

## CJJC2022 Program

Nov. 17<sup>th</sup> 2022 (1<sup>st</sup> day)

### I. Opening remarks (9:30-9:45)

Prof. Takayuki Shimaoka (Kyushu University, Japan)

Prof. Youcai Zhao ( Tongji University, China)

### II. Group photo (9:45-10:00)

### III. CJJC2022 Session

#### Session number

O: Oral presentation, OV: Oral presentation by PPT with voice, P: Poster, N: No presentation

\* : Student oral presentation

#### 1. Incineration and thermochemical treatment (10:00-10:50)

**Chair: assoc. prof. Fumitake Takahashi (Tokyo Institute of Technology)**

1-1-O Air bubble-assisted tar removal in polyvinylchloride pyrolysis, \* Chen Yanlei, Xu Hao, Takahashi Fumitake ( Tokyo Institute of Technology )

1-2-OV Application results of a dosage controller for acid gas neutralizing chemical, Takeshi Yamasaki, Hirotaka Fujiwara ( Kurita Water Industries Ltd. )

1-3-OV Performance of biochar supported multi-metal nano-catalysts for pyrolysis tar removal, Zhang Jun, Liu Lu, Chen Junjie, Yin Linlin, Tian Yu ( Harbin Institute of Technology )

1-5-P Carbon and sulfur conversion of high-sulfur organic waste in the enhanced chemical looping gasification, Wang Lulu, Shen Laihong, Long Yuyang, Shen Dongsheng ( Zhejiang Gongshang University )

**Short break (10:50-11:00)**

#### 2. Incineration residue stabilization (11:00-12:35)

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

2-1-O Comprehensive evaluation of the effectiveness on metals recovery and decontamination from MSWI fly ash in Guangzhou, Tang Jinfeng, Zhang Hongguo ( Guangzhou University )

2-2-O Preparing high-strength ceramsite from ferronickel slag and municipal solid waste incineration fly ash, Gu Foquan, Wu Xintao, Su Chang, Wang Wei, Pu Kai, Shen Dongsheng,

- Long Yuyang ( Zhejiang Gongshang University )
- 2-4-O The long-term performance of concrete amended with municipal sewage sludge incineration ash, \* Wu Zixiao, Jiang Yumeng , Guo Wenxin, Jin Junxun, Wu Minjin, Shen Dongsheng, Long Yuyang ( Zhejiang Gongshang University )
- 2-5-OV Influence of specific surface area of cement solidified fly ash on leached amount of soluble substances, Dote Yutaka, Sekito Tomoo ( University of Miyazaki )
- 2-6-O Incineration disposal of organic waste bio-residue via a deep dewatering process using refuse incineration bottom ash: moisture transfer and low calorific value improvement, Wei Ran, Zhang Ruina, Song Lijie, Zhou Xiong, Lin Shunhong, Zhao Youcai, Tao Zhoua ( Tongji University )
- 2-7-O Evaluation of using fly ash-slag-based binder as a mine backfilling materials: properties and hydration characteristics, \* Zhao Chutong, Wu Chuanfu, Wang Xiaona, Luo Zhongli, Wang Qunhui ( University of Science and Technology Beijing )
- 2-8-P Comparative study on the heavy metals stabilization performance of different organic chelating agents in municipal solid waste incineration fly ash, Zhang Ze, Wu Chuanfu, Wang Xiaona, Luo Zhongli, Wang Qunhui ( University of Science and Technology Beijing )
- 2-9-P Insights into the landfill leachate properties and bacterial structure succession resulting from the colandfilling of municipal solid waste and incineration bottom ash, Wang Ya-nan, Shi Han, Wang Qingzhao (Qingdao University of Technology )

