Level 2 Room 2

KEYNOTE PLENARY 3 8.30

Level 3 Room 16

KEYNOTE PLENARY 4

8.30 **Nutrient Management from Point Source Control to Global Perspective** Helmut Kroiss, Vienna University of Technology
Introduced by Beijing Capital

Level 3 Room 4

WASTEWATER TREATMENT

Phosphorus Removal I: Enhanced Biological Phosphorus Removal
Chair James Barnard United States

9.15 Induced Magnesium Ammonia Phosphate Precipitation to Prevent Incrustations and Measures for Phosphorus Recovery Bernd Heinzmann Germany 608739

9.35 Predicting Struvite Formation for Phosphorus Recovery from Human Urine Using an Equilibrium Model Hidenori Harada Japan 603293

9.55 Phosphorus Recovery from Human Urine Katrin Gethke Germany 598106

10.15 Resource Recovery from Excess Sludge by Subcritical Water Combined with Magnesium Ammonium Phosphate Process Mitsuhiro Arakane Japan 599767

10.35 Phosphorus Removal and Recovery by Microorganism-mediated Enhanced Phosphorus Chemical Precipitation Mechanism of *Paracoccus denitrificans* PP15 under Anoxic Conditions with Different Buffer Capacity Hoi-Ping Shi Chinese Taiwan 599805

Level 3 Room 10

WASTEWATER TREATMENT

Industrial Wastewater V: Miscellaneous Industrial Wastewater Treatment Applications
Chair Andrew Englande United States

9.15 Zero-valent Iron Treatment of RDX- and Perchlorate-containing Wastewaters from an AmmunitionManufacturing Plant at Elevated Temperatures Byung J Kim United States 598479

9.35 Treatment of the Butadiene Washing Stream from a Synthetic Rubber Industry and Recovery of p- Marcia Dezotti Brazil 594923

9.55 Photochemical Decomposition of Environmentally Persistent Perfluorooctanoic Acid in Water Zhang Chaojie China 594506

10.15 A Preliminary Study for the Reuse of Refractory Pollutants as Useful Resources by Hydrothermal Reaction Coupled with Biological Treatment Methods Kyoungrean Kim Korea 602915

10.35 Biotreatability Study of Petrochemical Wastewaters in South Korea Soo Ho Park Korea 581931

10.40 Degradation of Phenol Wastewater by Catalytic Wet Air Oxidation Over CeO2-TiO2 Catalysts Shaoxia Yang China 599746

Morning Tea 10.45

WASTEWATER TREATMENT

Phosphorus Removal II
Chair Norbert Jardin Germany

11.30 Obtaining Highly Enriched Cultures of Polyphosphate Accumulating Organisms through Alternating the Carbon Source Huabing Lu Australia 599091

11.50 Analysis of Phosphorus Removal and Anaerobic Selector Performance in a Full-scale Activated Sludge Process in Singapore NA Cao Singapore 602396

12.10 Role of Extracellular Exopolymers on Biological Phosphorus Removal Yanan Liu China 594258

12.30 An Aerobic EBPR Process Michael Beer Australia 596862

12.50 Phosphorus Removal from Wastewater by Mineral Apatite Florent Chazarenc Canada 606714

12.55 Phosphorus Fate and Transport in Muskegon's Wastewater Land Treatment System Tian C Zhang United States 607104

1.00 Acclimatisation of Phosphate-accumulating Organisms to Denitrifying Conditions Using Propionate and Acetate as Carbon Sources Maria Reis Portugal 597410

WASTEWATER TREATMENT

Advances in Physico-chemical Processes I
Chair Gideon Oron Israel

11.30 Biological-chemical Enhanced Pre-treatment of Biological Aerated Filters (BAFs) Influent Liping Qiu China 597781

11.50 Different Pollutants Removal Efficiencies and Pollutants Distribution with Particle Size of Wastewater Treated by CEPT Process Guoren Xu China 602651

12.10 Synthesis of Polyamine Flocculants and Flocculation Performance in Treating Dye Wastewater Baoyu Gao China 587566

12.30 Novel Composite Flocculant Ployferric Chloride: Polydimethyldiallylammonium Chloride (PFC-PDMDAAC): Its Characterisation and Flocculation Efficiency Yan Wang China 602771

Lunch 1.00

WASTEWATER TREATMENT

Activated Sludge Population Dynamics
Chair Valter Tandoi Italy

2.30 Microbial Community Change of Sulfate Reduction and Sulfur Oxidation Bacteria in Activated Sludge Cultivated with Acetate and Peptone Naoki Miyazato Japan 608073

2.50 The Variation of Nitrifying Bacterial Population in a Sequencing Batch Reactor (SBR) Treating Low/Med/High Concentrated Wastewater Baikun Li United States 598296

3.10 Biochemical Patterns of Two Different *H. hydrossis* Isolates Identified By FISH Tshireletso Ramothokang South Africa 602595

3.30 Comparison of Microbial Communities in Two Different Sewage Treatment Systems in the Same Plant Min Yang China 601267

3.50 Development a Novel Method for Microbial Quinones Analysis of Activated Sludge Using Supercritical Fluid Extraction Muhammad Faisal Japan 604244

WASTEWATER TREATMENT

Advances in Physico-chemical Processes II
Chair Peter Cornel Germany

2.30 Application of a New Class of Polysaccharide-stabilised Fe-Pd Nanoparticles for Rapid Destruction of Chlorinated Hydrocarbons in Water Dongye Zhao United States 601156

2.50 Photocatalytic Oxidation of Low Concentration 2,4-D Solution with New TiO2 Fibre Catalyst in a Continuous Flow Reactor Rabindra Raj Giri Japan 597491

