Aquatic Production: The Case of Hong Kong, South China



Prof. Ming Hung Wong
Advisor/Research Chair Professor (Environmental Science), The Education University of Hong Kong

Biography: Professor Wong is a Foreign Member of the Russian Academy of Sciences, a Member of the European Academy of Sciences and Arts, and Chang Jiang Chair Professor of the Ministry of Education, China. He served as the Editor-in-Chief of 'Environmental Geochemistry and Health' (Springer Nature) for 20 years (2002-2023). Professor Wong was the Coordinator of Central and North-East Asia of 'Regionally Based Assessment of Persistent Toxic Substances' and a Panel Member (of 3 experts) of 'Chemicals Management Issues of Developing Countries and Countries with Economies in Transition', sponsored by UNEP/GEF, during 2001-2003 and 2010-2012, respectively. His research areas included 'Environmental toxicology'; 'Ecological restoration'; and 'Resource reuse'. He has published over 850 SCI papers. In addition to his Ph.D. (Durham), he was awarded two higher Doctoral Degrees based on published papers in 1992 and 2004: DSc (Durham) and DSc (Strathclyde). Recently, he has been awarded an Honorary DSc from the Southern Federal University, Russia (31 May 2024), in recognition of his involvement as the Lead Scientist in the Mega Project on Bioremediation of Polluted Ecosystems sponsored by the Russian Government. Professor Wong is ranked 6th for 3 years and 8th for 2 years (career-long ranking) in Environmental Science according to the World's Top 2% Scientists (Stanford University, 2020-2024).

Abstract: Coastal wetlands of Hong Kong have contributed significantly to serving as an essential site for cycling of different elements, improving water quality, flood water storage, protection of erosion, biological productivity, and conservation, etc., citing Mai Po Marshes (RAMSAR site), located at the northwest of Hong Kong as an example. Urban centers generated many persistent toxic substances (PTS), including heavy metals, persistent organic pollutants, and emerging chemicals of concern due to various anthropogenic activities. More recently, wetlands have been built to enhance purifying wastewater, biological conservation, and aquatic production. This presentation focused on the most common PTS encountered in Hong Kong, their biogeochemical processes in the urban ecosystem, their removal efficiencies in different types of sewage treatment plants, and potential adverse effects on the wetland habitats, which might threaten the endangered species (e.g., blackface spoonbill) visiting the RAMSAR site. The roles of constructed wetlands for treating wastewaters (focusing on PTS), providing habitats for a wide range of animals, improving scenic values of waterways, and for environmental education in this densely populated city are reviewed. The information included in this presentation is based on the results of a few research and consultancy projects supported by the Hong Kong Research Grants Council, the Environmental Conservation Fund (ECF) of the Environmental Protection Department, and the Drainage Services Department of the Hong Kong Government.

Keynote Speech 2: Optimizing O_3-UV Process for Wastewater Advanced Treatment with A Novel Mini-Fluidic Experimental System to Minimize Energy Consumption: Chemical Oxidation Vs. Advanced Oxidation

Prof. Zhimin Qiang
School of Environmental Science and Engineering, Shanghai Jiao Tong University

Biography: Dr. Zhimin Qiang is a distinguished professor at the School of Environmental Science & Engineering, Shanghai Jiao Tong University. He was a recipient of the National Science Fund for Distinguished Young Scholars, and had served as the director of Drinking Water Science and Technology of Chinese Academy of Sciences, and the director of Sate Key Laboratory of Environmental Aquatic Chemistry of China. His research covers advanced treatment, green disinfection, and safe distribution of water and wastewater. Prof. Qiang has led over 40 research projects, published about 250 SCI papers (H index = 62) and 120 Chinese papers, and been recognized as a Highly Cited Researcher by Elsevier in China. He holds 20 innovation patents and has received 8 national/provincial honors and awards.

Abstract: The ozone-ultraviolet (O_3-UV) process, which has emerged for advanced treatment of the secondary effluents (SEs) of wastewater treatment plants (WWTPs), requires optimization that balances the contributions of O_3 (chemical oxidation) and hydroxyl radicals ($HO^{\bullet}$, advanced oxidation) to minimize energy consumption. In this study, a novel bench-scale mini-fluidic O_3-UV system (MFOUS) was developed, allowing for accurate determination and convenient adjustment of the key operational parameters including O_3 mass loading (ML) and UV fluence (F_p). The degradation of refractory organic compounds in the O_3-UV process, expressed by chemical oxygen demand (COD) reduction and biodegradability (i.e., ratio of biological oxygen demand (BOD) to COD) enhancement, was investigated for three typical SEs with different reactivities toward O_3. Moreover, an evaluation method for the energy consumption of the O_3-UV process was established, enabling fine optimization of operational parameters to balance the contributions of O_3 and $HO^{\bullet}$. For example, to achieve 40% of COD reduction in SE-1, the ML and F_p should be optimized to 0.340 kg m^{-3} and 0.009 einstein m^{-2}, respectively, resulting in the lowest energy consumption of 7.29 kWh m^{-3}. Through optimizing the O_3-UV process for energy conservation, this study will help the WWTPs to achieve carbon-neutral goal in the future.

