

# CJJC2023 Program

**Nov 28th, 2023**

**Registration desk (3F Open space)**

**9:00-10:00 Registration**

**Room A (3F International Conference Room)**

**10:00-10:30 Opening Session**

**Greetings from the Organizers of Japan and China**

**10:30-10:45 Group Photo**

**11:00-12:00 Keynote Lecture**

**“Transition and Future Prospects of Municipal Solid Waste Management in Japan”**

Dr. Masahiro OSAKO, National Institute for Environmental Studies

**13:00-14:30 Session A1 : Landfill Management**

**Chair : Prof. Xiaoli Chai (Tongji University)**

A1-1 Measurement of Areal Temperature Distribution Inside Capping Layer of Solid Waste Landfill Using Optical Fiber Sensor, Rion Hamada (Kyushu University)

A1-2 Landfills: Emerging Terrestrial Ecosystems, liyan Song (Anhui University)

A1-3 Microbial Methylation of Mercury in Landfills, Shu Yang (University of science and technology of China)

A1-4 Localized intensification of arsenic methylation within landfill leachate-saturated zone, Lifan Hu (Ching Jiliang University)

A1-5 Leaching Risk and Dechlorination Potential of PCDD/Fs Under Co-landfill Scenario of Stabilized Fly ash and MSW, Yingjie Sun (Qingdao University of Technology)

A1-6 Life Cycle Cost Assessment of Solidification-type Landfill System for Incineration Residues, Yuki Komori (Kyushu University)

**14:45-16:30 Session A2 : Plastic, paper, and other waste management**

**Chair : Dr. Hirofumi Sakanakura (National Institute of Environmental Studies)**

A2-1 How can waste plastics be recycled ? ~The Possibility of Recycling Non-woven Masks Using the Solvent Extraction Method~, Kazutoshi Ikenaga (Sojo University)

A2-2 Comparative Study on Survey Methods for Estimating the Amount of Plastic Fishing Gear Discharged into the Ocean , Fumiya Ishibashi (Kyushu University)

A2-3 The Stress Response of Tetracycline Resistance Genes and Bacterial Communities Under the Existence of Microplastics in Typical Leachate Biological Treatment System, Hong Li (Zhejiang University of Technology)

A2-4 Microplastic, A Possible Trigger of Landfill Sulfate Reduction Process, Yuyang Long (Zhejiang Gongshang University)

A2-5 Hydrothermal pretreatment enhanced enzymatic hydrolysis of waste tissue paper for bioethanol production , Hongzhi Ma (University of Science and Technology Beijing)

A2-6 Microplastics spatiotemporal distribution and plastic-degrading bacteria identification in the sanitary and non-sanitary municipal solid waste landfills, Zhiyong Han (Chengdu University of Technology)

A2-7 Insights into the deoiling efficiency and mechanism of oil-based cuttings by surfactant-free microemulsions , Guobin Jiang (Safety, Environmental protection and Technical Supervision Research Institute of Southwest Oil and Gas Field Branch of petrochina)

## Room B (3F Meeting Room)

**13:00-14:30 Session B1 : Recycling technologies / GHG reduction**

**Chair : Dr. Teppei Komiya (Kyushu University)**

- B1-1 Construction and Evaluation of a Recovered Paper Sorting Support System Using Deep Learning, Naoya Kojoyou (Kyushu University)
- B1-2 A Novel Integrating Approach to Assess the Role of LiFePO<sub>4</sub> Battery Recycling in the Automotive Industries in the Greater Bay Area of China, Jinfeng Tang (Guangzhou University)
- B1-3 Research on Tag Reception Performance in Detecting Lithium-Ion Batteries (LIBs) Using RFID Tags, Koji Sakakibara (Kyushu University)
- B1-4 A study on a method for detecting large landfills by unsupervised learning using sentinel-2, Yasuhiro Sugisaki (Kyushu University)
- B1-5 Greenhouse Gas Emissions from Waste Sectors in China: Implications for Carbon Mitigation, Rongxing Bian (Qingdao University of Technology)
- B1-6 Selection of Particle Size of Municipal Solid Waste Incineration Bottom Ash Used as Raw Material for Artificial Aggregate, Yuqing Deng (Kyushu University)
- B1-7 (Cancelled) Vegetation remodels the characteristic bioreactive zone of the cover and thus influences CH<sub>4</sub> oxidation and CB degradation processes, Shangjie Chen (Chongqing University of Technology)