3.10 Novel TiO2 Nanocatalysts for Wastewater Purification: Tapping Energy from the Sun Jin Li United States 601887

3.30 Applicability of Ozonation and Ozone/Hydrogen Peroxide Process for Removal of Organic Compounds in Pre-coagulated Municipal Sewage Tadao Mizuno China 595938

3.50 A H2O2-assisted Photoelectrocatalytic Oxidation Process for Water and Wastewater Treatment Xiangzhong Li Hong Kong China 589200

3.55 The Right Treatment Step Ozone and Ozone/H2O2 for the Degradation of None Biodegradable COD Achim Ried Germany 608635

Afternoon Tea 4.00

WASTEWATER TREATMENT

Odours and Volatile Emissions
Chair Franz-Bernd Frechen Germany

4.45 Modelling Biodegradation of Toluene in Rotating Drum Biofilter Chunping Yang China 604928

5.05 Modelling Hydrogen Sulphide Emission in a WWTP with UASB Reactor Followed by Aerobic Biofilters Jane Meri Santos Brazil 606105

5.25 New Compact Scrubber for Odour Removal in Wastewater Treatment Plants Célia Sanchez France 597595

5.45 New Developments in Air Pollution Control at Hyperion Treatment Plant Reza Iranpour United States 599514

5.50 Odour Creation Potential on Sludge Composting Sites Elena Senante France 597283

WASTEWATER TREATMENT

Advances in Physico-chemical Processes III
Chair Yoshihiko Matsui Japan

4.45 Micro/Nano- and Bio-particles Separation Using Microfluidic Porous Plug for Environmental Monitoring Analyses Kyongmi Chon Korea 605039

5.05 A Mechanistic Study on the Electrocoagulation of Silica Nanoparticles from Polishing Wastewater Walter Den Chinese Taiwan 586160

5.25 Compressible Synthetic Dual-medium Filtration of Wastewater Effluents for Water Reuse Kyung Guen Song Korea 607737

Beijing Duck Dinner (Optional). Buses depart from outside BICC at 7.00 pm. Please bring your optional dinner ticket.
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Level 2 Room 2

KEYNOTE PLENARY 3 8.30

Level 3 Room 16

KEYNOTE PLENARY 4

8.30 **Nutrient Management from Point Source Control to Global Perspective** Helmut Kroiss, Vienna University of Technology
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Level 3 Room 12

HEALTH AND THE ENVIRONMENT

Hazardous Substances: General
Chair Frans Schulting Netherlands

9.15 Endocrine Disruptors in Wastewater: Occurrence and Mass Balance in Eight Wastewater Treatment Plants Marie-Laure Janex-Habibi France 596414
9.35 Analysis of Estrogenic Hormones in Natural Waters, Wastewater and Sludge: Results from the First International Round Robin Test Auguste Bruchet France 605396
9.55 First Phase of an Endocrine Research Program for South African Water Systems APM Moolman South Africa 609103
10.15 Immobilisation of Pb Contaminated Soil Using Modified Clay Won Sik Shin Korea 607762
P 10.35 Arsenic Removal: Assessment of Different Processes on Bench-scale and Full-scale Treatment Conditions Optimisation Philippe Charles France 597956
P 10.40 Contribution of Drinking Water to the Total Daily Intake of Arsenic in Bangladesh Tatsuya Yanase Japan 603281

Level 3 Room 13

STRATEGIC MANAGEMENT OF WATER IN URBAN AREAS

Governance and Regulation
Chair Mary Ann Dickinson United States and Zhang Yue China

9.15 Do Australian Water Institutional Governance Regimes Respond to Rural and Urban Customer Preferences? Jennifer McKay Australia 604123
9.35 Management Unification of Tokyo Waterworks: Integration of Tama Area Sunao Kakehi Japan 591602
9.55 Discussion on the Future Structure of the Chinese Water Sector Xiazhen Jia China 601494
10.15 Benchmarking Risk Analysis Practice in the International Water Sector Brian MacGillivray United Kingdom 592972
P 10.35 North European Benchmark Cooperation: International Search for Best Practices in Management and Operations Peter A Dane Netherlands 606280
P 10.40 Promoting Sustainable Water Management Through Legislation: A Hong Kong Perspective W K Kam Chinese Hong Kong 598781

Morning Tea 10.45

HEALTH AND THE ENVIRONMENT

Hazardous Substances: Detection Methods
Chair In S Kim Korea and Hu Jianying China

11.30 Identification of Mutagenic Compounds Produced During Photodegradation of Fenitrothion Taku Matsushita Japan 592620
11.50 Importance of the Free Zn Species in Batch Nitrification Systems Neslihan Semerci Turkey 605664
12.10 Analysis of Off-flavour Compounds in Water at Sub-part-per-trillion Level by GC/MS with Programmable Temperature Vaporiser Inlet Hu Ruikang Singapore 601743
12.30 Evaluation of a Rapid Bioluminescence-based Method for Determination of AOC in Water Shimon Ulitzur Israel 600867
P 12.50 Speciation of Arsenic in Water by HPLC-ICP-DRCMS Using Oxygen Gwan Jo Jeong Korea 601997
P 12.55 Detection of Dioxin-like Activity in the Yodo River System by Using a Yeast-based Reporter Gene Assay Pei-Hsin Chou Japan 598047

STRATEGIC MANAGEMENT OF WATER IN URBAN AREAS

Social Dimensions of Water Management
Chair Jacques Labre France and Zhou Ji China

11.30 Franchising in the Water Services Sector Jayant Narsee Bhagwan South Africa 590992
11.50 Urban Water Distribution Improvement in Iraq Gordon Smith Canada 606395
12.10 Approaches to Serving the Poor in Latin America Richard Franceys United Kingdom 604575
12.30 Urban Water Management in Ukraine: The Urgent Need for Reform Volodymyr Kuznyetsov Ukraine 608543
P 12.50 Efficiency, Equity and Sustainability in Water Privatisation: Some Chinese Lessons Weidong Zhan China 592913