Keynote Speech 3: Application of Fluidized-Bed Fenton Process for Industrial Wastewater Treatment

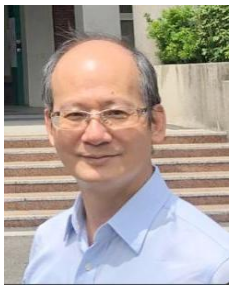
Prof. Ming-Chun Lu
Department of Environmental Engineering, National Chung Hsing University

Biography: Prof. Ming-Chun Lu is a Distinguished Professor in the Department of Environmental Engineering at National Chung Hsing University, Taiwan. He has served as an editor for Desalination since 2024 and has been an associate editor for Sustainable Environment Research since 2015. His outstanding achievements have been widely recognized with numerous honors. These include the Platinum Award at the Taiwan Innotech Expo Invention Competition in 2023 and 2024, the prestigious Future Technology Award from the National Science and Technology Council in both years, and the Outstanding Advisor Award for College Student Research and Creativity in 2023. He also led his team to win the championship in the Net-Zero Carbon Technology International Competition hosted by the TECO Technology Foundation in 2023 and was honored with the Outstanding Engineering Professor Award by the Chinese Institute of Engineers the same year. Professor Lu's research interests encompass advanced oxidation processes for water and wastewater treatment, fluidized-bed crystallization technology for treating wastewater containing metallic and non-metallic salts, and carbon dioxide capture from flue gas. He is also an innovator in developing disinfection, deodorization, antimicrobial, and antifungal technologies, as well as oil emulsification and desulfurization techniques. His work not only addresses pressing environmental challenges but also provides sustainable solutions that drive technological advancements.

Abstract: Rapid population growth and technological advancements in various industries have led to the generation of significant volumes of wastewater requiring effective treatment. Among the available methods, advanced oxidation processes (AOPs) are highly favored due to their high efficiency, cost-effectiveness, and eco-friendly nature. These processes utilize non-selective hydroxyl radicals (•OH) to oxidize and degrade toxic pollutants in wastewater. Among the AOPs, the Fenton process has demonstrated exceptional efficacy in treating recalcitrant organic compounds. However, a key limitation of this process is the generation of large quantities of sludge, necessitating additional treatment and disposal. The fluidized-bed Fenton (FBF) process addresses this issue by crystallizing iron onto the surface of carriers within the reactor, significantly reducing sludge production.

This presentation provides a comprehensive overview of recent advancements in applying the FBF process to treat industrial wastewater. Case studies are explored across sectors such as thin-film transistor liquid crystal display manufacturing, pharmaceuticals, textiles, phenol production, refractory organics, petrochemicals, and other chemical industries. These examples underscore the potential of FBF technology to effectively reduce recalcitrant organic contaminants in wastewater. Key advantages of the FBF process over conventional Fenton-based technologies are highlighted, including improved performance, optimized operating conditions, and critical factors influencing removal efficiency. Additionally, the presentation delves into the reaction kinetics and mechanisms involved, along with the characteristics and selection of carrier materials used in the process. Finally, insights into large-scale applications of the FBF process are discussed, showcasing its viability and adaptability in addressing the challenges of industrial wastewater treatment on a broader scale.

Keynote Speech 4: Biochar: An Eco-Friendly and Sustainable Material for Versatile Applications



Emeritus Prof. Chih-Huang Weng
Department of Civil Engineering at I-Shou University

Biography: Distinguished Professor Chih-Huang Weng is currently the Chairman of the Department of Civil Engineering at I-Shou University, Taiwan. He also served as Vice-President of North Kaohsiung Community University, Taiwan. He is serving as the Editor of Water (MDPI), Environmental Geochemistry and Health (Springer), and on the Editorial Board Panel Member of Coloration Technology (Wiley). He has also served as a Guest Editor of SCI journals, such as Agricultural Water Management (Elsevier), Environmental Science and Pollution Research (Springer), and Lecture Notes in Civil Engineering. He has also organized and chaired several international conferences. Professor Weng was listed in the World's Top 2% of Scientists (Stanford University, 2021-2023). His main research interests focus on using advanced oxidation processes and adsorption to treat wastewater and bacteria inactivation, groundwater modeling, and application of electrokinetic technologies to soil remediation/sludge treatment/activated carbon regeneration.

Abstract: Biochar is a carbonaceous material derived from the partial combustion of biomass wastes. It has been recognized as a sustainable material with various beneficial applications due mainly to its unique properties, which include a large surface area and electrical conductivity, rich pore configuration, high charge density and cation exchange capacity, high pH, and surface functional groups. Over the past decade, significant research interest has been paid to its effectiveness in improving Portland cement composites in construction and soil properties, as well as the benefits of addressing emerging environmental issues. The knowledge of improving biochar's applicability to sophisticated utilization in contemporary technology-related disciplines has expanded, particularly in its potential for catalyzed applications in batteries and supercapacitors for energy storage systems. This presentation outlines conventional and emerging feedstocks in biochar production, their performance as supplementary cementitious material, and their uses in various environmental applications. Specifically, the removal of pesticides and metals by biochar derived from agricultural wastes is highlighted. The need for future research on promoting biochar in combating climate change, reducing production costs, incorporating machine learning and artificial intelligence in optimizing biochar production and functionality, and establishing an appropriate standard for biochar preparation is also discussed. By focusing on waste utilization and versatile applications, biochar is an eco-friendly material that addresses environmental challenges and promotes a circular economy.

