

# **First Workshop on Indoor Air Pollution and Advanced Air Pollution Control Technologies**

**(Kumamoto, Japan; 8<sup>th</sup>-11<sup>th</sup> January 2016)**



## **Sponsors:**

China Association of Aerosol Science and Technology (CAAST)

Air & Waste Management Association-China Chapter (A&WMA-China)

Institute of Earth Environment, Chinese Academy of Sciences

Institute of Atmospheric Physics, Chinese Academy of Sciences

Asian Aerosol Research Assembly (AARA)

## First Workshop on Indoor Air Pollution and Advanced Air Pollution Control Technologies



### **Background and Aims**

In the afternoon of June 25, 2015, four scientists from China and Japan in the field of atmospheric sciences gathered together in Kanazawa Tokyu Hotel, Kanazawa, Japan during the 9<sup>th</sup> Asian Aerosol Conference, and discussed how to drive the Sino-Japan co-operation on air pollution control and relevant fields.

In China, air pollution, especially for particulate matters (PM), is a serious environmental issue that influences air quality, regional and global climates, and human health. Chinese government is putting emphasis and resources on developing advanced and effective air pollution technologies, like nanomaterials, photocatalysis and particle filtration etc. China and Japan are the two major countries conducting air pollution control researches in the world. The four attendees proposed to hold a workshop on air pollution control, especially indoor environment and air purification techniques, to initiate a way for the communications and to expedite the co-operations between scientists of the two countries. The ultimate goal is to establish a long-term platform for co-operations in the relevant fields at levels of research organizations and foundations as well as scientists.

**Location:** Kumamoto, Japan

**Date:** 8<sup>th</sup>– 11<sup>th</sup> January 2016

### **Organizers:**

Junji Cao, Professor, Institute of Earth Environment, Chinese Academy of Sciences,  
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# Presentation Program

12:50-17:15 8<sup>th</sup> January 2016; Kumamoto Prefecture Parea Meeting Room

12:50-13:00	Opening remarks (Junji CAO, Norikazu NAMIKI)
13:00-15:00 Session I Air Quality and Cleaning: Part 1 (Chair: Norikazu NAMIKI; Yu HUANG)	
13:00-13:15 No.001	JACA Guideline for Performance Evaluation of Air Cleaners Shuji FUJII(藤井修二) Tokyo Institute of Technology(東京工業大学)
13:15-13:30 No.002	Status and Control of PM <sub>2.5</sub> Pollution in China Junji CAO(曹軍驥) Institute of Earth Environment, CAS (中国科学院地球環境研究所)
13:30-13:45 No.003	Improvement of NO <sub>x</sub> Removal Efficiency Using Atomization of Fine Droplets into Corona Discharge Azuchi HARANO (原野安土) Gunma University (群馬大学)
13:45-14:00 No.004	Visible-Light-Active Photocatalysts for Air Pollution Control Yu HUANG(黄宇) Institute of Earth Environment, CAS (中国科学院地球環境研究所)
14:00-14:15 No.005	Pilot-scale Investigation of Flue Gas Cleaning Technology Using a Plasma and Chemical Hybrid Process Tomoyuki KUROKI(黒木智之) Osaka Prefecture University(大阪府立大学)
14:15-14:30 No.006	Advanced Materials and Nanotechnology for Air Pollution Control Wing Kei HO (何咏基) The Hong Kong Institute of Education (香港教育学院)
14:30-14:45 Break	
14:45-16:15 Session I Air Quality and Cleaning: Part 2 (Chair: Jing SUN, Azuchi HARANO)	
14:45-15:00 No.007	The Application of TiO <sub>2</sub> Photocatalyst on PM <sub>2.5</sub> Control Jing SUN(孫静) Shanghai Institute of Ceramics, CAS(中国科学院上海硅酸盐研究所)
15:00-15:15 No.008	Ultrafine Particle Formation from Office Machines and Its Countermeasures Dr. Norikazu NAMIKI(並木則和) Kogakuin University(工学院大学)
15:15-15:30 No.009	Development of Novel Micro-Nanoscale Structured Photocatalysts for Efficient Removal of Indoor Air Pollutants Zhihui AI (艾智慧) Central China Normal University (華中師範大学)
15:30-15:45 No.010	Indoor Aerosols: SPM, PM <sub>2.5</sub> and Size Distributions Naoki KAGI(鍵直樹) Tokyo Institute of Technology (東京工業大学)
15:45-16:00 No.011	Present Situation and Development of Baghouse in China Jingxian LIU (柳静献) Northeastern University
16:00-16:15 No.012	Modeling and Computer Simulation of Chemical Reaction and Formation Process of Indoor Aerosols Yoshihide SUWA(諏訪好英) Shibaura Institute of Technology(芝浦工業大学)
16:15-16:30 Break	
16:30-17:15	Discussion (Chair: Renjian ZHANG; Kouji TAKEUCHI)
18:00-20:00	Reception Party: HERO 海 (熊本市手取り本町)