**Lunch break (12:35-13:35)**

**3. Leaching behavior and harmless treatment (13:35-15:10)**

**Chair: assoc. prof. Yasumasa Tojo (Hokkaido University)**

- 3-1-O Leaching behavior of hexavalent chromium from refractory brick under humid environment, Tojo Yasumasa, Matsui Kotone, Hwang In-Hee, Matsuo Takayuki ( Hokkaido University )
- 3-2-OV Degradation of cyanide contaminants in cts by alkali-heat co-activated ps: performance and mechanism study, Wei Yunmei, Wen Yi, Chen Lianying, Chen Shuang ( Chongqing University )
- 3-3-O Transformation mechanism of petroleum pollutants in oil-based drilling cuttings by thermal desorption and microemulsion treatment, \* Chen Xinglong, Liu Dan ( Southwest Jiaotong University )
- 3-4-O Extraction and separation of petroleum pollutants from oil-based drilling cuttings using methanol/n-hexane solvent, \* Hu Yuansi, Li Qibin ( Southwest Jiaotong University )
- 3-5-O Stabilized MSWI fly ash co-landfilled with organic waste: effect of leachate properties on the leaching behavior of PCDD/Fs, Xin Mingxue, Li Weihua, Sun Yingjie (Qingdao University )

- of Technology)
- 3-6-O Heavy metals leaching behaviors in MSWI fly ash stabilized by an organic chelating agent,  
\* Guan Yanyan, Wu Chuanfu, Wang Xiaona, Wang Qunhui, Luo Zhongli ( University of Science and Technology Beijing )
- 3-7-P Leaching behavior of heavy metals from broken ton bags filled with fly ash in acid rain environment, Yu Qianwen, Sun Yingjie, Li Weihua, Wang Yan ( Qingdao University of Technology )

**Short break (15:10-15:20)**

**4. Landfill management (15:20-17:10)**

**Chair: prof. Long Yuyang (Zhejiang Gongshang University)**

- 4-1-O Guideline for the end of aftercare of a closed landfill in Japan, Hideki Yoshida ( Muroran Institute of Technology )
- 4-2-O Heavy metal leaching behaviour of cement-solidified municipal solid waste incineration fly ash in sanitary landfill, Wu Chuanfu, Wang Xiaona, Luo Zhongli, Wang Qunhui ( University of Science and Technology Beijing )
- 4-3-O Stochastic approach of location-independence earthquake disaster risk estimation for mercury waste landfill, Takahashi Fumitake ( Tokyo Institute of Technology )
- 4-4-O Neutralization of incinerator ash landfill layer by highly CO<sub>2</sub> dissolved water (Tentative title), Miyawaki Kentaro ( Meisei University )
- 4-5-O Heterogeneity of oxygen consumption in organic solid wastes, \* Dillon Tadis, Shimaoka Takayuki, Komiya Teppei ( Kyushu University )
- 4-6-O Behavior of heavy metals in landfilled fly ashes for 27 years, \* Tan Jamie, Takayuki Shimaoka ( Kyushu University )
- 4-7-O Effect of heavy metals on cement-solidification of municipal solid waste incineration residues,  
\* Nakamura Kazuki, Komiya Teppei, Shimaoka Takayuki, Hirose Fuminori, Sandambata Isamu ( Kyushu University )

**Short break (17:10-17:20)**

**5. Landfill monitoring, IoT utilization, plastic waste (17:20-18:25)**

**Chair: assoc. prof. Hirofumi Nakayama (Kyushu University)**

- 5-1-O Environmental health impacts of odor and methane emissions from China landfills, Cheng Zhaowen ( University of South China )
- 5-2-O The evolution process of plastic in landfills and the MP's potential, \* Huang Qiujiie ,Lou

Ziyang ( Shanghai Jiao Tong University )