Part III Poster Presentations

Poster Presentation Guidelines

Materials Provided by the Conference Organizer:

- Poster Board
- Adhesive Tapes or Clamps

Materials Provided by the Presenters:

- Home-Made Posters
- Posters Printed by Conference

Requirement for the Posters:

- Material: not limited
  Size: W1200*H2100

Poster Board

Best Poster Presentation Selection Procedure

Selection Criteria:

- Research Quality
- Presentation Skill
- Design

Samples of Stickers

Selection Procedure:

- 4-6 volunteers will be invited from the participants to serve as the judges to review the posters (Note: Judges have no conflict of interest with the presenters).
- 3 red stickers and 3 green stickers will be provided to the judges. The red sticker stands for "Research Quality" with a value of 2 points; the green sticker stands for "Presentation Skill and Design" with a value of 1 point.
- Each judge will go around the poster session and give the stickers to the poster which he/she thinks is of high quality or well designed and well presented, please be noticed that the judge cannot give 2 red or 2 green stickers to the same poster (one red and one green sticker are acceptable).
- After the poster session, the conference secretary will count the points from each poster and ONE best poster presentation with more points will be selected. If there is a tie, the one with more red (Research Quality) stickers wins.

Nature of the Award

- This award consists of free registration to the ACEER 2026 and a certificate
- **TWO** outstanding poster presenters will be selected and honored with certificates during the Awarding Banquet. The winners will be announced at the banquet and featured on the ACEER 2026 official website.

List of Posters

Time: 11:30-12:20, July 22nd, 2025 **Location: Small Hall, Kunibiki Messe**

CEE1845	**Bifunctional COF/TiO2-NH2 Z-scheme photocatalysts for photocatalytic reduction of Cr(VI) and sulfamethoxazole degradation under visible light irradiation** *Dr. Shou-Heng Liu, National Cheng Kung University*
CEE1881	**Tin-based bimetallic electrodes for electrochemical nitrate reduction to nitrogen gas** *Prof. Yu-Jen Shih, National Sun Yat-sen University*
CEE1887	**Recovery as α-$Al(OH)_3$ crystals from aluminum-containing water via fluidized-bed homogeneous crystallization technology** *Ms. Hsin-Yu Chung, Feng Chia University*
CEE1898	**Impact and effective reduction of ship exhaust on air pollutants in the port area determined by unmanned aerial vehicles with microsensors** *Prof. Chia-Hsiang Lai, National Formosa University*
CEE1902	**The remediation of marine sediments containing phthalate plasticizers by peracetic acid activated with *Sphagnum* peat moss-derived biochar** *Prof. Chang-Mao Hung, National Kaohsiung University of Science and Technology*
CEE1912	**Speciation, mobility, and environmental risks of heavy metals in sewage and industrial sludge: insights from sequential extraction and risk assessment** *Dr. Ming-Huang Wang, National Kaohsiung University of Science and Technology*
CEE1922	**Reuse of municipal solid waste incinerator fly ash for autoclaved lightweight concrete production with a water-washing pretreatment process** *Assoc. Prof. Yi-Chieh Lai, National Kaohsiung University of Science and Technology*
CEE1924	**Eco-innovative solutions for heavy metal pollution using bacterial cellulose-microalgae biofloc** *Dr. Yi-Sheng Tseng, National Kaohsiung University of Science and Technology*
CEE1939	**Prediction analysis of detached house settlement during liquefaction using the material point method** *Mr. Yuto Mori, Chubu University*
CEE1950	**Study on the effect of electric arc furnace slag on the mechanical properties of asphalt concrete** *Ms. Yung-Lin Lin, I-Shou University*
CEE1954	**System dynamics simulation on intelligent underwater robots improving marine ranching ecology** *Prof. Zhen Chen, Lingnan Normal University*
CEE1970	**Stabilization of heavy metals in industrial harbor sediment by sintering as lightweight aggregates** *Assist. Prof. Yee-Cheng Lim, National Kaohsiung University of Science and Technology*

