



Chinese
Chemistry Society

Advances in Chemical Technologies for Water and Wastewater Treatment

CCS International Conference 2008, Xi'an
(CCS-XIAN2008)

Second Announcement



15 – 18 May 2008

Xi'an University of Architecture & Technology (XAUAT)

Xi'an, China

E-mail: chenrong@xauat.edu.cn

<http://www.xauat.edu.cn/CCS-XIAN2008>

Organised by

Chinese Chemical Society (CCS)

National Natural Science Foundation of China (NSFC)

Japan Science and Technology Agency (JST)

Xi'an University of Architecture and Technology (XAUAT)

Conference program

15 May 2008	Registration (whole day)
16 May 2008	Opening Ceremony, Keynote Lectures (a.m.) Technical Sessions (p.m.)
17 May 2008	Technical Sessions (a.m.) Keynote Lectures, Closing Ceremony (p.m.)
18 May 2008	Optional Tour The Museum of Qin Terra Cotta Warriors and Horses (a.m.) Tang Paradise (p.m.)

(For details, see **Conference Program**)

Conference Proceedings and Paper Publication

All papers accepted will be included in the Conference Proceedings which will be published by **Shaanxi Science and Technology Press, China**. The published Proceedings will be sent to ISI for citation by ISTP. After the conference, selected papers will be further peer reviewed for publication in **Journal of Environmental Sciences** (SCIE journal) and **Frontiers of Environmental Science & Engineering in China** (publisher: Springer)



Session topics

CCS-XIAN2008 has accepted 74 papers for oral presentations and 34 papers for poster presentations. These presentations will be given in the following 4 sessions:

- Session 1: Coagulation and Separation Technologies
- Session 2: Chemical Oxidation Technologies
- Session 3: Biochemical and Biological Treatment Technologies
- Session 4: Technology Improvement and Process Modeling

(For details, see **Session Program for Oral Presentation**)

Oral Presentation

For oral presentations, all authors should prepare their PowerPoint slides and send the electronic files by e-mail to the organizing committee by 10 May, 2008 (mail to chenrong@xauat.edu.cn). The time for oral presentation will be 15 minutes followed by 5 minutes discussion. In order to arrange the oral presentations at each session well, it is recommendable that the total number of slides for each presentation be between 15 and 20.

Venue and Accommodation

Tianyu Gloria Plaza Hotel (Four stars) : 300 RMB per room per night

Yeyuan Hotel (The university hotel): 200 RMB per room per night

(**Registration Desk** will be set in the lobby of Tianyu Gloria Plaza Hotel on 15th May for conference registration)



Registration Fee

Foreign participant (except for keynote speaker): 300 USD

Students and accompanied person: 200 USD

Domestic participant (except for keynote speaker): 1200 RMB

Students and accompanied members: 800 RMB

Students must submit a certificate letter from their universities. The registration fee will cover one set of conference proceedings (participant only), coffee breaks, supper of 15 May, breakfast of 18 May and all dinners of 16 – 17 May.

Optional tour

Visit to the Museum of Qin Terra Cotta Warriors and Horses (08:00-12:00 a.m. 18 May)

About 80 kilometers east of Xi'an. Refer to the following website for detail:

<http://www.cnwh.org/cnsites/nqshbmy/qsh.htm>

Price: 200 RMB per person

Visit to the Tang Paradise (15:00-21:00 p.m. 18 May)

Beside the Big Goose Pagoda, south of Xi'an. Refer to the following website for detail:

<http://www.tangparadise.cn/>

Price: 180 RMB per person



Organizing Committee

WANG Xiaochang

WANG Dongsheng

HUANG Tinglin

PENG Dangcong

SUN Jingfang

DUAN Jingmin

YUAN Linjiang

REN Yongxiang

Contact Information

Conference Chairman

Professor WANG Xiaochang

Xi'an University of Architecture and Technology,

No.13, Yanta Road 710055 Xi'an, China

E-mail:xcwang@xauat.edu.cn

Secretary

Mr.CHEN Rong

Xi'an University of Architecture and Technology,

No.13, Yanta Road 710055 Xi'an, China

E-mail:chenrong@xauat.edu.cn

Conference Program (Tentative)

Thursday 15 May: Registration (whole day)