**14:45-16:30 Session B2 : Organic waste treatment**

**Chair : Prof. Guangming Zhang (Hebei University of Technology)**

- B2-1 Ministry of Science and Technology China/Japan Cooperation Research Project: Research on Carbonization Resource Utilization Technologies for Agricultural and Livestock. (EFCaR ® System), Sijia Zheng (Hitachi Zosen Corporation)
- B2-2 Enhancement of Anaerobic Digestion from Food Waste via Inert Substances Based on Metagenomic Analysis: Oxidative Phosphorylation and Metabolism, Tao Zhou (Tongji University)
- B2-3 Magnetic Diatomaceous Mediated Anaerobic Digestion of Kitchen Waste: Performance and Metagenomics Analysis, Dong Li (Tongji University)
- B2-4 Crystallization-driven evolution of water occurrence states with implications on dewaterability improvement of waste-activated sludge, Boran Wu (Tongji University)
- B2-5 (Cancelled) Concomitant management of solid and liquid swine manure via controlled co-composting: Towards nutrients enrichment and wastewater recycling, Hongyong Fang (Qingdao University of Technology)
- B2-6 Macrogene technology reveals the mechanism of CaO enhancing dry fermentation of kitchen waste, Jianwei Zhao (Qingdao University of Technology)
- B2-7 (Cancelled) Insight into the characteristics and kinetics of co-pyrolysis of sludge and biogas residue, Jun Zhang (Harbin Institute of Technology)
- B2-8 Photosynthetic bacteria treatment of food waste, Guangming Zhang (Hebei University of Technology)

## Foyer (3F Open space)

**16:30-17:15 Poster session**

Research poster presentation

- P1 Ethanol and Bio-Based Products Co-Production from Waste Materials Via Microbial Fermentation, Qunhui Wang (University of Science and Technology Beijing)
- P2 Leaching morphology characteristics and environmental risk assessment of heavy metals in municipal solid waste incineration fly ash during thermal treatment, Chunlong Zhao (Tongji University)
- P3 Recent Progress and Trends in Microbial Lipid Production from Biomass Wastes, Haishu Sun (University of Science and Technology Beijing)
- P4 Chlorine removal from municipal solid waste incineration fly ash by co-landfill with organic waste, Xiaona Wang (University of Science and Technology Beijing)
- P5 Efficacy of Organic Chelators in Stabilizing Heavy Metals Within Municipal Solid Waste Incineration Fly Ash Mechanism, Chuanfu Wu (University of Science and Technology Beijing)
- P6 Genome Analysis of *Aspergillus Terreus*-Yj01 for Biodegrading Gossypol, Hai Yan (University of Science and Technology Beijing)

- P7 Study on the solidification of heavy metals in municipal solid waste incineration fly ash by metallurgical slag-based and cement-based cemented backfill materials, Jia Li (University of Science and Technology Beijing)
- P8 Integrated Technology for Selectively Controlled Carbonization and Resource Utilization of Steel Slag, Wei Su (University of Science and Technology Beijing)
- P9 Carbon cloth coupled riboflavin aids the anaerobic digestion of dairy manure by promoting direct interspecies electron transfer, Yan Dang (Beijing Forestry University)
- P10 Enhancement of electron transport via nano-magnetite in a nitrite-dependent anaerobic methane oxidation system, Dezhi Sun (Beijing Forestry University)
- P11 Autotrophic direct electron transfer denitrification (DETD) for deep treatment of municipal wastewater treatment plant effluent via Thiobacillus, Ruoyu Li (Beijing Forestry University)
- P12 Study on the removal of refractory organic compounds from landfill leachate MBR effluent by microwave activation of peracetic acid, Aiping Zhang (Sichuan Normal University)
- P13 Methane production from waste activated sludge by sodium percarbonate (SPC) pretreatment : Performance and mechanisms, Tao Huang (Tongji University)
- P14 Heavy metal leaching behavior and long-term environmental risk assessment of cement-solidified medical waste incineration fly ash in sanitary landfill, Rui Ma (Shenzhen University)
- P15 Highly Efficient Removal of RhB from Water by Three-dimensional Electrode System within the Mn-loaded Steel Slag as Catalytic Particle Electrodes, Xu Ren (Chengdu University)
- P16 Caisson Breakwater Foundation Resilience Against Scouring by Utilizing Rice Resins and Gravels Mixture for Gabions, Saatvik Chaturvedi (Kyushu University)
- P17 Study on the Removal of Hexavalent Chromium from Wood Combustion Ash Solution by Carbon Materials and Bacteria, Shenjie Shi (Nagasaki University)
- P18 Simulation test of neutralization of incineration ash layer with high dissolved carbon dioxide solution (behavior of CO<sub>2</sub>-UFB water in glass bead layer), Ayana Matsumoto (Meisei University)
- P19 A Study on IoT-Based Monitoring Enabling 3D Observation of Waste Landfill Sites, Nagare Kameno (Kyushu University)
- P20 Particle size Characterization for Metal Recovery from Municipal Solid Waste Incineration Ash, Ryugo Tanaka (Kyushu University)
- P21 Basic Study on Dispersibility of Microplastics in a Final Disposal Site, Ryo Tanaka (Kyushu University)
- P22 Preparation of Stabilized Bodies by Using Copper Ferrocyanide and Evaluation of Cesium Leaching Characteristics, Yuke Hu (Hokkaido University)
- P23 Study on the Mechanism and Process of Enhanced Nitrogen Removal of Anaerobic Digestion Biogas Slurry Based on Micro-nano Powder Carrier, Ruizhe Wang (Tongji University) (Tongji University)
- P24 Multi-omics method to analyze the mechanism of PHB-induced intensive nitrogen removal, Jieying Zhou (Tongji University)
- P25 The resource utilization of kitchen waste by directional humization under aerobic fermentation, Dianhai Yang (Tongji University)
- P26 Quantitative identification of pollution and resource attributes of landfilled refuse and research on the technology of separation and resource utilization, Xiaomeng Geng (Tongji University)
- P27 Study on Treatment and Disposal Technology of Leachate Concentrate in Qingdao, China, Huawei Wang (Qingdao University of Technology)
- P28 The current development of anammox technology for municipal wastewater treatment, Yan Guo (University of Science and Technology Beijing)
- P30 Research on Efficient Pyrolysis and Gasification Technology of Domestic Waste Pyrolysis Incinerator, Jianguo Liu (Inner Mongolia University of Technology)