CEE1974	**Microplastics in coral reef sediments: A case study of the central reef area of the Penghu islands, Taiwan** *Assist. Prof. Chih-Feng Chen, National Kaohsiung University of Science and Technology*
CEE1975	**Preliminary study of artificial intelligent control of the reverse osmosis system - predicting the effluent water qualities by ANN algorithm** *Prof. Ruey-Fang Yu, National United University*
CEE1976	**Characteristics of ambient air toxics in the vicinities of high-tech science parks in Taiwan** *Prof. Jiun-Horng Tsai, National Cheng Kung University*
CEE1977	**Innovative survey technology for asbestos-contained material in building roof in Taiwan** *Prof. Tzi-Chin Chang, National Cheng Kung University*
CEE1985	**Transports and fates of zinc oxide and silver nanoparticles in municipal wastewater treatment plants** *Dr. Chih-Chi Yang, National Chi Nan University*
CEE1990	**Promoting CO_2 hydrogenation to formic acid via a MXene/Pd/Ni-NH_2 heterostructured catalyst and visual light energy** *Ms. Yu-Hsuan Lin, National Yunlin University of Science and Technology*
CEE1991	**Electrochemical oxidation of naproxen in aqueous solution: influence of anode materials and operating parameters** *Prof. Chiung-Fen Chang, Tunghai University*
CEE2001	**Evaluation of environmental impacts of recycled concrete aggregate in highway** *Prof. Qingli Dai, Michigan Technological University*
CEE2003	**Urban sidewalk sustainability in Manila, Philippines: a user-based assessment of accessibility and satisfaction** *Dr. Geoffrey Rhoel Cruz, Mapua University*
CEE1944	**Impact of grain for green and grassland project on ecosystem water yield in Yulin Area of Loess Plateau, China** *Prof. Yinge Liu, Baoji University of Arts and Sciences*
CEE1992	**The impact of tax incentives on China's automobile manufacturing industry** *Dr. Jun Ma, Zhejiang Institute of Economics and Trade*

Part IV Oral Presentations

General Guidelines

- **All presentation times are shown in Japan Standard Time (UTC+9);**
- Duration for Invited Oral Presentation: 15 minutes including 2-3 minutes of Q&A;
- Duration for Regular Oral Presentation: 12 minutes including 1-2 minutes of Q&A;
- Duration for Student Oral Presentation: 10 minutes including 1-2 minutes of Q&A;
- All presenters are requested to reach the Session Room prior to the scheduled time and complete their presentation on time;
- Presenters should prepare Power Point or PDF Files for Presentation with Paper ID (**CEE******) marked on the last page;
- A signed and stamped presentation certificate will be issued after the presentation.

Oral Presentation Guidelines

Devices Provided by the Conference Organizer:

- Laptops (with MS-Office & Adobe Reader) & Projectors & Screen
- Laser Sticks
- Microphones
- Please send us the PowerPoint once it is ready and have the PPT back up in a U-disk. For presenters who do not send the PowerPoint, please save it in the laptop of the corresponding session 15 min in advance. Kindly tell the Session Chair (before the start of your session) that you are present.

Best Oral Presentation Selection Procedure

ONE best presentation will be selected from EACH **Oral Session I&II** and **THREE Best Oral Presentations** will be selected from EACH **Student Oral Presentations Session I&II** based on the following criteria:

- ✓ Research Quality
- ✓ PowerPoint Design
- ✓ Presentation Performance
- ✓ Effective Communications
- ✓ Presentation Language

Selection Procedure

Session chairs will receive evaluation forms before the session begins, and the best presentations will be determined based on their assessments.

Best Oral Presentations and Outstanding Presentation Award

- The **Best Oral Presenters** from Oral Sessions I & II, as well as the **first-place presenters** from the Student Oral Presentations Sessions I & II, will be awarded 'Best Oral Presentation' certificates and complimentary registration to ACEER 2026.
- The second- and third-place presenters from the Student Oral Presentations Sessions I & II will receive official "Outstanding Presentation" award certificates.

Invited Speeches Session

Time: 13:20-17:56, July 22nd, 2025 **Location: Small Hall, Kunibiki Messe**
Session Chairs:
13:20-15:20 Prof. Hyunook Kim, University of Seoul
15:50-17:56 Prof. Meng-Wei Wan, Chia-Nan University of Pharmacy and Science

13:20-13:35	**CEE1940**	**Degradation of benzylamines during anaerobic biological treatment and formation of nitrosamines during subsequent chloramination** *Prof. Wei-Hsiang Chen, National Sun Yat-sen University*
13:35-13:50	**CEE1867**	**Organic pollutant degradation in water by vacuum ultraviolet: dosimetry and enhancement pathways** *Prof. Mengkai Li, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences*
13:50-14:05	**CEE1893**	**Enhanced hydrogen generation by photoelectrochemical hydrolysis of ammonia borane** *Prof. Yen-Ping Peng, National Sun Yat-sen University*
14:05-14:20	**CEE1854**	**Sustainable battery recycling via direct regeneration of cathode materials** *Prof. Wei-Fan Kuan, Chang Gung University*
14:20-14:35	**CEE1853**	**Fabrication of high-flux asymmetric polyethersulfone (PES) membranes with perm-selectivity of nitrate ions** *Prof. Jenn-Fang Su, Chang Gung University*
14:35-14:50	**CEE1855**	**Electrocatalytic nitrate conversion to dinitrogen through bimetallic catalysts** *Prof. Ching-Lung Chen, Ming Chi University of Technology*
14:50-15:05	**CEE1869**	**Remediation of trichloroethylene (TCE)-contaminated groundwater using electrochemically activated persulfate** *Prof. Ku-Fan Chen, National Chi Nan University*
15:05-15:20	**CEE1906**	**Utilizing cost-effective pyrocarbon for highly efficient gold retrieval from e-waste leachate** *Assoc. Prof. Jinming Luo, Shanghai Jiao Tong University*
15:20-15:50		**Coffee Break**
15:50-16:05	**CEE1859**	**The optimization study of oxidative desulfurization using polyoxometalate-based phase-transfer catalysts immobilized on magnetic particles** *Prof. Meng-Wei Wan, Chia-Nan University of Pharmacy and Science*
16:05-16:20	**CEE1941**	**A BIM-based study on embodied carbon analysis for building structure** *Assoc. Prof. Yi-Jao Chen, National University of Kaohsiung*
16:20-16:35	**CEE1981**	**Microplastics in commercial laundry detergents and conditioners** *Prof. Hyunook Kim, University of Seoul*