Lunch 1.00

HEALTH AND THE ENVIRONMENT

Toxicity Assessment and Environmental Impact
Chair Horst Schroeder Germany and Bai Xuetao China

2.30 Effects of Exposure Times on the Toxic Response of Ammonia Oxidising Mixed Culture (AOMC) to Phenol and Chlorinated Phenols Jaruwan Tantasut Thailand 602718
2.50 Toxicity Assessment of Polycyclic Aromatic Hydrocarbons Using an Air-tight Algal Toxicity Test Chung-Yuan Chen Chinese Taiwan 599289
3.10 Developmental Toxicity in Zebrafish Embryos after Exposure to Manufactured Nanomaterials: Buckminsterfullerene Aggregates (nC60) and Fullerol Lin Zhu China 600711
3.30 Comparative Toxicity of Nano-scale TiO2, SiO2 and ZnO Water Suspensions Pedro Alvarez United States 605963
P 3.50 Biodegradation and Toxicity of Canola Triglycerides Pablo Campo-Moreno United States 599437
P 3.55 Toxicity Identification of Metal Plating Wastewater Jinho Jung Korea 595160

STRATEGIC MANAGEMENT OF WATER IN URBAN AREAS

Pricing and Financing
Chair Helena Alegre Portugal and Han Wei China

2.30 The Private Participation in China's Wastewater Service under the Constraint of Charge Rate Reform Lijin Zhong China 605940
2.50 Efficient Process and Analysis for Intelligent Meter Readings Jose I Solanas Spain 590500
3.10 Analysis of the Water Pricing System to Control Use of Water and Reflect on Water Management in the Case of Shanghai City Tao Tao China 601383
3.30 Tokyo's Challange of Introducing a New Water Charging System: Balanced Along Economics, Environmental and Social Bottom Lines Hiroko Hirano Japan 603553
P 3.50 On Urban Water Pricing with Practical Application of Fuzzy Logic Model in Shanghai Weide Mao China 607935
P 3.55 Evaluating the Financial Performance of US Water and Wastewater Utilities with IWA Performance Indicators Robert J Eger United States 606479

Afternoon Tea 4.00

HEALTH AND THE ENVIRONMENT

Hazardous Substances and Emerging Issues
Chair Saburo Matsui Japan

4.45 Behaviour of Arsenic Species in Batch Activated Sludge Process: Biotransformation and Removal Harinaivo Anderson Andrianisa Japan 603305
5.05 Geospeciation of Arsenic Using MINTEQA2 for a Post-mining Lake Sri Adelila Sari Malaysia 598972
5.25 Effects of Filtration Temperature, Humic Acid Level and Alum Dose on *Cryptosporidium* Sized Particles Breakthrough Guoren Xu China 602749
5.45 Application of Life Cycle Assessment (LCA) to Water Purification Facilities: Inventory Analysis for Comparison Between "Coagulation Sedimentation and Sand Filtration" and "Membrane Filtration" Masahiro Fujiwara Japan 603148

STRATEGIC MANAGEMENT OF WATER IN URBAN AREAS

Customer Management
Chair Enrique Cabrera Spain

4.45 Shanghai Pudong Veolia Water Centre Rémi Paul China 643036
5.05 Marketing Urban Water Services: Information Needs for Water Utility Managers in Developing Countries Josses Mugabi United Kingdom 589390
5.25 An Information Disclosure Technique for Reducing Citizens' Concerns about Tap Water Quality Shinya Echigo Japan 606621
P 5.45 Development of Communication in Water and Wastewater Works Eeva Hörkkö Finland 597593

Beijing Duck Dinner (Optional). Buses depart from outside BICC at 7.00 pm. Please bring your optional dinner ticket.
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Level 2 Room 2

KEYNOTE PLENARY 3 8.30

Level 3 Room 16

KEYNOTE PLENARY 4

8.30 **Nutrient Management from Point Source Control to Global Perspective** Helmut Kroiss, Vienna University of Technology
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Level 3 Room 50

DRINKING WATER TREATMENT

Full-scale Water Treatment Works
Chair Joel Mallevialle France

9.15 Research on Polluted Yellow River Water Purification Using Pre-ozonation Followed by Biofiltration Dongwen Shi China 596754

9.35 Examining the Effect of Transverse Troughs in Sedimentation Basin on Hydrodynamic Behaviour with CFD Simulation and ADV Technique Seonjoo Lee Korea 607087

9.55 Enhanced Coagulation for Improvement of Water Quality in Full-scale Water Treatment Zhisheng Liu China 603986

10.15 Lamellar Clarifier: Densadeg AquaDAF: Selection of the Best Suited Clarification Process to Achieve Reliable Operation According to the Raw Water Quality Xavier Baron China 599093

P 10.35 Evaluation of GAC Filter–Adsorber Process for Removing Disinfection By-products Seong-su Kim Korea 606897

Level 3 Room 16

WASTEWATER TREATMENT

Anaerobic Digestion I: Fundamentals of Anaerobic Digestion
Chair Jurg Keller Australia

9.15 Study on Internal Circulation Sludge Thickening and Digestion (ICSTD) Reactor Qiang He China 592532

9.35 Fermentative Hydrogen Production in Packed-bed and Packing-free Upflow Reactors LI Chenlin Chinese Hong Kong 601694

9.55 Solid Mining Residues from Ni Extraction Applied as Nutrients Supplier to Anaerobic Process: Optimal Dose Approach through Taguchi's Methodology Dolores Hidalgo Spain 608756

10.15 Population Dynamics of Anaerobic Microbial Consortia in Thermophilic Methanogenic Sludge Treating Paper-containing Solid Waste Tomoko Tatsuzawa Japan 602534

