



08:15 – 09:00 KEYNOTE ADDRESS How can we make a better case for water use efficiency in non-water-stressed regions? John Carey Canada <i>Introduced by Canadian Utilities</i>		Room 17
09:15 – 10:45 WATER AND HEALTH Room 1 Health-related water microbiology control strategies Chair Min Yang PR China 09:15 Introduction 09:20 Fundamental mechanisms in the extreme UV resistance of adenoviruses Karl Linden US 09:40 Report on a multiple bacterial pathogen outbreak in South Africa in October 2007 Tobias Barnard South Africa 10:00 Waterborne disease incidents associated with recreational water use in The Netherlands 1991–2007 Ciska Schets Netherlands 10:20 Adenovirus removal by wastewater treatment plant – effects of meteorological events Annalaura Carducci Italy 10:40 Closing summary		09:15 – 10:45 MANAGING UTILITIES AND THEIR ASSETS Room 2 Impact of the 2008–2009 global financial crisis on water and sanitation services 1 – impacts on available finance for utilities Chair Nicolas Renard France 09:15 Welcome Renato Parena Italy 09:25 General background of the crisis and an overall view of the problems it raises for water utilities Nicolas Renard France 09:35 Keynote speakers Gérard Payen France Michael Deane United States Maline Blomberg Tunisia Ramon Alikpala Philippines
10:45 – 11:15 Morning break		Exhibition
11:15 – 12:45 WATER AND HEALTH Room 1 Occurrence and behaviour of PPCPs Chair Joan Rose US 11:15 Introduction 11:20 Assessment of some factors influencing antibiotic resistance gene transfers in activated sludges by quantitative PCR Sophie Courtois France 11:40 Antibiotic resistance characteristics of environmental bacteria from an oxytetracycline production wastewater treatment plant and the receiving river Min Yang PR China 12:00 Management of emerging micropollutants – example of a nationwide strategy for pharmaceutical residues in waters Yves Levi France 12:20 Occurrence and fate of pharmaceuticals in US drinking waters Shane Snyder US 12:40 Closing summary		11:15 – 12:45 MANAGING UTILITIES AND THEIR ASSETS Room 2 Impact of the 2008–2009 global financial crisis on water and sanitation services 2 – impact on customer behaviour Chair Carles Sanclemente Spain 11:15 Keynote speakers: Dominique Demessence Spain Carme Albiol Spain Jose Tomas Frade EIB Luis Faundez Chile Jan Hammenecker Netherlands
12:45 – 14:15 Lunch		Exhibition
14:15 – 15:45 WATER, ECOSYSTEMS AND CATCHMENTS Room 1 Toxicity and environmental impacts Chair Huw Taylor UK 14:15 Introduction 14:20 Toxicity and residue studies of alachlor technical grade and lasso 50% emulsifiable concentrate to the freshwater fish <i>Channa punctatus</i> (Bloch) Kolluru Sambasiva Sambasivatilak India 14:40 Evaluation of the toxicological interaction of mixtures of xenobiotics with perfluorooctane sulfonate (PFOS) on <i>Pseudokirchneriella subcapitata</i> Roberto Rosal Spain 15:00 Real-time monitoring of emerging contaminants in water using automated read-out of small model organisms Nadine Dumoutier France 15:20 The organic contamination survey and health risk assessment of 16 source water reservoirs in Haihe River Basin Gao Jijun PR China 15:40 Closing summary		14:15 – 15:45 MANAGING UTILITIES AND THEIR ASSETS Room 2 Impact of the 2008–2009 global financial crisis on water and sanitation services 3 – impact on utilities strategy Chair Ed Smeets Netherlands 14:15 Keynote speakers: Piet Jonker Netherlands Dayanand Panse India Dora Popu Romania Jan Hammenecker Netherlands 15:15 Panel discussion
15:45 – 16:15 Afternoon break		Exhibition
16:15 – 17:00 KEYNOTE ADDRESS Water and energy Helmut Kroiss Austria <i>Introduced by Oil Sands Developers Group</i> Poster awards ceremony		Room 17



08:15 – 09:00 KEYNOTE ADDRESS

How can we make a better case for water use efficiency in non-water-stressed regions? **John Carey Canada** *Introduced by Canadian Utilities*

