

A brief report

on

IWA-Croucher Foundation Advanced Study Institute (IWA-ASI)
June 23-27 2008

The captioned conference was held in two concurrent sessions with the main themes of *Sustainability of Water Environment and Water Resources* and *Perspectives of Energy and Resources Saving and Recovery in Wastewater Treatment*, respectively, on June 23-27 2008 at HKUST. The entire programme included 1) 3-day intensive lectures with 16 worldwide-invited renowned plenary speakers on 23-25 June 2008 (see attached main program), 2) one-day technical tour to Shenzhen on June 26 2008 (see attached tour programme), and 3) one-day special workshop with invited speakers (see attached workshop programme) on June 27 2008.

Issues discussed included leading-edge water resources policies and strategies, total urban water management, innovative water quality assessment methods and technologies, advancements in water environment conservation, new technologies on energy and resources saving and recovering in wastewater treatment, sustainable sewage management, innovative biological wastewater treatment processes, fuel cells, sludge reduction and reuse.

The event attracted over 150 participants, which included 16 plenary speakers, over 60 professors and senior researchers in Hong Kong, the region and from overseas, over 30 postgraduate students from Hong Kong and the region and over 40 local professionals. The IWA-ASI event was well organized and delivered with great success.

Organizing
Committee



IWA-Croucher Foundation Advanced Study Institute (IWA-ASI)
1) Sustainability of Water Environment and Water Resources
2) Perspectives of Energy and Resources Saving and Recovery in Wastewater Treatment
June 23-27 2008

Held at Lecture Theatre J and K
The Hong Kong University of Science & Technology, Clear Water Bay, Kowloon, Hong Kong, China

PROGRAM SCHEDULE

23 June 2008, Monday	
09:00 – 09:30	Registration near Lecture Theatre J
09:30 – 09:50	Welcome and Opening Session at Lecture Theatre J (Chair: Prof. G. H. Chen)
09:30 – 09:40	Welcome Remarks Prof. Tony Eastham, Vice President of HKUST
09:40 – 09:50	Opening Remarks Prof. Y. K. Tung, Co-Director of the ASI Program
09:50 – 10:20	Coffee
10:20 – 12:20	Morning Session (Chair: Prof. S. K. Khanal)
10:20 – 11:50	Vortex drops for supercritical stormwater diversion in urban metropolis Prof. Joseph H.W. Lee
11:50 – 12:20	Discussion
12:20 – 14:30	Lunch
14:30 – 17:00	Afternoon Session (Chair: Prof. X. Z. Li)
14:30 – 16:00	Advanced oxidation process modelling for design and mechanistic studies Prof. John C. Crittenden
16:00 – 16:30	Discussion
16:30 – 17:00	Discussion
24 June 2008, Tuesday	
08:30 – 09:00	Registration near Lecture Theatre J
09:00 – 12:45	Morning Session (Chair: Prof. J. D. Gu)
09:00 – 10:30	Application of fundamental photochemical reactor theory in design and analysis of UV reactors Prof. Ernest R. Blatchley III
10:30 – 11:00	Discussion
11:00 – 11:15	Coffee
11:15 – 12:45	The role of advanced chemical oxidation technologies (AOT) in water reuse practices Prof. Chin-Pao Huang
12:45 – 14:15	Innovation and integration of membrane filtration for water and wastewater treatment Prof. Yoshimasa Watanabe
14:15 – 14:45	Discussion
14:45 – 16:15	Realities of water resources sustainability Prof. Larry W. Mays
16:15 – 16:30	Discussion
16:30 – 17:00	Discussion