P 10.35 Shear Mapping in Impeller Mixed Anaerobic Digester Using CARPT Mehul Vesvikar United States 589727

P 10.40 Enhancement of Continuous Hydrogen Production Using CO2 Sparging in Acidogenic Treatment of Food Waste Dong-Hoon Kim Korea 594368

Morning Tea 10.45

DRINKING WATER TREATMENT

New Developments in Conventional Processes I
Chair Joel Mallevialle France

11.30 Aspects of Particle Attachment in Filtration Jinkeun Kim Korea 601330

11.50 Particle Aspects of Lime Softening: Precipitative Growth and Flocculation Desmond F Lawler United States 599559

12.10 Effects of Al3+ and Hydraulic Characteristics on Removal and Behaviour of Particles in DAF Jungsoo Mun Korea 607756

12.30 Structure and Function of SOC in Groundwater *in situ* Denitrification Dayi Zhang China 604544

P 12.50 Slow Sand Filters in a Cold Climate: Prolonging Filter Run Time Gunilla Brattberg Sweden 590079

WASTEWATER TREATMENT

Anaerobic Digestion II
Chair Karl-Heinz Rosenwinkel Germany

11.30 Production and Characterisation of Scum and Its Role in Odour Control in UASB Reactors Treating Domestic Wastewater Carlos Augusto Lemos Chernicharo Brazil 608551

11.50 Upflow Anaerobic Sludge Blanket (UASB) Treatment of Supernatant of Cow Manure by Thermal Pre-treatment Yutaka Yoneyama Japan 608888

12.10 Calcium Effect on Fermentative Hydrogen Production in an Anaerobic Upflow Sludge Blanket System Feng-Yuan Chang Chinese Taiwan 602103

12.30 Disruption of Granules by Hydrodynamic Force in Internal Circulation Anaerobic Reactor Jing Wu China 595371

P 12.50 Anaerobic Treatment of Sewage by UASB Reactor: A Pilot-scale Study Anand Vashi India 594652

P 12.55 UASB Operating Experience at Full Scale Frank Rogalla United Kingdom 607690

Lunch 1.00

DRINKING WATER TREATMENT

New Developments in Conventional Processes II
Chair Bill Dee United States and Zhang Xiaojian China

2.30 Application of Sand-ballasted High Rate Settling Technology in Water Softening Process Kashi Banerjee United States 605878

2.50 Fuzzy Model Identification and Control System Design for Coagulation Chemical Dosing of Potable Water Cheng-Liang Chen Chinese Taiwan 599748

3.10 Reseach on Design Parameters of Rapid Mixing in Turbulence Daoji Wu China 603779

3.30 Effect of Shape and Inlet Flow Rate on T10 in Clearwell Heekyung Park Korea 602358

P 3.50 Charge Reversal Mechanism of Micro-bubbles by Metal Ions in the Electro Flotation Process Mi-kyeong Kim Korea 607421

P 3.55 Using Innovative Fibre Filter and In-line Coagulation for Surface Water Treatment Jungjune Lee Korea 606922

WASTEWATER TREATMENT

Anaerobic Digestion III
Chair Sergey Kalyuzhnyi Russian Federation and Wang Kaijun China

2.30 Instrumentation, Control and Automation for Full-scale Manure-based Biogas Systems Juergen Wiese Germany 594339

2.50 Molecular Monitoring of Microbial Population During Operation Periods of Anaerobic Hybrid Reactor Treating Cassava Starch Wastewater Somkiet Techkarnjanaruk Thailand 597094

3.10 Performance of High-rate Sludge Digesters Fed with Sonicated Sludge Taohong Mao Singapore 595800

3.30 Automatic Control for High Rate Anaerobic Digestion Process Jing Liu Sweden 606084

P 3.50 Comparative Study of Sludge Digestion Technologies: Three-stage Digestion, Temperature-phased Anaerobic Digestion and Conventional Mesophilic Anaerobic Digestion Yuan Fang United States 601287

P 3.55 Performance of Pilot-scale Hydrogen Fermenter: Effect of C/N Ratio and Alkaline Shock Treatment Dong-Hoon Kim Korea 604813

Afternoon Tea 4.00

OPERATING AND MANAGING WATER AND WASTEWATER SYSTEMS

Operating and Managing Drinking Water Treatment Plants
Chair Ken Kerri United States and Zhang Jinsong China

4.45 Algae and Associated Toxins and Metabolites: Methodology for Risk Assessment and Risk Management Isabelle Baudin France 597694

5.05 How to Optimise NOM Removal on Drinking Water Plants? First Step: Make a Good Diagnosis Thanks to HPSEC Cecile Bele France 597986

5.25 Optimising Operation Rules of Waterworks by Analysing Probability of Plant Data in North China Yongpeng Xu China 602956

P 5.45 Evaluation of Potential Risk Associated with EDCs and PPCPs in Drinking Water Marie-Laure Janex-Habibi France 597904

P 5.50 Virtual Drinking Water Treatment: Operation with Process Knowledge and Models Luuk C Rietveld The Netherlands 608269

WASTEWATER TREATMENT

Anaerobic Digestion IV
Chair Moktar Hamdi Tunisia

4.45 Application of Anaerobic and Ozonation Processes in Landfill Leachate Treatment María C Veiga Spain 606294

5.05 Single-stage Sequencing Batch Process for Producing Class A Biosolds from AD Effluent at Terminal Island Treatment Plant Reza Iranpour United States 599541

5.25 Biodegradability of Waste Activated Sludge Organics under Anaerobic Conditions George A Ekama South Africa 597199

P 5.45 Improving Energy Recovery from Anaerobic Digestion Through Sludge Thickening Jan Oleszkiewicz Canada 596488

P 5.50 Degradation of Phenol in Upflow Anaerobic Sludge Blanket Reactors at Different Temperatures and Microorganism Analysis Jing Wei Ma China 593013