Friday 16 May

Opening ceremony (08:30 – 09:00) at the Conference Hall, XAUAT

Group photographing and coffee break (09:00 – 09:30)

Keynotes (09:30 – 12:00)

- 09:30 – 10:00 The sand and microfiltration of algae in water supplies
Charles R. O'MELIA, Professor, Johns Hopkins University, USA
- 10:00 – 10:30 Inorganic polymer flocculants: Theories, production and application
TANG Hongxiao, Academician of CAE, Professor, Research Centre for Eco-Environmental Sciences, CAS, China
- 10:30 – 11:00 Climate change and its consequences for water and wastewater management
Peter A. WILDERER, Professor, Former WST Chief Editor, Germany
- 11:00 – 11:30 Formation and characteristics of aerobic granules for wastewater treatment
Han-Qing YU, Professor, University of Science and Technology of China
- 11:30 – 12:00 Monitoring of aggregation processes
John GREGORY, Professor, University College London, UK

Lunch (12:00 – 13:30 at Yeyuan Hotel)

Keynotes

- 13:30 – 14:00 The effect of coupling coagulation and flocculation with membrane filtration in water treatment
(at Session 1)
TorOve LEIKNES, Professor, Norwegian University of Science and Technology, Norway
- 13:30 – 14:00 Increasing significance of advanced physical/chemical processes in the development and application of sustainable wastewater treatment systems
(at Session 2)
Wim RULKENS, Professor, Wageningen University, The Netherlands
- 13:30 – 14:00 Mechanisms of organic matter and nutrient removals by membranes and engineered wetlands, for sustainable wastewater reclamation
(at Session 3)
Jaeweon CHO, Professor, Gwangju Institute of Science and Technology, Korea
- 13:30 – 14:00 Development of sustainable sanitation system and its implementation to Asian countries: interdisciplinary research project
(at Session 4)
Naoyuki FUNAMIZU, Professor, Hokkaido University, Japan
- 14:00 – 14:30 Reduction of aeration time of UniTank process by modeling and simulation
(at Session 4)
Chonghua YAO, Professor, East China University of Science and Technology, China

Technical sessions (13:30 – 18:00, at the main building of the School of Environmental and Municipal Engineering, see Session Program)

Conference banquet (18:00 – 20:00)

Saturday 17 May

Technical sessions (08:30 – 12:00, at the main building of the School of Environmental and Municipal Engineering, see Session Program)

Lunch (12:00 – 13:30 at Yeyuan Hotel)

Keynotes (13:30 – 15:30) at the Conference Hall, XAUAT

13:30 – 14:00 New insights into membrane fouling in water and wastewater treatment by material properties characterisation

T. David WAITE, Professor, University of New South Wales, Australia

14:00 – 14:30 Chemical aspects of water and wastewater treatments by bridging physics and mathematics with chemistry

Tetsuya KUSUDA, Professor, Kyushu University, Japan

14:30 – 15:00 Role of Al speciation on humic acid coagulation

Chihpin HUANG, Professor, National Chiao Tung University, Taiwan, China

15:00 – 15:30 Tertiary treatment alternatives to achieve nitrogen and phosphorus removal from wastewaters

Nigel HORAN, Professor, University of Leeds, UK

Coffee break (15:30 – 16:00)

Closing ceremony (16:00 – 17:00) at the Conference Hall, XAUAT

Dinner (18:00 – 19:00 at Yeyuan Hotel)

Sunday 18 May

Visit to the Museum of Qin Terra Cotta Warriors and Horses (Optional) (08:00 – 12:00)

Free time (12:00 – 15:00)

Visit to the Tang Paradise, dinner, night entertainment (Optional) (15:00 – 21:00)

Session Program for Oral Presentations (Tentative)

Session 1: Coagulation and Separation Technologies

Friday 16 May

Keynote

13:30 – 14:00 The effect of coupling coagulation and flocculation with membrane filtration in water treatment
TorOve LEIKNES, Professor, Norwegian University of Science and Technology, Norway

Session 1-1

14:00 – 14:20 Particle-particle interaction in water treatment: Role of coagulant speciation and hydrolysis kinetic on NOM removal