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25 June 2008, Wednesday		
08:30 – 09:00	Registration near Lecture Theatre J	
09:00 – 12:45	Morning Session (Chair: Ir. Bobby T. M. Ng)	Morning Session (Chair: Prof. Y. Q. Zhao)
09:00 – 10:30	Watershed sources of disinfection byproduct precursors Prof. David A. Reckhow	Emission of water hazards from urban surfaces Prof. Markus A. Boller
10:30 – 11:00	Discussion	Discussion
11:00 – 11:15	Coffee	
11:15 – 12:45	Environmental forensics: Expert work in legal cases Prof. Roger A. Minear	Enhanced anaerobic digestion process for sewage sludge Prof. Hang-Sik Shin
12:45 – 14:15	Lunch	
14:15 – 17:00	Afternoon Session (Chair: Prof. J. Chen)	Afternoon Session (Chair: Prof. T. Zhang)
14:15 – 14:45	Discussion	Discussion
12:45 – 16:15	Hydrosystems risk assessment and management Prof. Yeou-Koung Tung	Sludge minimization: A frontier of sludge management in sewage treatment Prof. Guanghao Chen
16:15 – 16:30	Coffee	
16:30 – 17:00	Discussion	Discussion
17:00 – 17:30	Concluding Discussion Forum (Chair: Ir. Alex Kwan, Prof. G. H. Chen)	

26 June 2008, Thursday	
09:00 – 17:00	Technical tour

27 June 2008, Friday		
09:00 – 12:30	Morning Session I	Morning Session II
09:00 – 10:30	Oral presentations by participants	Oral presentations by participants
10:30 – 11:00	Coffee	
11:00 – 12:30	Oral presentations by participants	Oral presentations by participants
12:30 – 14:00	Lunch	
14:00 – 17:00	Afternoon Session I	Afternoon Session II
14:00 – 15:30	Oral presentations by participants	Oral presentations by participants
15:30 – 16:00	Coffee	
16:00 – 17:30	Oral presentations by participants	Oral presentations by participants
17:30 – 17:40	Closing Remark Prof. G. H. Chen, Co-Director of the ASI Program	

**A Tentative Program of the IWA-ASI Technical Tour to Shenzhen Special Economic Region (SSER) of China
26 June 2008 (Thursday)**

Time	Location and Arrangement	Remarks
07:30	Pick-up at HKUST Piazza Entrance	Meng Liao and GH Chen will wait at the point. Tel: 69451894 (Liao) or 9364-0975 (GH). A tour banner will be displayed at the front window of the Coach
07:30-08:10	Coach moving from HKUSTS to the Royal Pacific Hotel to HKUST	Pick-up: Hotel Lobby at 08:10 Contact person: Tel: 69451894 (Liao) or 9364-0975 (GH)
08:10-08:30	Coach moving to Kowloon Tong KCRC Station	Pick-up: on Somerset Road (森麻實道) (near 理想酒店) (please see attached map) at 08:30. Contact person: Tel: 69451894 (Liao) or 9364-0975 (GH)
08:30-09:20	Coach moving to Lo Ma Chau Check Point (落馬洲口岸)	
09:20-09:50	Passport/permit check at Lo Ma Chau (HK side), moving to Huang-Gang (黃岡口岸) check point (Mainland China side)	Received by the tour organizing team from Harbin Institute of Technology Shenzhen Graduate School (HITSGS). Tel: 15989476777 (Ann); 13828830095 (Prof. Jin, Putonghua)
09:50-10:30	Coach moving to Lu Fang (罗芳) Sewage Treatment Works 深圳市罗湖区延芳路 98 号	
10:30~11:30	Visiting Lu Fang (罗芳) Sewage Treatment Works	Guided by works staff
11:30~12:00	Moving to restaurant for lunch. Restaurant Name: Xihuchuntian restaurant (西湖春天) Address: 罗湖区笋岗东路 3019 号百汇大厦 2-3 楼	Tel: 15989476777 (Ann); 13828830095 (Prof. Jin, Putonghua)
12: 00~13:00	Lunch	

13:00~14:00	Moving to Bi-Jia-Shan (筆架山) Water Treatment Works	Guided by HITSGS team
14:00~15:30	Visiting Bi-Jia-Shan Water Treatment Works	Guided by works staff
15:30~16:30	Moving to HITSGS campus	Guided by HITSGS team <i>Coach may make a stop at Lo Fu (罗湖) for any participant who wishes to return to HK earlier.</i>
16:30~17:30	Visiting HITSGS	Received by HITSGS administration Introduction of the school and touring key research facilities, etc. Tel: 15989476777 (Ann); 13828830095 (Prof. Jin, Putonghua)
17:30~19:30	Dinner at a nearby restaurant. Restaurant Name: Kylin Villa Restaurant (麒麟山庄) Address: 南山区西丽湖麒麟山庄	<i>HITSGS will arrange transportation for those who wish to return to HK earlier by themselves without joining the dinner.</i> Dinner party arranged by HITSGS
19:30~22:00	Moving back to RPH and HKUST	Guided by Liao and GH