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Level 2 Room 2

KEYNOTE PLENARY 3 8.30

Level 3 Room 16

KEYNOTE PLENARY 4

8.30 **Nutrient Management from Point Source Control to Global Perspective** Helmut Kroiss, Vienna University of Technology
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Level 3 Room 30

INTEGRATED WATER RESOURCES AND RIVER BASIN MANAGEMENT

Management and Regulation of Point and Diffuse Pollution I
Chair Jining Chen China

9.15 Discussion of an Environment Quality Standard Based Assessment Procedure for Discharge Permitting Oliver Gabriel Austria 614021
9.35 Sources and Pathways of Heavy Metals in Urban Areas Stephan Fuchs Germany 598254
9.55 The Critical Flow–Storm Approach for the TMDL Development Process Part II: Case Study: Nitrate TMDL Development in Muddy Creek, Virginia Harry X Zhang United States 606662
10.15 An Inventory Analysis of Rural Pollution Loads in China Minpeng Chen China 604375

Morning Tea 10.45

INTEGRATED WATER RESOURCES AND RIVER BASIN MANAGEMENT

Management and Regulation of Point and Diffuse Pollution II
Chair Chengqing Yin China

11.30 Spatial Distribution of Nitrogen Emissions and Retention and their Influence on the Resulting Load Markus Venohr Germany 614302
11.50 Strategy and Current Status of Combating Eutrophication in Two Berlin Lakes for Safeguarding Drinking Water Resources Bernd Heinzmann Germany 605761
12.10 First Flush and Natural Aggregation of Particles in Highway Runoff Yingxia Li United States 593653
12.30 Evaluation of Reactive Stream Stabilisation Structures for Reducing Agrichemical Contamination Kenneth Carlson United States 606614
P 12.55 Study on Fish Cage Culture and Water Quality in Dau Tieng Reservoir, Vietnam Ha Nguyen Thi Van Vietnam 603995

Lunch 1.00

INTEGRATED WATER RESOURCES AND RIVER BASIN MANAGEMENT

Systems for Circumstances: Modelling and Decision Support I
Chair Bruce Beck United States

2.30 Dynamic Simulation of the Water Quality in Rivers Based on the IWA RWQM1: Application of the New Simulator ClaHidra 2.0 to the Tajo River Eduardo Ayesa Spain 605342
2.50 Modelling of the Sediment Oxygen Demand and Organic Flux for a Pulsed Sediment Organic Load Xiao-yan Li Chinese Hong Kong 605367
3.10 Calibration of CE-QUAL-W2 for a Monomictic Reservoir in a Monsoon Climate Area Se Woong Chung Korea 594600
3.30 An Integrated System for Non-point Source Pollution Modelling and Management Dawei Zhang China 607801

Afternoon Tea 4.00

INTEGRATED WATER RESOURCES AND RIVER BASIN MANAGEMENT

Systems for Circumstances: Modelling and Decision Support II
Chair Ingmar Nopens Belgium

4.45 A Real-time Turbidity Monitoring and Modelling System for a Reservoir Using CE-QUAL-W2 Model Se Woong Chung Korea 595772
5.05 Rainfall–Runoff Modelling: Comparison of Various Models' Performance Aminuddin Baki Malaysia 607514
5.25 Prediction of Flood Abnormalities for Improved Public Safety Using a Modified Adaptive Neuro-Fuzzy Inference System Muhammad Aqil Japan 599294
5.45 Pressure-dependent Hydraulic Modelling for Water Distribution Systems under Abnormal Conditions Zheng Yi Wu United States 606054

Level 3 Room 51

OPERATING AND MANAGING WATER AND WASTEWATER SYSTEMS

Using Information Technology to Operate and Manage Facilities
Chair Henri Spanjers The Netherlands

9.15 Inflow Prediction Based on an Adaptive Runoff Model and Online Precipitation Prognoses Douglas J Lumley Sweden 605836
9.35 Temperature and Conductivity as Control Parameters for Pollution-based Real-time Control Remy Schilperoort Netherlands 608219
9.55 Trends in Instrumentation, Control and Automation and the Consequences on Urban Water Systems Michael Haeck Germany 594327
10.15 Remote Monitoring and Control of the Water Supply System in Hong Kong Clement M H Leung Chinese Hong Kong 598789
P 10.35 An Overview of a Generic, Real-time, Near-optimal Control System for Water Distribution Networks Zhengfu Rao United Kingdom 603324

APPROPRIATE AND NON-CONVENTIONAL WASTEWATER SYSTEMS

Small Wastewater Systems I
Chair Simón González Mexico and Nie Meisheng China

2.30 Hydrogen-driven Denitrification of Wastewater in an Anaerobic Submerged Membrane Bioreactor: Potential for Water Reuse Babak Rezania Canada 594949
2.50 New Type of Membrane Bioreactor (MBR) with Non-woven Fabric Filter for Domestic Wastewater In S Kim Korea 606619
3.10 A New Method to Produce Bio-flocculant Utilising the Effluent from Bio-hydrogen-producing Reactors Yang You China 598951
3.30 Simple Approaches towards a Design of an Attached-Growth Sponge Bioreactor (AGSB) for Wastewater Treatment and Reuse Huu Hao Ngo Australia 598977
P 3.50 Hydraulic Liner for Landfill Cover: An Alternative Use of Sewage Sludge Josef Mácsik Sweden 605402
P 3.55 Wastewater Characteristics in a Developing Country, Based on a Large Survey of 166 Treatment Plants Marcos von Sperling Brazil 598336