Room 17

09:15 – 10:45

SCIENCE AND APPLICATION OF WATER TREATMENT

Room 3

Membrane filtration for removal of particulate matter – 2

Chair **Vitaly Gitis Israel**

09:15 Introduction

09:20 Design, validation performance and costing of pressurised MF and UF membranes for recycled water in Australia **Anthony Wachinski US**

09:40 Virus removal retention challenge tests performed at lab-scale and pilot-scale during operation of membrane units **Jean Christophe Schrotter France**

10:00 Performance assessment of functionalised eletrospun nanofibres for removal of pathogens **Stijn Van Hulle Belgium**

10:20 Integrity management for low pressure membrane plants: how to select LRV parameters and their impacts on plant operation **Denis Guibert Canada**

10:40 Closing summary

09:15 – 10:45

WATER, CLIMATE AND ENERGY

Room 4

W Water and energy – working together in search of a sustainable future 1 – water and energy linkages 1

Chair **Rob Renner US**

09:15 Introduction **Rob Renner US**

09:25 Water and energy linkages **Jim McMahon US**

09:45 The challenges for the urban water sector – future energy demand **Malcolm Brandt UK**

10:00 Carbon and COP16 – implications for the water sector **Henk Van Schaik Netherlands**

10:15 Panel discussion

10:45 – 11:15 Morning break

Exhibition

11:15 – 12:45

SCIENCE AND APPLICATION OF WATER TREATMENT

Room 3

Adsorption and ion exchange – 1

Chair **Craig Adams US**

11:15 Introduction

11:20 Super-powdered activated carbon – optimising adsorbent particle size for enhancing taste and odour removal **Yoshihiko Matsui Japan**

11:40 Influence of flocculants on micropollution removal by activated carbon powder during the flocculation-coagulation-settling step in drinking water plants **Pierre Le Cloirec France**

12:00 The fate and transport of the TiO₂ nanoparticles in a GAC bed and their impact on TCE adsorption **George Sorial US**

12:20 Preventing trihalomethane formation – the ability of granular activated carbon and Brimac media to remove colour and total organic carbons from drinking water in the north-west of Scotland **John Martin UK**

12:40 Closing summary

11:15 – 12:45

WATER, CLIMATE AND ENERGY

Room 4

W Water and energy – working together in search of a sustainable future 2 – water and energy think ‘win-win’

Chair **Roelof Kruize Netherlands**

11:15 Introduction **Roslof Kruize Netherlands**

11:25 Conservation and efficiency gains – saving water and energy together **Dennis Diemer US**

11:40 Mitigation from Tokyo Water Works – a multi-solution approach **Gen Ozeki Japan**

11:55 Working water and energy together – maximising the networks **Gustaf Olsson Denmark**

12:10 Energy production from water and wastewater utilities **Guillaume Arama France**

12:25 Panel discussion

12:45 – 14:15 Lunch

Exhibition

14:15 – 15:45

SCIENCE AND APPLICATION OF WATER TREATMENT

Room 3

Adsorption and ion exchange – 2

Chair **Norihito Tambo Japan**

14:15 Introduction

14:20 Mechanism of natural organic matter adsorption on super-powdered activated carbon – observation of internal adsorbed-phase concentration distribution **Naoya Ando Japan**

14:40 Synthesis of octyl-modified ordered mesoporous silica as a new nano sorbent for the removal of 2-chlorophenols from aqueous media **Zhonglin Chen PR China**

15:00 The effect of pH on arsenic adsorption on water treatment residual solids **Meaghan Gibbons Canada**

15:20 Sorption of Pb(II) by poly(hydroxamic acid) grafted oil palm empty fruit bunch (OPEFB) **Md Jelas Haron Malaysia**

15:40 Closing summary

14:15 – 15:45

WATER, CLIMATE AND ENERGY

Room 4

W Water and energy – working together in search of a sustainable future 3 – mitigation targets and greenhouse gas reductions

Chair **Robyn McGuckin US**

14:15 Introduction **Robyn McGuckin US**

14:25 The current state of play – a snapshot of current targets **Daniel Nolasco Argentina**

14:40 Carbon neutrality and reporting frameworks – what does this really mean? **Steven Kenway Australia**

14:55 Incorporating the financial aspect of carbon reductions – a guide for utility investments **Adam Lovell Australia**