Dongsheng WANG, Mingquan YAN, Jiuhui QU, Christopher W.K. CHOW

14:20 – 14:40 Interfacial forces between silica surfaces measured by atomic force microscopy
Jinming DUAN

14:40 – 15:00 Application of chemical coagulation for removal of anionic surfactants in detergent wastewater
Behrooz DAVARI, Afshin MALEKI, Reza REZAEI

15:00 – 15:20 Study on the fractal dimensions of polyferric chloride-humic acid(PFC-HA) flocs in different topological spaces
WANG Yili, LU Jia, DU Baiyu, SHI Baoyou, WANG Dongsheng

Coffee break (15:20 – 15:50)

Session 1-2

15:50 – 16:10 Dynamic analysis of the polyferric-organic dual-coagulant in treating dyeing wastewater
Jin-cheng WEI, Bao-yu GAO, Qin-yan YUE, Yan WANG

16:10 – 16:30 Effectiveness of fluidized pellet bed for removing soluble contaminants
WANG Xiaochang, LI Zhihua, WANG Zhen, LI Jinrong, LI Jiayu, CHEN Rong

16:30 – 16:50 Purification and Characterization of Al₁₃ Species in coagulant polyaluminum chloride
GAO Baoyu, CHU Yongbao, YUE Qinyan, WANG Yan

16:50 – 17:10 Bioflocculation coupled with inorganic salts in suspended solid removal in water
NIE Maiqian, MAO Jin, WANG Lei

17:10 – 17:30 Research of co-coagulation flotation system
FEI Qingzhi XU zhi HU Hongbo GUO Haiyan

17:30 – 17:50 Effect of coagulant Fe(OH)₃ addition on MBR for sewage treatment
WANG Jin, YANG Jing, YU Xiao-xia, SU min

Saturday 17 May

Session 1-3

- 08:30 – 08:50 Effect of charge type and molecular weight of polyacrylamide on the characteristics of kaolin floc
ZHU Zhe, LI Tao, FENG Jiang, WANG Dong-sheng, YAO Chong-hua
- 08:50 – 09:10 PH dependence of bonding models of anthracene with benzoic acid and its derivatives
HE Ying-Ying, WANG Xiao-Chang, FAN Xiao-Yuan, JIN Peng-Kang
- 09:10 – 09:30 Combination coagulation using multiple coagulants for low turbidity water treatment
Jing-Mei SU, Shu-Yan GONG, Feng LI, Yi-Man LIU
- 09:30 – 09:50 Fractal characteristics of Al-Humic flocs
Pengkang K. JIN, Xiaochang C. WANG
- 09:50 – 10:10 Study of removing organic matter in drinking water by NF membrane
YANG Jin, CHEN Jie-Rong, YU Rong

Coffee break (10:10 – 10:40)

Session 1-4

- 10:40 – 11:00 Removal of carbamazepine in an enhanced membrane bioreactor with small dose addition of powdered activated carbon
Liqiu ZHANG, Taro URASE, Li FENG
- 11:00 – 11:20 Evaluating the effects of granular and membrane filtrations on chlorine demand in drinking water
Veeriah JEGATHEESAN, Seung-Hyun KIM, C. K. JOO, Baoyu GAO
- 11:20 – 11:40 Investigation on direct filtration of municipal secondary effluent with metal-oxides-coated sands
LÜ Jianbo, SUN Liping, ZHAO Xinhua, LU Bin, WANG Shaopo
- 11:40 – 12:00 Molecular weight distribution and hydrophilicity of wastewater effluent organic matter and effect on NF membrane fouling
Li-qing ZHANG, Lei WANG, Gang ZHANG, Xu dong WANG, Zhi-ying WANG

Session 2: Chemical Oxidation Technologies

Friday 16 May

Keynote lecture

- 13:30 – 14:00 Increasing significance of advanced physical/chemical processes in the development and application of sustainable wastewater treatment systems
Wim RULKENS, Professor, Wageningen University, The Netherlands

Session 2-1

- 14:00 – 14:20 Photocatalytic oxidation process for the removal of methyl tert-butyl ether (MTBE) from highly contaminated water
Akbar ESLAMI, Tina AGHVAMI, Afshin MALEKI