APPROPRIATE AND NON-CONVENTIONAL WASTEWATER SYSTEMS

Small Wastewater Systems II
Chair Goen Ho Australia

4.45 Decentralised Collection of Iodinated X-Ray Contrast Media in Hospitals Bernd Heinzmann Germany 605724
5.05 Simple Wastewater Treatment (UASB Reactor, Shallow Polishing Ponds, Coarse Rock Filter) Allowing Compliance with Different Reuse Criteria Marcos von Sperling Brazil 601127
5.25 Innovative Conception and Performance Evaluation of a Compact On-site Treatment System Composed of Modified Septic Tank and Sequential Anaerobic Hybrid Reactors Carlos Augusto L Chernicharo Brazil 609059
P 5.45 Study of an Integrated Wastewater Treatment System with Low Sludge Production and Odour Emission Yuansong Wei China 596497
5.50 Phosphorus Availability from Substrates of Conventional and Non-conventional Wastewater Treatment Systems Joachim Clemens Germany 614026

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Level 2 Room 2

KEYNOTE PLENARY 3 8.30

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KEYNOTE PLENARY 4

8.30 Nutrient Management from Point Source Control to Global Perspective Helmut Kroiss, Vienna University of Technology
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Level 2 Room 6

WORKSHOP

WHO: Water Safety Plans
Chair Jamie Bartram Switzerland

9.15 – 1.00

The World Health Organization's Guidelines for Drinking Water Quality and IWA's Bonn Charter feature the Water Safety Plan (WSP) methodology. This approach takes a holistic view to water safety, identifying the points of the system which present the most severe threats to water quality, so that actions may be targeted where they will have maximum positive impact. This workshop will address the theoretical underpinnings of the Water Safety Plan concept and highlight case studies demonstrating the effectiveness of implementing Water Safety Plans.

WHO Guidelines and IWA Bonn Charter Jamie Bartram Switzerland

Making the Link: From Health-based Targets to WSP Dan Deere Australia

Regulatory Aspects of Water Safety Plans David Drury United Kingdom

Water Safety Plan Development in China Rose Lang China

Water Safety Plans: The Ugandan Experience Sam Godfrey United States

Water Safety Plans in Australia Melita Stevens Australia

Implementing Water Safety Plans in Bangladesh

Water Safety Plans and Small Community Water Supplies

Panel Discussion

Conclusions

Level 2 Room 7

WORKSHOP

Water Management of Large Basins: Case Studies from Europe and the Americas
Chair Perri Standish-Lee United States

9.15 – 1.00

This workshop will trace both the histories and futures of key basins in Europe and the Americas through a case study approach. Technical and policy challenges will be discussed in the context of the cases presented. In addition, overarching principles of basin management will be sought through the workshop.

Water Management in Large River Basins: The Example of the Danube River Basin Birgit Vogel Austria

Regional Differences and Changes of Point and Diffuse Sources and Loads of Nutrients in Larger European River Systems Markus Venohr Germany

Is Cost-efficiency-based Nutrient Management on the Scale of a Large River Basin Feasible? An Example from the Danube River Basin Matthias Zessner Austria

The USA's Ohio River Valley: Basin Scale Water Quality Issues and Approaches to Deal with Them Alan Vicory United States

A Whole-of-country Perspective to River Basin Management in Brazil Benedito Braga

Water Quality Issues in the Great Lakes Joan Rose United States

Lunch 1.00

WORKSHOP

WHO: Guidelines for the Safe Use of Wastewater, Excreta and Greywater in Agriculture and Aquaculture
Chair Robert Bos Switzerland

2.30 – 6.00

The third edition of these WHO Guidelines marks an important departure from the presentation of static standards and norms to best practice guidance in risk assessment and management for the use of this increasingly important water resource. The Stockholm Framework provides the basis for establishing health-based targets, and the guidelines describe possible risk management interventions for the various phases from the generation of wastewater, excreta and greywater to the consumption of produce for which they were used. The Guidelines are issued in four volumes, each with a different focus and target audience. They are globally launched.

Environment and Health: The Latest Picture Maria Neira Switzerland

Introduction to the New WHO Guidelines Jamie Bartram Switzerland

Volume 1: Policy and Regulatory Aspects Robert Bos Switzerland

Volume 2: The Use of Wastewater for Agriculture

Volume 3: The Use of Wastewater and Excreta in Aquaculture

Volume 4: The Use of Excreta and Greywater in Agriculture Thor-Axel Stenstroem Sweden

Panel Discussion: Implementation of the Guidelines
Panel Members: Jamie Bartram, Takasi Asano

Proposal for the Preparation of Volume 5: Laboratory Techniques Blanca Jimenez Cisneros Mexico

The WHO/IDRC Project on Implementing the Guidelines in West and North Africa

Conclusions

WORKSHOP

Water Management in Large Basins: Case Studies from Asia, Africa and Australia
Chair John Dore Switzerland Xu Jianchu China

2.30 – 6.00

This workshop will explore the complex and dynamic processes that are ongoing in key river basins in East Asia and the Murray-Darling Basin in Australia. Major challenges are present in all areas, as rapid population and economic growth, urbanisation and climate change have significantly impacted both water quantity and quality. This workshop will trace both the histories and futures of the key basins in East Asia, Africa and Australia. Technical and policy challenges will be discussed in the context of the cases presented. Also featured in the workshop will be linkages between Asia, Africa, Europe and Australia in basin management.

IWRM Capacity Building and Institutional Strengthening: Nile Basing Countries Jan Janssens

Perspective on the Murray–Darling Basin Australia Experiences John Langford Australia

Yellow River Basin: How to Best 'Manage' It? Liu Xiaoyan China

Mekong River Basin: Meeting the Needs, Keeping the Balance Olivier Cogels

South Asia River Basin Management: Hype and Hydro in the Himalaya Dipak Gyawali Nepal

Panel Discussion

Questions and Answers

Beijing Duck Dinner (Optional). Buses depart from outside BICC at 7.00 pm. Please bring your optional dinner ticket.
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Level 2 Room 2

KEYNOTE PLENARY 3 8.30

Level 3 Room 16

KEYNOTE PLENARY 4

8.30 Nutrient Management from Point Source Control to Global Perspective Helmut Kroiss, Vienna University of Technology
Introduced by Beijing Capital

Level 2 Room 8

WORKSHOP

Producing Water from New Sources: The Convergence of Conservation, Reuse, Desalination, and Stormwater for Urban Water Supply
Chair Jerome B Gilbert United States

9.15 – 6.00

A growing world population, climate change and recognition of environmental needs for water are leading new priorities for the production, use, reuse, and reallocation of water.