15:10 Reducing greenhouse gas emissions – the IWA taskforce **Jose Porro US**

15:25 Panel discussion

15:45 – 16:15 Afternoon break

Exhibition

16:15 – 17:00 KEYNOTE ADDRESS

Water and energy **Helmut Kroiss Austria** *Introduced by Oil Sands Developers Group*
Poster awards ceremony

Room 17



08:15 – 09:00 KEYNOTE ADDRESS

How can we make a better case for water use efficiency in non-water-stressed regions? **John Carey** Canada Introduced by *Canadian Utilities*

Room 17

09:15 – 10:45

SCIENCE AND APPLICATION OF WATER TREATMENT

Room 5

Membrane systems for wastewater treatment – optimising membrane processes

Chair **Boris Lesjean** Germany

09:15 Introduction

09:20 Physico-chemical characterisation versus in situ microstructural characterisation of membrane fouling in membrane bioreactors **Ng How Yong** Singapore

09:40 Characterising hydrodynamics at membrane surface in air sparged submerged membrane systems through direct observation and particle image velocimetry **Sepideh Jankhah** Canada

10:00 Real-time monitoring of membrane bioreactors with statistically-based models incorporating 2D-fluorescence data **Maria AM Reis** Portugal

10:20 Simulation of membrane fouling considering mixed liquor viscosity and variation of shear stress on membrane surface **Hlwan Moe Zaw** Japan

10:40 Closing summary

09:15 – 10:45

CITIES OF THE FUTURE

Room 6

W Institutional and spatial change for cities of the future 4

Chair **Rob Skinner** Australia

09:15 Recap of day 1 and introduction by Chair **Uwe Brandes** US, **Rob Skinner** Australia

09:30 Spatial, development and institutional factors – translating vision and principles into on-the-ground reality – the Canadian perspective **Maggie Carlson** Canada

09:45 Adopting the cities of the future principles in the United States – the view from the San Francisco Public Utilities Commission **Vicki Elmer** US

10:00 European perspective on the institutional and development challenges to adopting the cities of the future principles and recommendations **Jacques Labre** France

10:15 Interactive discussion **Peter Binney** US

10:35 Conclusions – priorities for next stages **Ross Young** Australia

10:45 – 11:15 Morning break

Exhibition

11:15 – 12:45

SCIENCE AND APPLICATION OF WATER TREATMENT

Room 5

Membranes for wastewater treatment – full-scale application of membrane technology

Chair **Val Frenkel** US

11:15 Introduction

11:20 Ten persistent myths and realities of the MBR technology for municipal applications **Boris Lesjean** Germany

11:40 Design and implementation of ZeeWeed MBR retrofits **Ana Calderon** Canada

12:00 Economical evaluation of decentralised MBRs achieving varying effluent qualities **Boris Lesjean** Germany

12:20 Treating municipal wastewater with the goal of resource recovery **Paul Sutton** US

12:40 Closing summary

11:15 – 12:45

CITIES OF THE FUTURE

Room 6

W Turkish cities of the future – integrating water and development planning 5

Chair **Paul Reiter** IWA

Working group **Glen Daigger** US, **Steve Moddemeyer** US, **Ruya Tasli** Turkey, **Orhan Yenigun** Turkey

11:15 Working group – Trabzon and Kayseri, Turkish cities of the future

- Report on results of Kayseri and Trabzon session in Turkey in July
- Team member discussion about the concepts and challenges

Concepts developed will assist in a follow-on workshop in Istanbul in cooperation with IWA, the City of Istanbul, IWA Turkey and the Turkish Ministry of the Environment and Forestry.

12:45 – 14:15 Lunch

Exhibition

14:15 – 15:45

SCIENCE AND APPLICATION OF WATER TREATMENT

Room 5

Membranes for wastewater treatment – membrane fouling

Chair **Roger Ben Aim** US

14:15 Introduction

14:20 Membrane fouling management in wastewater treatment – myths versus lessons learned from operating membrane bioreactor and tertiary filtration systems **Zeynep K Erdal** US

14:40 Characteristics of different fractions of microbial flocs and their role in membrane fouling **Weijue Gao** Canada

15:00 Optimisation of direct osmosis–high salinity cleaning for RO fouling control in water reuse **Jian-Jun Qin** Singapore

15:20 Control of membrane fouling in membrane bioreactor with plasma technology **In-Soung Chang** Korea