IWA-ASI: 1) SUSTAINABILITY OF WATER ENVIRONMENT AND WATER RESOURCES

2) PERSPECTIVES OF ENERGY AND RESOURCES SAVING AND RECOVERY IN WASTEWATER TREATMENT

June 23-27, 2008

Oral Presentations by Invited ASI Participants on June 27 2008

Held at The Hong Kong University of Science & Technology

PROGRAM SCHEDULE (Tentative, as at 27 June 2008)		
	Parallel Sessions at Room xxx	Parallel Sessions at Room xxx
Time	IWA-ASI 1 Program	IWA-ASI 2 Program
09:00-10:30	Morning Session 1 (Chair: Prof. H. C. Shi)	Morning Session 1 (Chair: Prof. X. Quan)
09:00-09:30	“Arsenic Occurrence and Innovative Technologies Development for Arsenic Pollution control in China”, Prof. J. H. Qu , Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences (Keynote Presenter)	“Research Status of Bio-H ₂ Production from Wastewater Fermentation in China”, Prof. N. Q. Ren , Harbin Institute of Technology (Keynote Presenter)
09:30-09:45	“Biodegradation of typical PPCPs flumequine and carbamazepine”, Prof. H. Y. Hu , Tsinghua University	“Thermophilic anaerobic treatment of cassava stillage by CSTR”, Prof. Q. Zhou , Tongji University
09:45-10:00	“E. Coli inactivation in integrated UV disinfection system”, Prof. J. Y. Hu , National University of Singapore	“Enrichment of electrochemically active phototrophic consortium and performance analysis in microbial fuel cell”, Prof. X. Huang , Tsinghua University
10:00-10:15	“Environmental loadings of common antibiotics at sewage treatment plants in Hong Kong and the Pearl River Delta region, South China”, Prof. X. D. Li , The Hong Kong Polytechnic University	“To be confirmed”, Prof. H. Q. Yu , University of Science and Technology of China
10:15-10:30	“Ultrasound Applications in Biorenewable Resources for Enhanced Bioenergy and Biofuel Production”, Prof. S. K. Khanal , University of Hawaii	“Recovery and reutilization of valuable products during wastewater treatment”, Prof. Q. L. Zhao , Harbin Institute of Technology
10:30-11:00	Coffee Break	Coffee Break
11:00-12:30	Morning Session 2 (Chair: Prof. Q. L. Zhao)	Morning Session 2 (Chair: Prof. X. Huang)
11:00 –11:30	“Environmental endocrine disrupting chemicals in	“Removing Organic Matters from Raw Water Using