Conservation, reuse, desalination, water transfers between users, stormwater capture, aquifer-storage and cascading uses are now being integrated into the portfolio of options for urban water supply. At the same time, there is a growing demand for water and energy efficiency in investment and the use of resources.

This workshop will examine these trends through a combination of concepts and experience as seen through case studies.

Overview Paul Reiter United Kingdom

Integrating, Reuse and Desalination Shimon Tal Israel

Coping with Climate Change Peter Moore Australia

Selecting the Best Water Sources James McDaniel United States

New Water Khoo Teng Chye Singapore

Desalination as an Alternative for a New Water Supply Joseph G Jacangelo United States

Role of Indirect Potable Reuse in Water Supply Rhodes Trussell United States

Treatment Process Considerations for Alternative Water Sources in Europe Jonathan Clement The Netherlands

Economic Modeling for Future New Source Selection Ajaz Qureshi Australia

Panel Discussion

Level 3 Room 11

WORKSHOP

Management of Urban Water Infrastructure: How to Meet an Increasing Challenge on Performance Decline
Chair Sveinung Sægrov Sweden Dragan Savic United Kingdom

9.15 – 1.00

Many cities and districts worldwide are approaching a situation that has an increasing deficit of water needed for urban consumption in households and industry. Expensive projects are planned to bring water supply over long distances or create costly treatment processes. At the same time, water losses from distribution networks can be as large as 50% or more. The reduction of leakage is often not straight-forward and ageing systems with an increasing failure rate can add to the stress on networks.

Wastewater networks also leak, leading to adverse environmental impacts on local rivers, lakes and soil and, even more seriously, increases in the rate of disease in some areas. A fundamental need exists to improve these conditions. The solution will involve evaluating the real need for water consumption and the quantity of wastewater and comparing this with the availability of water sources.

Part I – Technologies for leakage and condition measurement

Urban Network Challenges in the 21st Century: Needs for Technologies for Condition Measurement and Assessment Sveinung Sægrov Norway

Emerging Techniques for Water Network Scanning, Metallic Pipes Tony Woodward United Kingdom Kjartan Reksten Norway

New Methods for Measuring Infiltration and Exfiltration of Sewer Networks (APUSS and AISUWRS) Stewart Burn Australia

Stochastic Tools Based on Failure Records and CCTV Yves Legat France

Discussion

Part II – Processing network condition information for decision support

Overview of Techniques for Condition/Deterioration Assessment Dragan Savic United Kingdom

Application of Methods for Condition Assessment (CARE) Helena Alegre Portugal

Application of Leakage Assessment (TILDE) Augusto Pretner Italy

Application of Condition Assessment in Durban, South Africa Tanja Bakken Norway

How Can an End User Approach Network Condition Management? Rita Ugarelli Italy

Discussion

Lunch 1.00

WORKSHOP

Climate Change in Practice: Planning for and Adapting to the Impacts of Changing Climatic Conditions in the Management of Water
Chair Henk van Schaik The Netherlands

2.30 – 6.00

Water, wastewater and storm water storage, treatment and distribution and collection systems have been constructed based on a set of historic data sets on temperature, rainfall and snowmelt. With climate change these are subject to change. This workshop, tied to the creation of a new Specialist Group within IWA Climate Change in Practice, surveys the basic assumptions and considers how changes in underlying conditions could and will change urban storm water and utility practice. By attending this workshop, you will have the opportunity to learn about the latest thinking on how climate change will impact urban and utility practice and what can be done to adapt to these changes.

Part I – Planning and adaptation in Europe, USA and Asia

Introduction Henk van Schaik The Netherlands

Coping With Climate in the City of the Future Kala Vairavamoorthy United Kingdom

California Dreaming: Possible Impacts of Climate Change on Water in the Golden State Mark Beuhler United States

Adaptive Strategies for Drinking Water Production Arthur Meuleman The Netherlands

Perspectives on Coping with Climate Change in Canada Lawrence Martz

Perspectives on Coping with Climate in India Pradeep Mujumdar

Chinese Strategies on Coping with Climate in Water Management and Utilities in China Xia Jun China

The Effect on River Water Flow from Climate Change in Japan Hideki Sawa Japan

Part II – IWA Specialist Group on Water and Climate

Introduction Terms of Reference for the Specialist Group on Water and Climate Roelof Kruize The Netherlands

Beijing Duck Dinner (Optional). Buses depart from outside BICC at 7.00 pm. Please bring your optional dinner ticket.
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Level 2 Room 2

KEYNOTE PLENARY 3 8.30

Level 3 Room 16

KEYNOTE PLENARY 4

8.30 **Nutrient Management from Point Source Control to Global Perspective** Helmut Kroiss, Vienna University of Technology
Introduced by Beijing Capital

Level 3 Room 14

WORKSHOP

Efficient Water Loss Management: A Challenge for Water Utilities Around the World
Chair Roland Liemberger **Austria**
9.15 – 1.00

Significant advances have been made in understanding and modelling water loss components and in defining the economic level of leakage for water supply systems. However, many systems worldwide still continue to have high levels of leakage and it is almost certain that for many of these it is higher than the economic level that could be achieved.