15:40 Closing summary

14:15 – 15:45

CITIES OF THE FUTURE

Room 6

W Montreal Declaration 6

Facilitator **Paul Brown** US

Panelists **Paul Reiter** IWA, **Uwe Brandes** US, **Nicholas Buchoud** France, **Dennis McGlade** US

14:15 Panel discussion – what we heard – what this means

14:55 Presentation of draft Montréal Declaration **Kala Vairavamoorthy** UK

15:05 Roundtable group discussion Facilitator – **Paul Reiter** Netherlands

15:35 Closing presentation **Paul Reiter** Netherlands

15:45 – 16:15 Afternoon break

Exhibition

16:15 – 17:00 KEYNOTE ADDRESS

Water and energy **Helmut Kroiss** Austria Introduced by *Oil Sands Developers Group*
Poster awards ceremony

Room 17



08:15 – 09:00 KEYNOTE ADDRESS How can we make a better case for water use efficiency in non-water-stressed regions? John Carey Canada <i>Introduced by Canadian Utilities</i>		Room 17
09:15 – 10:45 SECURING NEW AND TRADITIONAL WATER RESOURCES FOR THE FUTURE Room 7	09:15 – 10:45 MANAGING UTILITIES AND THEIR ASSETS Room 8	
W IWA smart water cluster 1 – confronting the challenges Chair Glen Daigger US 09:15 Introduction Dominique Olivier France, Glen Daigger US 09:25 Presentations by Mark Buehler US Judi Hansen Australia Mong Hoo Lim Singapore 10:25 Panel discussion	W Low- and middle-income countries (LAMIC) forum 1 Chair Roland Liemberger Philippines and Fouad Djerrai Morocco 09:15 Introduction Jan Janssens Switzerland 09:25 IWA vision 2020 Paul Reiter IWA 09:55 Introduction of the LAMIC Advisory Committee Fouad Djerrai Morocco 10:15 Turning vision into action Roland Liemberger Philippines 10:35 Expectations for the second part of the LAMIC forum Jan Janssens Switzerland	
10:45 – 11:15 Morning break		Exhibition
11:15 – 12:45 SECURING NEW AND TRADITIONAL WATER RESOURCES FOR THE FUTURE Room 7	11:15 – 12:45 MANAGING UTILITIES AND THEIR ASSETS Room 8	
W IWA smart water cluster 2 – moving towards portfolio solutions – how cluster members can contribute Chair Dominique Olivier France 11:15 Facilitated discussions with representatives from relevant specialist groups and EDS – reuse, desalination, membranes, efficient water management, rainwater harvesting, water loss, urban drainage groundwater, nano and water etc. 12:15 Facilitated discussion – key strategies for clusters	W Low- and middle-income countries (LAMIC) forum 2 Chair Roland Liemberger Philippines, Fouad Djerrai Morocco 11:15 Break-away group discussion – preparation of a short-term action plan 12:15 Presentation of group results 12:35 Wrap-up and closing Fouad Djerrai Morocco and Roland Liemberger Philippines	
12:45 – 14:15 Lunch		Exhibition
14:15 – 15:45 SECURING NEW AND TRADITIONAL WATER RESOURCES FOR THE FUTURE Room 7	14:15 – 15:45 WATER, ECOSYSTEMS AND CATCHMENTS Room 8	
W IWA smart water cluster 3 – organising cluster activities Chair Glen Daigger US 14:15 Introduction 14:20 Break into three groups to discuss the three key strategies 15:00 Report back 15:20 Cluster action plan	Management and regulation of point and diffuse pollution Chair Ray Earle Ireland 14:15 Introduction 14:20 Stormwater management to comply with total maximum daily loads in the Los Angeles River watershed Mi-Hyun Park US 14:40 Sediment nutrient loading and bioavailability in the Lake Winnipeg drainage basin Susan Watson Canada 15:00 Treatment of non-point source pollution by vortex type apparatus and filter Kyung-Sok Min Korea 15:20 A regional assessment of potential measures for Water Framework Directive compliance Bob Crabtree UK 15:40 Closing summary	
15:45 – 16:15 Afternoon break		Exhibition
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Room 17