- 14:20 – 14:40 Degradation of high concentration pharmaceutical wastewater by Microwave-Fenton system
YANG Yu, WANG Peng, SHI Shu-jie
- 14:40 – 15:00 Reactivity of several classes of pesticides with UV, ozone and permanganate
LIU Chao, QIANG Zhi-min, TIAN Fang, ZHANG Tao
- 15:00 – 15:20 Catalytic oxidation and carbon adsorption for removing cyanide from coking plant effluent
LIU Wan-dong, ZHANG Wei, LV Yan, JIANG Wen-xing, LI Bing-jing, LIU You-liang, YING Wei-chi

Coffee break (15:20 – 15:50)

Session 2-2

- 15:50 – 16:10 Decolorization of C.I. Basic Violet 3 with hydrogen peroxide in an electrochemical reactor
Jie WU, Xiaogang Wu, Daobin ZHANG, Hui ZHANG
- 16:10 – 16:30 Removal of citrate and hypophosphite binary components using Fenton, Photo-Fenton and Electro-Fenton processes
Yao-Hui HUANG, Hsiao-Ting SU, Li-Way LIN
- 16:30 – 16:50 Experimental research on sterilization in a flowing O₂ postdischarge reactor
Hongxia LIU, Jierong CHEN
- 16:50 – 17:10 Mechanism of electrochemical degradation of phenol with Ti/RuO₂-Pt anode
Miao LI, Chuanping FENG, Weiwu HU, Zhenya ZHANG, Norio SUGIURA
- 17:10 – 17:30 Recognition and analyse on primary metabolites of nonylphenol
HAO Rui-xia, LIANG Peng, ZHAO Man, ZHOU Yu-wen, ZHANG Yan-tao
- 17:30 – 17:50 Quantification of steroid oestrogens in wastewater treatment by ELISA kits with an improved sample pretreatment protocol
Chun YANG, Bibo HU, Andrew D. WHEATLEY

Saturday 17 May

Session 2-3

- 08:30 – 08:50 Treatment of arsenic in water by nanocrystalline titanium dioxide
Xiaoguang MENG, Lee LIPPINCOTT, Changyong JING, Zhonghou XU
- 8:50 – 9:10 Study on the electrochemical reduction of nitrate
Xu GUO, Chuanping FENG
- 9:10 – 9:30 Ozonation of tetracycline in aqueous solution
Hong GAO, Jianhua ZHANG, Daobin ZHANG, Hui ZHANG
- 9:30 – 9:50 Catalytic reduction and carbon adsorption for removing free chlorine from water
ZHANG Huai-xu, LIU Wan-dong, LI Bing-jing, ZHANG Wei, LIU You-liang, YING Wei-chi
- 9:50 – 10:10 Reactivity of several classes of pesticides with chlorine-containing disinfectants
TIAN Fang, QIANG Zhi-min, LIU Chao, ZHANG Tao

Coffee break (10:10 – 10:40)

Session 2-4

- 10:40 – 11:00 Sludge solubilisation by hydrogen peroxide/ozone treatment and organic matter recovery
YIN Jun, ZHAO Yu-xin, WANG Jian-han
- 11:00 – 11:20 Photosynthesis of naphthalene in aqueous solution
LIN Fengkai, MOHAMMADOU Y. Pitti, LIU Xinyong
- 11:20 – 11:40 Decoloration of rhodamine B dyeing wastewater by mineral-catalytic Fenton-like system of modified tourmaline
ZHAO Shanshan, WANG Peng, XU Huanyan, SHI Shu-jie, HAN Ning

Session 3: Biochemical and Biological Treatment Technologies

Friday 16 May

Keynote lecture

- 13:30 – 14:00 Mechanisms of organic matter and nutrient removals by membranes and engineered wetlands, for sustainable wastewater reclamation
Jaeweon CHO, Professor, Gwangju Institute of Science and Technology, Korea

Session 3-1

- 14:00 – 14:20 Concurrent enhancement of oxygen transfer and phosphorus removal in constructed wetlands: A novel Irish case study
A.O. BABATUNDE and Y.Q. ZHAO
- 14:20 – 14:40 Cometabolic decolorization of acid red 14 by bacillus cereus
Meixue CHEN, Huijuan LIU, Jusi WANG, Yizhong WANG, Junxin LIU
- 14:40 – 15:00 An A/O submerged membrane bioreactor and its membrane fouling research in treating bathing wastewater
XIA Si-qing, GUO Ji-feng, WANG Rong-chang
- 15:00 – 15:20 Aerobic granulation with landfill leachate in sequencing batch reactors
WEI Yanjie, JI Min, ZHAO Jing, WANG Jingfeng