16:35-16:50	**CEE1905**	**Unraveling the radical chemistry of nitrophenols and biomass-burning brown carbon in waters** *Assist. Prof. Yu Lei, Shanghai Jiao Tong University*
16:50-17:05	**CEE1895**	**Investigation and assessment of a multiple liquefied site in Taiwan** *Prof. Chih-Sheng Ku, I-Shou University*
17:05-17:20	**CEE1878**	**A case study on groundwater recharge assessment in reservoir catchments using real-time infiltration monitoring** *Asst. Prof. Shih-Hsun Chou, I-Shou University*
17:20-17:32	**CEE1896**	**Recycled cement as a promising greener earth stabilizer** *Prof. José Alexandre Bogas, Universidade de Lisboa*
17:32-17:44	**CEE1897**	**Hygrothermal performance of compressed earth blocks stabilised with recycled cement** *Prof. Maria da Glória Gomes, Universidade de Lisboa*
17:44-17:56	**CEE1925**	**Study on sustainable utilization and microbial population evolution of Zn containing anaerobic digestion solution by ecological restoration technology based on PBR symbiotic system of bacteria and algae** *Prof. Lei Feng, Shenyang Aerospace University*

Student Oral Presentations Session I

Time: 08:40-10:40, July 23rd, 2025 **Location: Small Hall, Kunibiki Messe**

Session Chairs:

08:40-09:40 Prof. Mengkai Li, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences

09:40-10:40 Prof. Ming-Chun Lu, National Chung Hsing University

08:40-08:50	**CEE1982**	**A systematic literature review on the life cycle assessment of seawater desalination technologies** *Mr. Ming-Chun Tsai, National Taipei University of Technology*
08:50-09:00	**CEE1914**	**Differential Influences of hydrogen peroxide and persulfate on iron oxide-graphene oxide composite in advanced oxidation processes for acetaminophen removal and haloacetamide formation potential** *Ms. Shih-Wen Peng, National Sun Yat-sen University*
09:00-09:10	**CEE1921**	**Nitrosamine-formation potential of highly used domestic pharmaceuticals during photocatalytic oxidation under nitrogen pollution** *Mr. Yu-Chun Tseng, National Sun Yat-sen University*
09:10-09:20	**CEE1917**	**Enhancing N removal efficiency in partial nitrification-autotrophic denitrification-anammox (PNADA) using sodium alginate-polyallylamine immobilization combined with graphene oxide** *Mr. Yu-Lin Chen, National Sun Yat-sen University*
09:20-09:30	**CEE1945**	**Development of the sulfur-based bio-carriers for autotrophic denitrification** *Mr. You-Ren Yang, National Central University*
09:30-09:40	**CEE1953**	**Coupled of partial denitrification and anammox for the concurrent removal of ammonia, nitrate, and nitrite** *Ms. Iva Yenis Septiariva, National Central University*
09:40-09:50	**CEE1964**	**Photochemical-aging of biodegradable microplastics: surface acidity and adsorption towards Pb(II)** *Ms. Zi-Qing Lin, National Kaohsiung University of Science and Technology*
09:50-10:00	**CEE1882**	**Removal and recovery of copper from wastewater using fluidized-bed reactor in acidic condition with sulfide (II) as precipitant** *Mr. Charles Wijaya, National Cheng Kung University*
10:00-10:10	**CEE1883**	**Recovery of Iron(III) molybdate using fluidized bed homogenous crystallization & its application in photo fenton-like degradation of reactive red 195** *Mr. Cai-Sheng Lin, National Cheng Kung University*
10:10-10:20	**CEE1888**	**Application of fluidized bed homogeneous crystallization technology for decomposition of EDTA-Cu using persulfate and recovery of Cu(II)** *Mr. Che-Yi Lien, Feng Chia University*

10:20-10:30	**CEE1889**	**Removal of fluoride from wastewater as crystalline and granulated cryolite by fluidized-bed homogeneous crystallization** *Mr. Chun-Hsuan Su, Feng Chia University*
10:30-10:40	**CEE1994**	**RW-EDI as innovative alternative to traditional biological processes for treating wastewater containing high concentrations of NH_4^+** *Ms. Haeun Oh, University of Seoul*