09:15 – 10:45

SCIENCE AND APPLICATION OF WATER TREATMENT

Room 9

- W** **Treatment wetlands for water quality remediation – state-of-the-art and future directions**
Chair Scott Wallace US
- 09:15 Introduction
 - 09:20 A general overview of configuration options and underlying processes affecting performance **Nathalie Fonder** Belgium
 - 09:45 New developments in numerical modelling of the performance of treatment wetlands **Günter Langergraber** Austria
 - 10:10 Case studies highlighting the successes and failures of operating systems **Scott Wallace** US
 - 10:35 Panel discussion
 - 10:40 Closing remarks **Scott Wallace** US

09:15 – 10:45

SCIENCE AND APPLICATION OF WATER TREATMENT

Room 10

- Disinfection and management of DBPs 1**
Chair Joseph Jacangelo US
- 09:15 Introduction
 - 09:20 Dutch secret – stable drinking water without disinfection **Jan Vreeburg** Netherlands
 - 09:40 Disinfection by-product control by optimised reservoir operations – the New York City approach **William Becker** US
 - 10:00 Studies of the synergistic disinfection and removal of biofilms in combination treatments of ozone followed by hydrogen peroxide **Mariko Tachikawa** Japan
 - 10:20 Impact of low-pressure UV on the regrowth potential of drinking water **Peter Van der Maas** Netherlands
 - 10:40 Closing summary

10:45 – 11:15 Morning break

Exhibition

11:15 – 12:45

SCIENCE AND APPLICATION OF WATER TREATMENT

Room 9

- Wetlands systems and waste stabilisation ponds**
Chair Raimund Haberl Austria
- 11:15 Introduction
 - 11:20 UV disinfection of stabilisation pond effluent – a feasible alternative for areas with land restriction **Carlos Chernicharo** Brazil
 - 11:40 The rate constant, k_{20} , for $\text{NH}_3\text{-N}$ with rubber tyre chips (RTCs) as biofilm carrier in subsurface flow constructed wetlands as wastewater treatment and water resource **Delia Senoro** Philippines
 - 12:00 Hybrid constructed wetland for wastewater treatment and reuse in small communities in Morocco **Christopher Kinsley** Canada
 - 12:20 Practical method and its full-scale application for restoration of rather clogged subsurface wetlands by earthworms **Sheng Wang** China
 - 12:40 Closing summary

11:15 – 12:45

SCIENCE AND APPLICATION OF WATER TREATMENT

Room 10

- Disinfection and management of DBPs 2**
Chair Regina Sommer Austria
- 11:15 Introduction
 - 11:20 Quantifying the formation on N-containing DBPs in chlorinated water using the absorbance and fluorescence indexes **Paolo Roccaro** Italy
 - 11:40 Effects of mixing on the chloramination process **Khyati Jain** US
 - 12:00 Adsorption of dimethylamine from aqueous solutions by manganese dioxide **Zhonglin Chen** China
 - 12:20 Monochloramine and total haloamine decay after a short prechlorination time in the presence of bromide **Abdallah Alsulaili** US
 - 12:40 Closing summary

12:45 – 14:15 Lunch

Exhibition

14:15 – 15:45

SECURING NEW AND TRADITIONAL WATER RESOURCES FOR THE FUTURE

Room 9

- Water reclamation and reuse – indirect potable reuse**
Chair Valentina Lazarova France
- 14:15 Introduction
 - 14:20 Possibilities for reuse of treated domestic wastewater in The Netherlands **Louis Rietveld** Netherlands
 - 14:40 Aquifer recharge for securing water resources – the experience in Llobregat River **Joana Tobella** Spain
 - 15:00 Process optimisation of a potential indirect potable reuse plant by focusing on energy consumption and operational costs **Eve Germain** UK
 - 15:20 Drawing people to water learning – the foundation to enhance acceptance **Linda Macpherson** US
 - 15:40 Closing summary

14:15 – 15:45

SCIENCE AND APPLICATION OF WATER TREATMENT

Room 10

- Biological treatment processes for drinking water**
Chair Erik Arvin Denmark
- 14:15 Introduction
 - 14:20 Biomass development and stratification in a drinking water granular activated carbon (GAC) filter **Thomas Egli** Switzerland
 - 14:40 Use of biologically active GAC filters for removing DBP precursors and other micro contaminants **Zaid Chowdhury** US
 - 15:00 Removal of microcystin-LR through biofilters using different filter materials **Xin Wu** Germany
 - 15:20 Mathematical modelling of aeration efficiency and dissolved oxygen provided by stepped cascade aeration **Ola Diaa El Monayeri** Egypt
 - 15:40 Closing summary