Coffee break (15:20 – 15:50)

Session 3-2

- 15:50 – 16:10 Effects of HRT and SRT on fate of linear alkylbenzene sulphonate in anaerobic-anoxic-aerobic activated sludge wastewater treatment system
Manhong HUANG, Liang CHEN, Yongmei LI, Guo-wei GU
- 16:10 – 16:30 Community level biological denitrification system for removing nitrate from groundwater
MANOJ Kumar. B, MADHUMATI Hullur, ASHWINI Ramakrishna
- 16:30 – 16:50 Biological aerated filter treated washing wastewater for reuse using ozonation as a pre-treatment
WANG Xiaojun, CHEN Sili, GU Xiaoyang, XIAO Jin
- 16:50 – 17:10 A continuous fixed-bed bioreactor for MTBE biodegradation by enhanced alginate-calcium immobilized beads of *Methylobium petroleiphilum* PM1
CHENG Zhuo-wei, CHEN Jian-meng, CHEN Dong-zhi

- 17:10 – 17:30 Conditions of cultivating and characteristics of aerobic granular sludge in a completely mixed reactor
WANG Yi, PENG Dangcong
- 17:30 – 17:50 Biodegradation of trace pharmaceutical substances in wastewater by a membrane bioreactor
BO Long-li, TARO Urase, WANG Xiao-chang

Saturday 17 May

Session 3-3

- 08:30 – 08:50 Biological treatment of nutrients from municipal wastewater with an aerated constructed wetland
Dul-Sun KIM, Jae-Suk SHIN, Sung-Jin KIM and Dong-Keun LEE
- 8:50 – 9:10 Removal of residual organic matters from secondary effluent by a submerged membrane bioreactor
Li FENG, Liqiu ZHANG, Dezhi SUN, Renzheng GU
- 9:10 – 9:30 Hydrodynamics and oxygen mass transfer in an external airlift alternant loop complex bio-filter
Jianan CAI, Weili TAO, Lina GUO, Yijun SHEN
- 9:30 – 9:50 Chlorobenzene removal by electro-heterogeneous catalysis in aqueous solution: intermediates and reaction mechanism
WANG Jia-de, MEI Yu, LIU Chen-liang, CHEN Jian-meng
- 9:50 – 10:10 Screening of PAH-Degrading bacteria and studies on their degradation characters
WANG Lei, NIE Mai-qian, WANG Zhi-ying, WU Man-li

Coffee break (10:10 – 10:40)

Session 3-4

- 10:40 – 11:00 Full-scale field test of restoration of permeability of clogged subsurface wetland by *Eisenia foetida*
WANG Sheng, XU Zu-xin, LI Huai-zheng, XING Shao-wen, ZHENG Yang-guang
- 11:00 – 11:20 Exposure-Response of Cr-III-organic complexes to *saccharomyces cerevisiae*
Nivedita CHATTERJEE, Zejiao LUO
- 11:20 – 11:40 Experimental study on denitrification efficiency impacted by activated sludge filtering bed formed in gas-liquid-solid separating zone
Heli WANG, Li CHENG, Nan JIANG
- 11:40 – 12:00 Extraction, purification, and degradation of enzyme from a PAH-Degrading strain *flavobacterium* sp. FCN2
WU Manli, NIE Maiqian, WANG Xiaochang

Session 4: Technology Improvement and Process Modeling

Friday 16 May

Keynote lecture

- 13:30 – 14:00 Development of sustainable sanitation system and its implementation to asian countries: interdisciplinary research project
Naoyuki FUNAMIZU, Professor, Hokkaido University, Japan
- 14:00 – 14:30 Reduction of aeration time of UniTank process by modeling and simulation
Chonghua YAO, Professor, East China University of Science and Technology, China