**Program 9:00-15:00 9<sup>th</sup> January 2016;****CPD Center, Prefectural University of Kumamoto****(10min Presentations: question time 2 min; 5 min Presentations: no question time)**

9:00-10:00 Session II Environmental Science and Technology(Chair: Ya-Fen WANG)	
9:00-9:10 No.013	Development of Rapid and Simple Bioassay for Monitoring Environment Koji ARIZONO (有菌幸司) Prefectural University of Kumamoto (熊本県立大学)
9:10-9:20 No.014	N <sub>2</sub> O Emission Factor in Wastewater Treatment Plants at Taiwan Sheng-Jie You (游胜杰) Chung Yuan Christian University (台湾中原大学)
9:20-9:30 No.015	Air Toxics Emission from Traffic Source in Taiwan Ya-Fen WANG(王雅玢) Chung Yuan Christian University (台湾中原大学)
9:30-9:40 No.016	Change to the Energy of the Waste Biomass by the Methane Fermentation Yasuhiro ISHIBASHI(石橋康弘) Prefectural University of Kumamoto (熊本県立大学)
9:40-9:50 No.017	Behaviors of Glyoxal in the Atmosphere Steven Sai Hang Ho(何世恒) Institute of Earth Environment, CAS (中国科学院地球环境研究所)
9:50-10:10 Break	
10:10-10:55 Session II Environmental Science and Technology(Chair: Xiaofeng XIE)	
10:10-10:20 No.018	Can photocatalysis improve the air quality? Twenty years' struggle for valid applications Koji Takeuchi(竹内浩士) National Institute of Advanced Industrial Science and Technology (産業技術総合研究所)
10:20-10:30 No.019	Applications of nano-sized TiO <sub>2</sub> photocatalysis coating in air purification Xiaofeng XIE (谢晓峰) Shanghai Institute of Ceramics (中国科学院上海硅酸盐研究所)
10:30-10:35 No.020	Photocatalytic removal of NO <sub>x</sub> over perovskite-based nanomaterials Qian ZHANG(张倩) Institute of Earth Environment, CAS (中国科学院地球环境研究所)
10:35-10:40 No.021	Graphitic carbon nitride as a sacrificial agent to fabricate Bi <sub>2</sub> O <sub>3</sub> /Bi <sub>2</sub> O <sub>2</sub> CO <sub>3</sub> /g-C <sub>3</sub> N <sub>4</sub> layered heterojunction nanocomposites with enhanced visible light photoactivity Zhengyu WANG(王震宇) Xi'an Jiaotong University (西安交通大学)
10:40-10:45 No.022	In situ Fabrication of $\alpha$ -Bi <sub>2</sub> O <sub>3</sub> /(BiO) <sub>2</sub> CO <sub>3</sub> Nano-Plate Heterojunctions with Tunable Optical Properties and Photocatalytic Activity Wei WANG(王薇) Institute of Earth Environment, CAS(中国科学院地球环境研究所)
10:45-10:50 No.023	Defective Bi <sub>2</sub> O <sub>3</sub> /Bi <sub>2</sub> O <sub>2</sub> CO <sub>3</sub> Heterojunction with Oxygen Vacancies and Bi-based Catalysts for Air Purification Yanfeng LU(路艳峰) Institute of Earth Environment, CAS (中国科学院地球环境研究所)
10:50-10:55 No.024	Enhanced visible photoactivity of BiPO <sub>4</sub> through surface plasma resonance effect of semimetal Bi for NO removal Yan LI (李妍) Taiyuan University of Technology (太原理工大学)
10:55-11:10 Break	
11:10-11:40 Session III Atmospheric Environment (Chair: Feng Wu)	

11:10-11:15 No. 025	Chemical characterization and source apportionment of PM2.5 in Beijing Renjian ZHANG (張仁健) Institute of Atmospheric Physics, CAS (中国科学院大气物理研究所)
11:15-11:20 No. 026	Water-soluble iron of aerosol during winter haze days in Xi'an Feng WU (吴枫) Institute of Earth Environment, CAS (中国科学院地球環境研究所)
11:20-11:25 No. 027	Characteristics of black carbon aerosols in Pan-Beijing area during haze and non-haze periods Yunfei WU (武云飞) Institute of Atmospheric Physics, CAS (中国科学院大气物理研究所)
11:25-11:30 No. 028	Volcanic aerosols from Mt. Aso. Tomoko KOJIMA (小島知子) Kumamoto University (熊本大学)
11:30-11:35 No. 029	Studies on Atmospheric Particles at the Prefectural University of Kumamoto Daizhou ZHANG (張代洲) Prefectural University of Kumamoto (熊本県立大学)
11:35-11:40 No. 030	Brief introduction of studies on contamination by metals in Asian countries Tetsuro AGUSA (阿草哲郎) Prefectural University of Kumamoto (熊本県立大学)
11:40-12:20 Lunch (Lunch box)	
12:20-13:20 Visiting Labs of PUK (Arizono Lab, Ishibashi Lab, Zhang Lab)	
13:30-14:50	Discussion (Chair: Kouji Arizono, Junji Cao)
14:50-15:00	Closing remarks