Student Oral Presentations Session II

Time: 11:00-13:00, July 23rd, 2025 **Location: Small Hall, Kunibiki Messe**
Session Chairs:
11:00-12:00 Prof. Jenn-Fang Su, Chang Gung University
12:00-13:00 Prof. Ching-Lung Chen, Ming Chi University of Technology

11:00-11:10	**CEE1932**	**Converting iron sludge to effective Fenton catalysts for the post wastewater treatment** *Ms. Wei-Tong Li, Yuan Ze University*
11:10-11:20	**CEE1933**	**Reclaiming fluoride from high-tech wastewater using Ca/Mg loaded biochar** *Ms. Zi-Ying Lu, Yuan Ze University*
11:20-11:30	**CEE1958**	**Seawater/brine mining for crystallization of magnesium hydroxide via fluidized bed homogeneous crystallization** *Mr. Ting-Kuan Lu, National Cheng Kung University*
11:30-11:40	**CEE1959**	**Sulfide recovery as manganese sulfide from sulfide-contained wastewater using fluidized bed homogeneous crystallization technology** *Mr. Guang-Chen Jheng, National Cheng Kung University*
11:40-11:50	**CEE1965**	**Ambient lithium recovery via lithium phosphate crystal growth from low-concentration synthetic wastewater** *Mr. Heng-Sheng Chen, National Kaohsiung University of Science and Technology*
11:50-12:00	**CEE1851**	**Biochar production from waste *Sterculia foetida* shell by ball milling process and its potential use for polycyclic aromatic hydrocarbons suppression** *Mr. Divyashakti Sureshchandra Gautam, National Kaohsiung University of Science and Technology*
12:00-12:10	**CEE1890**	**Innovative shrimp shell-derived chitosan films functionalized with jabuticaba pomace extract for pork shelf-life extension: 3D cartographic insights into foodborne microbial cells disinfection** *Ms. Ying-Chen Chen, National Chung Hsing University*

12:10-12:20	**CEE1894**	**Application of PLAXIS 2D in evaluating the bearing capacity of pile foundations in soft rock** *Mr. Kai-Yu Lin, I-Shou University*
12:20-12:30	**CEE1987**	**Smart image recognition for industrial air pollution source control** *Ms. Ming-Fong Yu, National Sun Yat-sen University*
12:30-12:40	**CEE1967**	**Decentralized arsenic removal and recovery from synthetic groundwater via electrochemical synthesis of magnetite nanoparticles** *Mr. Tsung-Wei Tseng, National Kaohsiung University of Science and Technology*
12:40-12:50	**CEE1947**	**Advanced tree assessment on urban forest and park tree at Taiwan** *Mr. Hung-Kai Chen, National Taiwan University*
12:50-13:00	**CEE2002**	**Integrative approaches to carbon emissions reduction in civil engineering: framework based on digital twins, LCA, and material optimization** *Mr. Eiffel Vincent Manansala, Mapua University*

Invited & Oral Session I: Water Treatment and Environmental Sciences

Time: 14:00-17:20, July 23rd, 2025 **Location: Small Hall, Kunibiki Messe**

Session Chair:

14:00-15:12 Prof. Wei-Fan Kuan, Chang Gung University

15:30-17:18 Assoc. Prof. Qian Wang, Guangdong Technion – Israel Institute of Technology

14:00-14:15	**CEE1962**	**Evolution analysis of the Yellow River delta wetland supported by remote sensing data** *Prof. Xin Zhang, Aerospace Information Research Institute, Chinese Academy of Sciences*
14:15-14:30	**CEE1852**	**Organophosphate removal from tannery wastewater by the Fenton process and its combination with UV/ozonation** *Assoc. Prof. Qian Wang, Guangdong Technion – Israel Institute of Technology*
14:30-14:45	**CEE1892**	**Continuous crystallizing system on copper removal in form of copper hydroxide particles from industrial electroplating wastewater in a fluidized bed reactor** *Assist. Prof. Kai-Yang Chang, Feng Chia University*
14:45-15:00	**CEE1946**	**Does trade liberalization contribute to sustainable tourism via industrial advancement?** *Prof. Yoshihiro Hamaguchi, Hannan University*
15:00-15:12	**CEE1931**	**Analysis of drought events in Taiwan using multiple remote sensing indices** *Dr. Chien-Ben Chou, Central Weather Administration*
15:12-15:30		**Coffee Break**
15:30-15:42	**CEE1960**	**Mitigating mammalian cell cytotoxicity of chlorinated drinking waters by advanced water treatment processes** *Dr. Chao Liu, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences*
15:42-15:54	**CEE1942**	**Evaluation of hydrothermal liquefaction sequentially integrated with anaerobic digestion for resource recovery from various sludge sources** *Dr. Chun-Ming Yen, National Kaohsiung University of Science and Technology*
15:54-16:06	**CEE1973**	**Challenges in managing dumpsites in Delhi and their effective solutions** *Dr. Zavvar Kazim and Mr. Dinesh Yadav, Municipal Corporation of Delhi*
16:06-16:18	**CEE1961**	**Assessing the potential of soil carbon sequestration through nature-based solutions on contaminated sites in subtropical Taiwan** *Assoc. Prof. I-Chun Chen, Chinese Culture University*