Session 4-1

- 14:30 – 14:50 Application of rice husk and its ash in phenol removal from aqueous solution
Masoud Alasyvand ZARASVAND, Afshin MALEKI, Akbar ESLAMI, Reza REZAEI
- 14:50 – 15:10 Experimental study on emergency treatment of source water accidentally polluted by heavy metals
Ting-Lin HUANG, Yu-Zheng ZHANG, Jin-Suo LU, Shang-Zhi DI, Bo QU
- 15:10 – 15:30 Direct monitoring of polymer residual as an environmental safety strategy in alum sludge conditioning/flocculation
Y.Q. ZHAO, X.H. ZHAO, C. KEOGH, W.C. LI
- 15:30 – 15:50 Study on the reductive transformation of nitrite by nanoscale zero-valent iron particles synergized with ultrasonic technology
LIANG Feng, GUO Yan-hui, ZHU Jun, ZHOU Su, SHAO Xiao-jing, FAN Jing

Coffee break (15:50 – 16:10)

Session 4-2

- 16:10 – 16:30 Toluene laden waste gas treatment using combination process of microwave desorption with catalytic combustion
CAO Xiao-qiang, HUANG Xue-min, LIU Sheng-rong, FENG Yan
- 16:30 – 16:50 Using disposable iron oxide to adsorptive removal of phosphate from TFT-LCD factory
Chun-Chi CHANG, Yao-Hui HUANG, Lien-Tai CHO, Hui-Pin CHENG, Su-Ling WANG
- 16:50 – 17:10 Adsorbent derived from sewage sludge and its application in dye wastewater treatment
CHEN Chunyun, ZHUANG Yuanyi
- 17:10 – 17:30 The beta modulus research of the criterion return ratio of the reclaimed water industry
LAN Feng, LIU Xiao-jun, WANG Xiao-chang
- 17:30 – 17:50 The simulation test of pollutants release from sediments of urban river
Ting-Lin HUANG, Yuan-Jun SUN, Xiao-Ping LI, Li-Kun LIU, Jiang YU, Wei-Qing LIN

Saturday 17 May

Session 4-3

- 08:30 – 08:50 Electro-assisted regeneration of ion exchange resins
LIU Zhigang, WANG Ying, LI Yansheng, CHANG Hui

- 8:50 – 9:10 Study on copper(II) adsorption from an aqueous solution by the graft copolymer of cross-linked starch/acrylonitrile
Yu-jun ZHANG, Jing-bo HU, Xiang-yang YAN, Jie-rong CHEN
- 9:10 – 9:30 Factors of affecting scaling and corrosion using the wastewater from iron & steel works as circulating cooling water
Huanzhen ZHANG, Xiaoran ZHANG, Qian ZHAO
- 9:30 – 9:50 Treatment of wastewater emulsion using microwave assisted flocculation and adsorption
Ning MA, Yaobin ZHANG, Xie QUAN, Yazhi ZHAO
- 9:50 – 10:10 Microorganism effects on phosphorus circulation and conversion in the multi-phase interface between water and sediment
Ting-Lin HUANG, Bei-Bei CHAI, Er-Sheng QIU

Coffee break (10:10 – 10:40)

Session 4-4

- 10:40 – 11:00 Study on Zn(II) adsorption from aqueous solution onto graft copolymer of crosslinked starch/acrylonitrile(CLSAGCP)
Yu-jun ZHANG, Jian-ping LIU, Qing-mei FENG
- 11:00 – 11:20 Mathematical modeling of the soluble microbial product (SMP) in a submerged MBR with a hybrid ASM model
Fangyue LI, Joachim BEHRENDT, Knut WICHMANN, Ralf OTTERPOHL
- 11:20 – 11:40 Application of RSM and ANN models for optimization of photoelectrocatalytic oxidation process for fulvic acid removal
J.F. FU, Q.L. WU, X.D. XUE
- 11:40 – 12:00 Influence of redox conditions on speciation and assessment of potential ecological risk of heavy metals in the sediment of Fenhe reservoir
Ting-Lin HUANG, Wei-Huang ZHU, Bei-Bei CHAI, Yu-Zheng ZHANG, Jin-Suo LU

Session Program for Posters

Friday 16 May

- 13:30 – 18:00 At the entrance hall of the School of Environmental and Municipal Engineering

Saturday 17 May

- 08:30 – 12:00 At the entrance hall of the School of Environmental and Municipal Engineering