15:45 – 16:15 Afternoon break

Exhibition

16:15 – 17:00 KEYNOTE ADDRESS

Water and energy **Helmut Kroiss** Austria Introduced by *Oil Sands Developers Group*
 Poster awards ceremony

Room 17



08:15 – 09:00 KEYNOTE ADDRESS

How can we make a better case for water use efficiency in non-water-stressed regions? **John Carey** Canada Introduced by Canadian Utilities

Room 17

09:15 – 10:45

SCIENCE AND APPLICATION OF WATER TREATMENT

Room 11

Microbial fuel cells – research and applications

Chair **Jurg Keller** Australia

09:15 Introduction

09:20 Conception and optimisation of a membrane electrode assembly microbial fuel cell (MEA-MFC) for treatment of domestic wastewater **Olivier Lefebvre** Singapore

09:40 Microbial community dynamics depending on location in microbial fuel cell and their electrochemical performance **Changwon Kim** Korea

10:00 Bioelectricity production using microbial fuel cells in optimised configuration **Yunhee Lee** US

10:20 Rice mill wastewater treatment using microbial fuel cell **Tanaji More** India

10:40 Closing summary

09:15 – 10:45

SCIENCE AND APPLICATION OF WATER TREATMENT

Room 12

Phosphorus removal

Chair **James Barnard** US

09:15 Introduction

09:20 Could nitrite/FNA favour GAOs over PAOs in enhanced biological phosphorus removal systems? **Maite Pijuan** Australia

09:40 Long-term operation of a reactor enriched in Accumulibacter clade I DPAOs – performance with nitrate, nitrite and oxygen **Maria Reis** Portugal

10:00 UF membranes for the achievement of limit of technology effluent phosphorus concentrations **Jeff Peeters** Canada

10:20 Phosphate sorption capacities of different substrates in view of application in water treatment systems for ponds **Stijn Van Hulle** Belgium

10:40 Closing summary

10:45 – 11:15 Morning break

Exhibition

11:15 – 12:45

SCIENCE AND APPLICATION OF WATER TREATMENT

Room 11

Sludge and biosolids management

Chair **Steve Dentel** US

11:15 Introduction

11:20 Case study of the impacts of installing food waste disposers in 50 per cent of households in Surahammar, Sweden **Tim Evans** UK

11:40 The effect of microwave receptors on process and products from sewage sludge pyrolysis by microwave **Yu Tian** PR China

12:00 Excess sludge stabilisation by enhanced thermophilic digestion using sludge pretreatments **Esther Torrens** Spain

12:20 Investigating the mechanism of sludge reduction in activated sludge with an anaerobic side-stream reactor **Chul Park** US

12:40 Closing summary

11:15 – 12:45

SCIENCE AND APPLICATION OF WATER TREATMENT

Room 12

Phosphorus recovery

Chair **Norbert Järn** Germany

11:15 Introduction

11:20 State-of-the-art phosphorus recovery **Peter Cornel** Germany

11:40 P-recovery by crystallisation of calcium phosphates with a pilot plant in batch mode technology **Anke Ehbrecht** Germany

12:00 Simulations of ureolytic magnesium ammonium phosphate precipitation from UASB effluent **Boudewijn Meesschaert** Belgium

12:20 Speeding up formation of pure struvite at neutral pH – a lab-scale experiment on electrochemical deposition **Xiaodi Hao** PR China

12:40 Closing summary

12:45 – 14:15 Lunch

Exhibition

14:15 – 15:45

SCIENCE AND APPLICATION OF WATER TREATMENT

Room 11

Pretreatment of sludge and biosolids

Chair **Helmut Kroiss** Austria

14:15 Introduction

14:20 Comprehensive review and compilation of pretreatments for mesophilic and thermophilic anaerobic digestion **Etienne Bordeleau** Canada

14:40 Evaluation of a sludge homogenisation sludge pre-conditioning process for increased biogas production and reduced sludge yields from anaerobic digestion **Julian Sandino** US

15:00 Evaluation of autohydrolysis pretreatment of secondary sludge **Andrea Carvajal** Spain

15:20 Ozonation of endogenous residue and active biomass from a synthetic activated sludge **Marc-André Labelle** Canada