16:18-16:30	**CEE1986**	**Impact of pyrolysis conditions on the polycyclic aromatic hydrocarbon profile of pineapple leaf biochar: effects of atmosphere, temperature, and heteroatom doping** *Dr. Jia-Wei Cheng, National Kaohsiung University of Science and Technology*
16:30-16:42	**CEE2000**	**Balancing cost and efficiency: fuzzy multi-objective optimization of ultrasonic-assisted oxidative desulfurization for gasoline** *Assoc. Prof. Angelo Earvin Sy Choi, De La Salle University*
16:42-16:54	**CEE1993**	**Environmental resilience enhancement by preparing extended-release oxidizing agent to improve the effectiveness of oxidation** *Dr. Yung-Dun Dai, National University of Kaohsiung*
16:54-17:06	**CEE1984**	**Numerical simulation of direct shear test on vetiver root-reinforced silty sand** *Prof. Jesús Torres Hoyer, Temuco Catholic University of Temuco*
17:06-17:18	**CEE2015**	**Climate change impacts on water resources: Evaluating future securities and adaptation in South Asian countries** *Mr. Mahibur Alam, Mr. Amir Uddin Ahmed and Mr. Nafi Naib Mon, Islamic University of Technology*

Invited & Oral Session II: Structural Engineering, Geological Engineering and Sustainable City

Time: 14:00-17:10, July 23rd, 2025 **Location: Meeting Room 401, Kunibiki Messe**
Session Chair:
14:00-15:15 Prof. Jun Cao, Toronto Metropolitan University
15:30-17:09 Prof. Baochang Liu, Jilin University

14:00-14:15	**CEE1955**	**Computational analysis of tornado disaster towards a multi-building configuration** *Prof. Jun Cao, Toronto Metropolitan University*
14:15-14:30	**CEE1857**	**Development of high-performance polycrystalline diamond compact cutters for oil and gas drilling** *Prof. Baochang Liu, Jilin University*
14:30-14:45	**CEE1841**	**Strategies for seismic rehabilitation and economic viability for resilience in Peru: evaluating disaster risk reduction programs through incremental seismic retrofitting** *Dr. Héctor Aroquipa Velásquez, Universidad Nacional Autónoma de Tayacaja (UNAT)* *MSc. Álvaro Hurtado, Universidad de Lima*
14:45-15:00	**CEE1929**	**Seismic performance of tunnel-building-bridge systems in urban environments** *Prof. Juan Manuel Mayoral, National University of Mexico*

15:00-15:15	**CEE1971**	**Passenger satisfaction and operational insights from Taiwan's urban electric bus deployment** *Prof. Liang-Chien Lee, I-Shou University*
15:15-15:30		**Coffee Break**
15:30-15:42	**CEE1884**	**Developing decision-making indicators of rain gardens for planning and design at a school campus** *Prof. Darn-Horng Hsiao, National Kaohsiung University of Science and Technology*
15:42-15:54	**CEE1920**	**Watertight concrete structures for high quality and inaccessible uses: a risk-based approach to crack prevention** *Prof. Claus Flohrer, German Committee for Reinforced Concrete*
15:54-16:06	**CEE1937**	**Turbulence effects of breaking waves on seabed soil response** *Dr. Meng-Yu Lin, Chung Yuan Christian University*
16:06-16:18	**CEE1847**	**Influence of glue thickness and grain direction on rebar adhesion in sustainable Mengkulang Glulam structures** *Dr. Tengku Anita Binti Raja Hussin, SEGi University*
16:18-16:30	**CEE1926**	**Urban obsolescence: evaluating the sustainability of the city of Manila based on urban planning and design** *Dr. Geoffrey Rhoel Cruz, Mapua University*
16:30-16:42	**CEE1909**	**Revitalizing the historic urban landscape of the city of Manila through sustainable urban planning** *Dr. Geoffrey Rhoel Cruz, Mapua University*
16:42-16:54	**CEE1934**	**Optimization of thermal insulation investments taking into account the economic and ecological aspects of heating and cooling** *Dr. Robert Dylewski, University of Zielona Góra*
16:54-17:09	**CEE1998**	**Vernacular visions: unintended occupation and individual productions within public space** *Prof. Suzanne B. Dickens, Front Range Community College*

Video Presentations

Video Presentations are listed on http://www.academicconf.com/video?confname=aceer2025