In this workshop international case studies on various water loss reduction topics will be presented. The concept of "Performance-based Outsourcing of Water Loss Reduction Activities" will be introduced and discussed by panel members and the audience.

Opening Bambos Charalambous, Jan Janssens

Introduction to Water Loss Analysis and Reduction Roland Liemberger Austria

Applying the IWA Methodology: How the First-time Application of the IWA Water Balance Has Changed the "Thinking" in Geneva, Switzerland Hervé Guibentif Switzerland

A Practical Approach: Choosing the Right Equipment Stuart Hamilton United Kingdom

From Theory to Practice: Comprehensive Water Loss Management in Madrid, Spain Francisco Cubillo Spain

Human Resources: Are You a Good Water Loss Manager? Do You Have Enough of the Right Kind of Staff? Tim Waldron Australia

A Possible Alternative: Performance Based Outsourcing of Water Loss Reduction Activities Bill Kingdom United States

Panel Discussion
Panel Members: Bambos Charalambous, Francisco Cubillo, Jan Janssens, Bill Kingdom, Tim Waldron

Level 3 Room 3

DRINKING WATER TREATMENT

Membrane Filtration I
Chair Bas Heijman **Netherlands**

9.15 Improvement of Hybrid Photocatalysis/Microfiltration Systems with Iron Oxide-coated Membranes for Drinking Water Treatment Kwang-Ho Choo Korea 603661

9.35 Ceramic Membranes for Direct River Water Treatment Applying Coagulation and Microfiltration Stefan Panglisch Germany 592366

9.55 Integrating Immersed Membrane Filtration with Oxidative and Biological Processes at Large Scale to Meet 21st Century Water Quality Needs in a Cost-efficient and Sustainable Manner Jim Lozier United States 606709

10.15 The Fouling of Ultrafiltration Membranes by Natural Organic Matter after Chemical Coagulation Treatment with Different Initial Mixing Conditions Seockheon Lee Korea 604478

P 10.35 Fouling Characteristics of PVDF (Polyvinylidene Fluoride) Microfiltration Membranes in a Pilot-scale Drinking Water Production System with Pre-coagulation/Sedimentation Soryong Chae Japan 601255

Morning Tea 10.45

DRINKING WATER TREATMENT

Membrane Filtration II
Chair Jim Lozier **United States**

11.30 Influence of Pre-treatment on AMWD of Dissolved Organics in the Secondary Effluent and Membrane Structure Parameter Model Analysis for UF Xudong Wang China 601467

11.50 Fouling Analysis of Ultrafiltration and Nanofiltration Membranes Peter M Huck Canada 604847

12.10 Improving Feed Water Recovery and Reducing Backwash Waste in Membrane Filtration Process Steven Cao Australia 597062

12.30 Comparison of Low-pressure Membrane Process and Conventional Process Based on the Result of Detailed Design for Gong-ju WTP Hyung Ki Chun Korea 601408

P 12.50 Optimisation of Pre-treatment for MF/UF Membrane Applications Kuang-ping Chiu United States 607097

Lunch 1.00

WORKSHOP

Tourism, Recreation and Health: The Role of Water and Sanitation: Let the Games Begin
Chair Joan B Rose **United States and** Wang Lin **China**
2.30 – 6.00

The staging of the 2008 Beijing Olympics presents many challenging issues regarding water and health. This workshop will present an overview of disease outbreaks and the potential for disease transmission associated with global tourism and major global events, that bring tourists in contact with the local water environment. It will also address various framworks, tools, techniques and methods.

The Beijing Olympics: Water and Sanitation Issues Wang Zhansheng China

Infections of Leisure: Role of Sanitation and Hygiene Charles Gerba United States

Cruising with Water Safety: Cruise Ship Issues Marion Savil New Zealand

Remote Sensing for Water Protection of Large Basins Jiaguo Qi USA

Recreational and Other Waterborne Outbreaks in China

Panel Discussion
What Are the Needs and Indicators for Monitoring Venues such as Spas and Swimming Pools?
- Pathogens: Modelling Risk Framework
- Remote Sensing
- Sensor Technology
- Frequency and Sites for Monitoring
- Response Issues (What to Do if Contamination is Found)

DRINKING WATER TREATMENT

Membrane Filtration III
Chair Jim Lozier **United States**

2.30 Effects of Filtration Flux and Pre-treatments on the Performance of a Microfiltration Drinking Water Treatment System Han-Seung Kim Korea 607016

2.50 Water Quality Test for Dead End Ultrafiltration Bas Heijman Netherlands 606459

3.10 Modelling of Backwash Efficiency in Membrane Plants for Drinking Water Treatment with Neural Networks Silke Strugholtz Germany 604198

3.30 Impact of Coagulation and PAC Adsorption on Membrane Filtration for a Surface Water in Korea: A Pilot Study Ji Hyang Kweon Korea 603017

P 3.50 Application of Advanced Water Treatment with Membrane Filtration in the Han River Man Ho Lee Korea 603332

Afternoon Tea 4.00

DRINKING WATER TREATMENT

Application of Biological Processes
Chair Gary Amy **Netherlands**

4.45 Denitrification of Nitrified Hanoi Groundwater Using a Swim-bed Bioreactor Thu Ha Doan Japan 602186

5.05 Quantifying Inorganic Fouling in a Membrane Bioreactor Treating Nitrate-contaminated Groundwater Using Hydrogen as an Energy Source Babak Rezania Canada 594962

5.25 Biological Drinking Water Treatment for Nitrate and Pesticide (Endosulfan) Elimination Angela Boley Germany 604762

P 5.45 Optimisation of the Removal of Charged Pollutants in the Ion Exchange Membrane Bioreactor Cristina T Matos Portugal 606119

Beijing Duck Dinner (Optional). Buses depart from outside BICC at 7.00 pm. Please bring your optional dinner ticket.
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Notes