- 5-3-O Resistome Profiles of Municipal Solid Waste Landfills, Song Liyan ( Anhui University )
- 5-4-O Development of a power source for IoT devices using leachate at the waste landfill site, \* Murakami Rintaro, Nakayama Hirofumi, Shimaoka Takayuki, Kanaya Haruichi ( Kyushu University )
- 5-5-P Applicability of optical fiber sensor on temperature distribution estimation and leakage detection of impermeable liner in solid waste landfill, Komiya Teppei, Hamada Rion, Shimaoka Takayuki, Imai Michio, Ozawa Kazuki ( Kyushu University )
- 5-6-P Microplastics in a solid waste landfill in Japan: their concentration in landfilled waste, coversoil, rainwater and leachate, Hirofumi Nakayama, Astsuki Fukuda, Takayuki Shimaoka ( Kyushu University )

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**6. Leachate treatment (1) (9:30-10:45)**

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

- 6-1-O Evaluation of water treatment system using ozone and SBA-15, Ahmed Mostafa ( Nagasaki University )
- 6-3-O An assessment of the UV/nFe0/H<sub>2</sub>O<sub>2</sub> system for the removal of refractory organics in the effluent produced by the biological treatment of landfill leachate, \* Fang Feiyan, Li Qibin ( Southwest Jiaotong University )
- 6-4-O Sulfate reduction behavior in pressure-bearing leachate saturated zone, Long Yuyang, Shen Dongsheng, Zhou Haomin, Jin Zhiyuan, Yang Wenyi, Ci Manting, Hu Lifang ( Zhejiang Gongshang University )
- 6-5-O Chloride-enhanced removal of ammonia nitrogen and organic matter from landfill leachate by a microwave/peroxymonosulfate system, \* Feng Ke, Li Qibin ( Southwest Jiaotong University )
- 6-6-P Formation of unknown ozonation by-products in flocculated nanofiltration leachate concentrates treated by O<sub>3</sub> and UV/O<sub>3</sub> systems: characteristics and mechanisms, Chen Weiming, Gu Zhepei, Liu Dan ( Southwest Jiaotong University )
- 6-7-N Application of coupling partial nitrification with anammox in landfill leachate : A review, Lu Xueshuang, Sun Xiaojie (Guilin University of Technology)

**Short break (10:45-10:55)**

## **7. Leachate treatment (2) (10:55- 11:55)**

**Chair: prof. Kentaro Miyawaki (Meisei University)**

- 7-1-O Efficiency and mechanism of MoS<sub>2</sub>-enhanced Fe<sup>0</sup>/H<sub>2</sub>O<sub>2</sub> removal of refractory organics in landfill leachate, \* Yang Jing, Zhang Aiping, Zhang Xiaoqin, Tang Jia ( Sichuan Normal University )
- 7-2-O Enhanced performance and mechanism of the combined process of ozonation and a semiaerobic aged refuse biofilter for mature landfill leachate treatment, \* Li Huan, Li Qibin ( Southwest Jiaotong University )
- 7-3-O Simultaneous and effective degradation of refractory organics, antibiotics and antibiotic resistance genes from landfill leachate reverse osmosis concentrate using granular activated carbon-catalyzed ozone technology, Wang Huawei ( Qingdao University of Technology )
- 7-5-P Microbial characteristics of the leachate contaminated soil of an informal landfill site, Gu Zhepei, Li Qibin ( Southwest Jiaotong University )

**Lunch break (11:55-13:00)**

## **8. Organic waste treatment and recycling (1) (13:00-14:00)**

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

- 8-3-OV Effect of different aeration rates on the biodrying of biogas residue with high moisture content, \* Xu Mingyue, Yang Min, Meng Jie, Sun Haishu, Wang Qunhui ( University of Science and Technology Beijing )
- 8-4-O The performance of oriented lactic acid fermentation broth from food waste as external carbon source for denitrification, Liu Feng, Gao Ming, He Beiping, Wang Qunhui, Feng Leiyu, Chen Yinguang ( Tongji University )
- 8-5-P Research trend analysis of high-value products by anaerobic fermentation based on the web of science database, Zhang Yuanchun, Zhu Wenbin, Song Na, Gao Ming, Wang Qunhui ( University of Science and Technology Beijing )
- 8-6-P Unveiling the technology and mechanisms of medium-chain fatty acids production from waste activated sludge fermentation liquor, Wu Shu-Lin, Long Yuyang, Shen Dongsheng ( Zhejiang Gongshang University )