Sponsor companies' Poster

PS-1 Hitachi Zosen Corporation

PS-2 Ebara Environmental Plant Co., Ltd.

PS-3 Maeda Corporation

PS-4 Okumura Corporation

**Nov 29th, 2023**

**Room A (3F International Conference Room)**

**9:00-11:00 Session A3 : Thermal treatment / incineration residues**

**Chair : Prof. Yingjie Sun (Qingdao University of Technology)**

A3-1 Development of Melting Furnace to Achieve Resource Circulation, Yasumasa Hirato (Kubota

Corporation)

- A3-2 Characteristics of Artificial Stone (Okage Stone) Produced from Combustion Ash and the RUS System, Takayuki Nuruyu (FKG Corporation)
- A3-3 Enhanced Chloride Removal from MSWI fly ash Using an Accelerated Wet-Carbonation Process, Yunmei Wei (College of Environment and Ecology, Chongqing University)
- A3-4 State-of-the-art in Recycling Municipal Solid Waste Incineration Residues in Japan , Hirofumi Sakanakura (National Institute for Environmental Studies)
- A3-5 Synthesis of alkaline modified coal fly ash for soil amendment: Impact of initial moisture on evaporation mitigation capacity (extended time), Yang Pu (Tokyo Institute of Technology)
- A3-6 MSW Incineration Fly Ash Stabilization by Utilizing Pozzolanic Bottom Ash, Mitali Nag (Kyushu University)
- A3-7 Assessing the Metal Recovery Value of Municipal Solid Waste Incineration Residues: Impact of Pretreatment on Fly Ash and Bottom Ash, Pengfei Li (Kyushu University)
- A3-8 Study on Reduction of COD load in Fly Ash by Using Chemical Dosage Management Device, Takeshi yamasaki (Kurita Water Industries Ltd.)

## **Room B (3F Meeting Room)**

**9:00-11:00 Session B3 : Leachate / wastewater and MSWI treatment**

**Prof. Kentaro Miyawaki (Meisei University)**

- B3-1 Strengthen high-loading operation of wastewater treatment plants by composite micron powder carrier: Microscale control of carbon, nitrogen, and sulfur metabolic pathways , Chengxian Wang (Tongji University)
- B3-2 Efficient nitrogen removal from rural wastewater in a humus biochemical system under low dissolved oxygen conditions: Sludge and microbial characteristics , Zhengliang Du (Tongji University)
- B3-3 Exogenous Dissolved Organic Carbon Spurs Bacterial-Algal Competition and Phosphorus-paucity Adaptation: Boosting Microcystis' phosphorus Uptake Capacity , Tingting Li (Tongji University)
- B3-4 The Adaptative Regulation Mechanism of Anammox Granule Sludge Under Calcium Ions Stress: Defense Modes Transformation, Pengcheng Wang (Tongji University)
- B3-5 Complementary Revealing the Molecular Characteristics of Waste Leachate Dissolved Organic Matter using Positive/Negative Electrospray Ionization Fourier Transform Ion Cyclotron Mass Spectrometry, Zhepei Gu (Southwest Jiaotong University)
- B3-6 Transformation of Dissolved Organic Matter in Landfill Leachate during the Treatment of Advanced Oxidation Processes , Weiming Chen (Southwest Jiaotong University)
- B3-7 Effect of Seepage Path of Invaded Aqueous Phase on the Leaching Characteristics of Heavy Metals in Landfill Stabilized Fly Ash, Weihua Li (Qingdao University of Technology)
- B3-8 Study on Neutralization of Incineration Ash Layer Using Highly Dissolved Carbon Dioxide Solution (CO<sub>2</sub>-UFB Water) , Kentaro Miyawaki (Meisei University)

## **Room A (3F International Conference Room)**

**11:15-11:45 Closing Session**

**Closing remarks from the organizers of Japan and China**

### **Technical Tour 1**

**13:00-17:00 Technical Tour to environmental facilities**

Course 1: Obayashi Green Hydrogen Production Plant

Course 2: Betsuki-Hayami Area Wide-Area Municipalities Association Fujigaya Cleaning Center

**Nov 30th, 2023**

### **Technical Tour 2 (Meet in front of Oita Station)**

**8:20-17:00 Technical tour to Takasaki-yama, Beppu and Yufuin**

## Sponsor Companies of CJC2023



協賛口数順、申込受付順で記載しております。