15:40 Closing summary

14:15 – 15:45

SCIENCE AND APPLICATION OF WATER TREATMENT

Room 12

Nitrogen removal

Chair **Frank Rogalla** Spain

14:15 Introduction

14:20 The role of colloidal and particulate organic compounds in denitrification and EBPR occurring in a full-scale activated sludge system **Jacek Makinia** Poland

14:40 Advanced control on biostyra® process in simultaneous nitrification denitrification **Marie Maurel** France

15:00 Pilot-scale demonstration of sustainable C and N removal from concentrated blackwater **Brendo Meulman** Netherlands

15:20 Microalgae cultivation in domestic wastewater – nutrient removal **Carmen Garrido-Perez** Spain

15:40 Closing summary

15:45 – 16:15 Afternoon break

Exhibition

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Room 17



08:15 – 09:00 KEYNOTE ADDRESS		Room 17	
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09:15 – 10:45 WATER, ECOSYSTEMS AND CATCHMENTS	Room 13	09:15 – 10:00 INDUSTRY FORUM PRESENTED BY FUGRO WATER SERVICES	Room 14
W Review of implementation of the European Water Framework Directive in different EU member states 1 Chair Jean-Claude Banon France River basin management plans and challenges 09:15 Welcome by EUREAU Pierre-Yves Monette Belgium 09:20 Setting the scene – strategic, economic and technical challenges seen by water operators Jean Claude Banon France 09:30 Water pricing and economics Tony Balance UK 09:45 Saving water and securing adequate quantities for the present and future Sophocles Christodoulides Cyprus 10:00 Surface water and impact of combined sewer overflows – challenges in Spain Pere Malgrat Spain 10:15 Panel Discussion		Smart solutions for sustainable groundwater management 09:15 Importance of long-term, sustainable groundwater management Theo Schmitz Netherlands 09:30 Airborne geophysical groundwater surveys to map groundwater, salinity and pollution Terry McConnell Canada 09:45 Closing discussion	
10:45 – 11:15 Morning break		Exhibition	
11:15 – 12:45 WATER, ECOSYSTEMS AND CATCHMENTS	Room 13	11:15 – 12:00 INDUSTRY FORUM PRESENTED BY SNC-LAVALIN	Room 14
W Review of implementation of the European Water Framework Directive in different EU member states 2 Chair Carl-Emil Larsen Denmark Member state or continent-scale solutions 11:15 Matching financial needs – the Danish approach to preparation of RBMPs and POMs Inger Bergman Denmark 11:35 River basin management and farming improvement perspectives from the water utility sector Gerard Doornbos Netherlands 11:55 International cooperation between waterworks along the Rhine Catchment Area Franz Josef Wirtz Germany 12:15 Panel discussion – solutions – a comparison between continents Australia and the United States		Mobilising innovative water solutions 11:15 Introduction 11:20 Overcoming the barriers to clean water innovation Zoltan Tompa Canada 11:25 Enabling the application of innovative, sustainable water solutions through sound engineering Jacques Benoit Canada 11:30 Panel discussion and questions 11:55 Concluding remarks	
12:45 – 14:15 Lunch		Exhibition	
14:15 – 15:45 WATER, ECOSYSTEMS AND CATCHMENTS	Room 13	12:00 – 12:45 INDUSTRY FORUM PRESENTED BY SUEZ	Room 14
Strategic management of water resources in urban water systems Chair Mary-Ann Dickinson US 14:15 Introduction 11:20 Genetic algorithm-based optimisation of water resources allocation under drought conditions Richard Harpin UK 11:40 EAR Methodology – an approach to sustainable urban water management Granger Damien France 12:00 A GIS-based approach for estimating spatial variation in groundwater storage volume and potential areas for groundwater development Vishnu Pandey Nepal 12:20 Atlas of metropolitan regions – strategy for water supply planning in large Brazilian urban centres Sérgio Ayrimoraes Soares Brazil 15:40 Closing summary		Advanced metering infrastructures (AMI) and Smart Grid Chair Edward Hackney US 12:00 Setting the scene – state of play about smart metering – a perspective of the actors and the evolution of AMI in the energy and water sectors 12:15 Smart Grid – the experience of the energy sector in North America – a case study by a major utility 12:30 AMI and Smart Grid – references and pilot experiences in the water sector – Suez Environnement Paris case study, pilot applications and perspectives in North America	
15:45 – 16:15 Afternoon break		Exhibition	
16:15 – 17:00 KEYNOTE ADDRESS		14:15 – 15:00 INDUSTRY FORUM PRESENTED BY GL&V CANADA	Room 14
Water and energy Helmut Kroiss Austria Introduced by Oil Sands Developers Group Poster awards ceremony		Linear electro-dewatering reduces cake volume and improves biosolids quality, driving significant cost reductions for municipalities and industries – a case study 14:15 Reducing cake volume and improving biosolids quality through linear electro-dewatering CINETIK® linear electro-dewatering solutions revolutionise the way water is extracted from biomass, offering the most cost-efficient answer to the worldwide problem of rapidly increasing sludge disposal costs. This forum will review the details of a real case study for a municipal application, where a full-scale CINETIK solution was commissioned in the summer of 2009.	
		15:00 – 15:45 INDUSTRY FORUM PRESENTED BY BDEW	Room 14
		Profiles of the water industry in the future 15:00 With a mixture of presentations and panel discussions, this forum will assess the different strategies for sustainable and efficient water supply and wastewater disposal.	
		Exhibition	
		Room 17	