**Short break (14:10-14:20)**

## **9. Organic waste treatment and recycling (2) (14:10-15:10)**

**Chair: assoc. prof. Wu Chuanfu (University of Science and Technology Beijing)**

- 9-1-O Condition optimization and economic analyse of ultrasonic-alkali cracking of excess sludge,

Zhang Guangming, Xinbo Yue, Shen Tingting, Zhang Jie ( Hebei University of Technology )

- 9-2-O Incineration disposal of organic waste bio-residue via a deep dewatering process using refuse incineration bottom ash: moisture transfer and low calorific value improvement, Wei Ran, Zhang Ruina, Song Lijie, Zhou Xiong, Lin Shunhong, Zhao Youcai, Zhou Tao ( Tongji University )
- 9-2-N Current situation of municipal sludge production and disposal in Guangxi, Zhang Muxi , Sun Xiaojie (Guilin University of Technology)
- 9-3-O Mechanism insights into liquid polarity regulation for enhanced dewatering of waste-activated sludge, Wu Boran ( Tongji University )
- 9-4-O Hydrogen production and heavy metal binding quantification mechanism using hyperaccumulators in supercritical water gasification , \* Wei Su (University of Science and Technology Beijing)
- 9-5-P Research progress on anaerobic digestion of cellulose waste based on bibliometric analysis, Zhao Pan, Wang Xiaona, Zhang Shuang, Guan Weijie, Wu Chuanfu, Wang Qunhui, Gao Ming ( University of Science and Technology Beijing )

**Short break (15:10-15:20)**

## **10. Biogas recovery and GHG reduction (15:20-16:10)**

**Chair: assist. prof. Teppei Komiya (Kyushu University)**

- 10-1-O Influence of the classification of municipal solid wastes on the reduction of greenhouse gas emissions, Bian Rongxing, Chen Jihong ( Qingdao University of Technology )
- 10-2-OV Investigation on the vegetation distribution landfill cover, methane oxidation capacity of various rhizosphere soil and rhizosphere microecology in the process of MSW landfill, \* Shangjie Chen, Zhilin Xing, Baozhong Mou, Chunyu Zhu, Li Dong, Cairong Hu, Lin Cheng, Tiantao Zhao ( Chongqing University of Technology )
- 10-3-O Promoting methane yield from moderate-thermophilic anaerobic digestion of food waste with biochar, Qin Yong, Zhang Feixiang, Xu Xingkun, Xin Liqing, Wu Weixiang ( Zhejiang University )
- 10-4-N Methane adsorption of landfill cover soil improved with hydrophobic biochar  
Mo Jingjing, Sun Xiaojie (Guilin University of Technology)
- 10-5-N Mechanism on methane oxidation of landfill cover soil amended by biochar : A simulated column experiment (Guilin University of Technology)  
Lu Xueshuang Sun Xiaojie
- 10-6-N Impact of hydrophobic biochar landfill cover soil on methane oxidation  
Li Qihong, Sun Xiaojie (Guilin University of Technology)

10-7-N Stabilization of the municipal solid waste by using of *ex situ* and *in situ* denitrification bioreactor landfill in a long-term operation

Zhang Muxi, Sun Xiaojie (Guilin University of Technology)

10-8-P Estimation of greenhouse gas emissions from municipal solid waste disposal in China during the last decade, Zhang Tingxue, Bian Rongxing ( Qingdao University of Technology )

**Closing Remarks and Next CJC 2023 announcement (16:10-16:30)**

Prof. Takayuki Shimaoka ( Kyushu University )

Prof. Wang Qunhui ( University of Science and Technology Beijing)