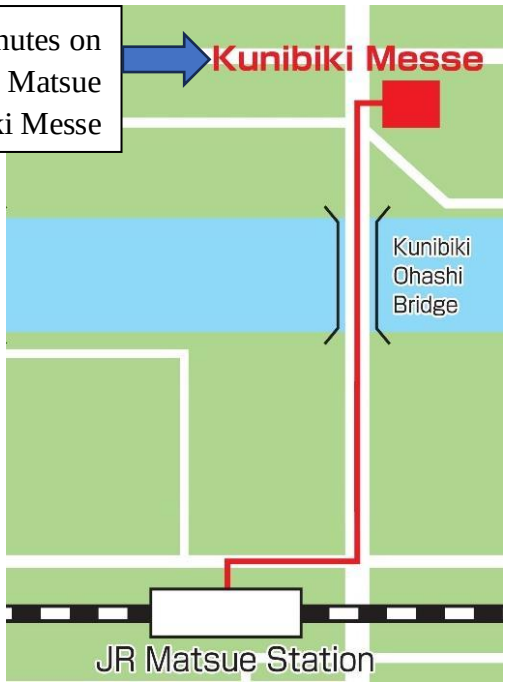
CEE1870	**Creep tests of soft rock surrounding tunnel anchors and inversion of CVISC constitutive model parameters** *Mr. Jingyao Hu, Chongqing University*
CEE1872	**Geophysical methods' perspectives into leachate's infiltration in south-west Nigeria** *Dr. Theophilus Aanuoluwa ADAGUNODO, Bowen University*
CEE1874	**Research on deformation and force characteristics of hexagonal tube sheet lining structure of TBM tunnel in fault fracture zone** *Mr. Sanlang Zheng, Chongqing University*
CEE1885	**Experimental study on the full stress-strain permeability characteristics of karst breccia of the Triassic Jialingjiang Formation** *Mr. Taibing Liu, Chongqing University*
CEE1978	**What is fault breccia? —Classification suggestions for brittle fault rocks** *Mr. Xiangwei Kong, Guangdong Geological Survey Institute*

Part V Conference Venue

Kunibiki Messe
(Shimane Prefectural Convention Center)

The biggest convention center in Shimane prefecture, Kunibiki Messe, is located in the center of Matsue City. There are Exhibition Hall (4,018 sqm), Multipurpose Hall (686 sqm), International Conference Hall (510 sheets), and 19 meeting rooms.
Free Wi-Fi is available in building.

It takes only 7 minutes on foot from JR Matsue Station to Kunibiki Messe



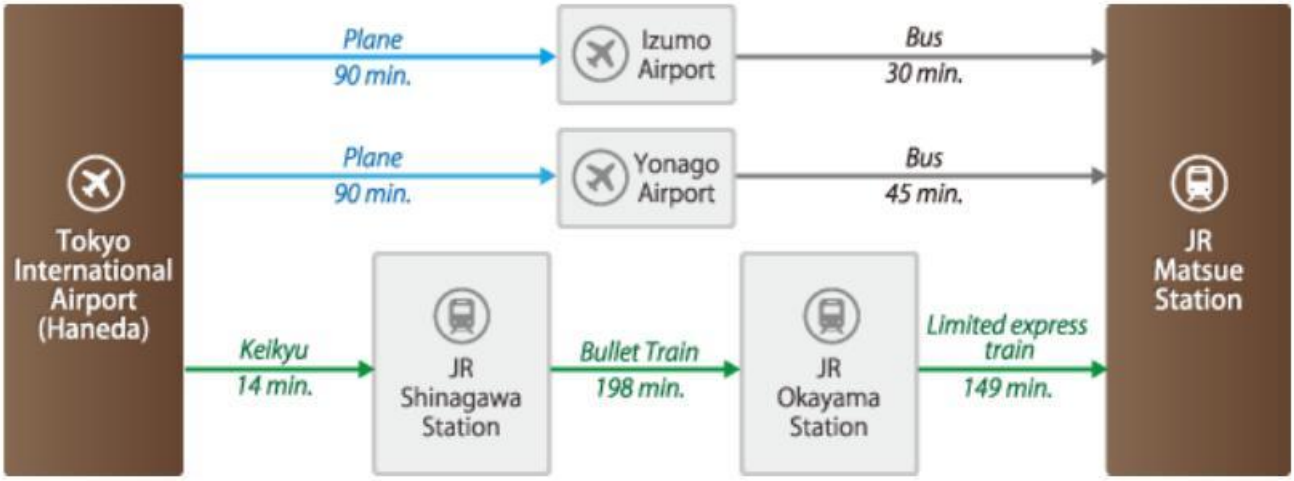
Kunibiki Messe
Address: 1-2-1 Gakuen Minami Matsue City, Shimane, JAPAN 690-0826
Tel: +81+852-24-1111
Fax: +81+852-22-9219
E-mail: kunibiki@kunibikimesse.jp

Access to JR Matsue Station:

Train Bus Plane

1. From Narita International Airport

2. From Tokyo International Airport



3. From Kansai International Airport

Part VI Acknowledgements

On behalf of the ACEER 2025 Organizing Committee, we would like to take this opportunity to express our sincere gratitude to our participants. We would also like to express our acknowledgements to the Technical Program Committee members who have given their professional guidance and valuable advice as reviewers. For those who contribute to the success of the conference organization without listing the name below, we would love to say thanks as well.

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