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	wastewater and sludge in Beijing”, Prof. G. Yu , Tsinghua University (Keynote Presenter)	Coagulation”, Prof. D. J. Lee , National Taiwan University (keynote presenter)
11:30-11:45	“The pollutant flux of the Pearl River and the Estuary”, Prof. S. Y. Li , Zhongshan University	“Treatment of high-strength chemical wastewater: critical technique and pattern of reuse on regional level”, Prof. Z. J. Cui , Shangdong University
11:45-12:00	“Biodegradation of Haloacetic Acids in Water Supply Systems”, Prof. G. S. Wang , Department of Public Health, National Taiwan University	“Experiment-based Evaluation of the Effect of COD/P Ratios and Phosphate Recovery on a BNR System”, Prof. X. D. Hao , Beijing Institute of Civil Engineering and Architecture
12:00-12:15	“An innovative use of dewatered alum sludge as main substrate in a multi-stage reed bed treatment system”, Dr. Y. Q. Zhao , University College Dublin, Ireland	“A Pilot Trial of a low-cost MBR without chemical cleaning of membrane”, Dr. J. Wang , HKUST
12:15-12:30	“The exploration of As(III) removal by permanganate preoxidation and subsequent coagulation with iron(III) formed in-situ”, Prof. X. H. Guan , Harbin Institute of Technology	“Removal of odors from wastewater treatment plant by an integrated bioreactor”, Prof. L. Li , Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences
12:30-14:00	Luncheon , G/F Restaurant, HKUST	Luncheon , G/F Restaurant, HKUST
14:00-15:30	Afternoon Session 1 (Chair: Prof. H. Y. Hu)	Afternoon Session 1 (Chair: Prof. X. D. Hao)
14:00-14:30	“Energy production from wastewater by MFC”, Prof. S. OKABE , Hokkaido University (Keynote Presenter).	“Characteristics of fluidized-pellet-bed reactor for soluble contaminants removal”, Prof. X. C. Wang , Xi'an University of Architecture and Technology (Keynote Presenter).
14:30-14:45	“Treatment of monosodium L-glutamate wastewater”, Prof. P. Zheng , Zhejiang University	“Study of Planar Waveguide Fluorescence Immuno-sensoryes for the Detection of 2,4-dichlorophenoxyacetic acid (2,4-D)”, Prof. H. C. Shi , Tsinghua University
14:45-15:00	“Nitrogen removal in saline sewage under limited DO concentration by AOA/AOB and ANAMMOX bacteria”, Prof. T. Zhang , The University of Hong Kong	“Design of Urban Sewage Treatment Engineering in Xixi Park of Hangzhou City by Wetland Process”, Prof. J. Liu , Environmental Science Research and Design Institute of Zhejiang Province.
15:00-15:15	“Specificity of four primers and detection of anammox in natural samples”, Prof. J. D. Gu , The University of Hong Kong	“Electricity generation of microbial fuel cells (MFCs) with continuous operation”, Prof. K. S. Yoo , JeonJu University, Korea

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15:15-15:30	“HOPEs for microbial ecology studies”, Prof. W. T. Liu , National University of Singapore	“Ultrasonically assisted heavy immobilization technique for remediation of biosolid amended with phosphates”, Prof. Y. C. Song , Korea Maritime University, Korea
15:30-16:00	Coffee Break	Coffee Break
16:00-17:30	Afternoon Session 2 (Chair: Prof. S. Y. Li)	Afternoon Session 2 (Chair: Prof. Q Zhou)
16:00-16:30	“Photocatalytic degradation of methyl mercaptan in gaseous phase for odour control”, Prof. X. Z. Li , The Hong Kong Polytechnic University (keynote Presenter)	“The inhibitory effects of free nitrous acid on nitrification, denitrification and enhanced biological phosphorus removal”, Prof. Z. G. Yuan , University of Queensland (Keynote Presenter)
16:30-16:45	“Feature of Phytoplankton Community on the backwater area of Xiaojiang River in Three Gorges Reservoir during Blooms-Frequently-Occurring Spring & Summer Time”, Prof. J. S. Guo , Chongqing University	“Aerobic sludge granulation in biological wastewater treatment”, Prof. X. Y. Li , The University of Hong Kong
16:45-17:00	“Effect of iron or copper doping on arsenic removal by hydroxyapatite”, Dr. G. J. Liu , University of Notre Dame	“Effect of ultrasonics on oily sludge chemical washing”, Prof. Y. X. Gao , Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences
17:00-17:15	“A novel synthetic method for sterilization”, Prof. X. Quan , Dalian University of Technology	“Combined Partial Nitritation-Anammox Process For Treatment of High Ammonia Leachate”, Prof. K. J. An , HIT Shenzhen Graduate School
17:15-17:30	“Occurrence of Pharmaceutically Active Compounds and Personal Care Products During Advanced Wastewater Treatment: A Case Study”, Dr. X. Yang , University of North Carolina	“A new composite-metal heterogeneous Fenton-like FeVO ₄ and its catalytic activity towards degradation of organic pollutants”. Prof. Y. Xiong , Zhongshang University
18:30-21:30	Farewell Dinner	Farewell Dinner