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09:15 – 10:00 INDUSTRY FORUM PRESENTED BY MEDENTECH	Room 15	09:15 – 10:45 NORTH AMERICA REGIONAL FORUM	Room 16
Household water treatment and safe storage – sustaining impact 09:15 With a mixture of presentations and panel discussions, this forum will look at the role of Aquatabs water purification tablets in preventing waterborne disease in developing countries and emergency settings.		Introduction to Great Lakes management system Chair Pierre Trépanier IJC 09:15 Chair's introduction to IJC, BWT1909 and IJC background 09:25 IJC Great Lakes Control Boards – water levels and flows and outline of LOSLR and IUGLS study – lessons learned Tom McAuley IJC 09:40 The Great Lakes Water Quality Agreement – from water quality to ecosystem health Gail Krantzberg Canada 09:55 Lakewide management plans – bi-national cooperation in action Judy Beck US 10:10 Remedial action plans for specific areas of concern Jonathon Gee Canada 10:25 Discussion – moderated by Irene Brooks IJC	
10:00 – 10:45 INDUSTRY FORUM PRESENTED BY IBM	Room 15		
Smarter water – how it will transform cities' water systems With advances in technology—sophisticated sensor networks, smart meters, information management systems, deep computing and analytics—we can be smarter about how we manage our nations' water systems. Through a combination of information technologies and tools, global water management can be transformed, indeed reborn. Presenter Cameron Brooks US			
10:45 – 11:15 Morning break		Exhibition	
11:15 – 12:00 INDUSTRY FORUM PRESENTED BY OSDG	Room 15	11:15 – 12:45 NORTH AMERICA REGIONAL FORUM	Room 16
Global lessons on water reuse for applications in Canada 11:15 Canada and many countries around the world are facing water issues that directly impact municipal and industrial water management. Join Dr. Stephen Stanley, Senior Vice President, EPCOR Water Services, as he explores the needs and drivers for reuse, and the outlook for solutions. The presentation will highlight how reuse is a key component of sustainable water management approach in Canada and will also include an example from the Alberta oil sands industry where developers are employing new technologies to increase process water recycling. Stephen Stanley Canada		Great Lakes management system – remedial action plans and responses Chair Sam Speck IJC 11:15 Introduction to Part 2 and summary of first session Sam Speck 11:20 Managing the shared fishery Chris Goddard, Great Lakes Fisheries Commission 11:35 The role of cities – Great Lakes and St. Lawrence Cities Initiative 11:50 A decade of utility-sponsored research Ontario Clean Water Agency, Mark Schiller Canada 12:05 Discussion and wrap-up Irene Brooks IJC	
12:00 – 12:45 INDUSTRY FORUM PRESENTED BY R&D INNOVATIVE SOLUTIONS	Room 15		
Addressing new challenges in the biological safety of municipal and commercial drinking Chair Gene Rabinski Canada 12:00 Assuring uncompromised biological safety of potable water Panel discussion – creating international continuous water biosafety (CWB)			
12:45 – 14:15 Lunch		Exhibition	
14:15 – 15:00 INDUSTRY FORUM PRESENTED BY R&D INNOVATIVE SOLUTIONS	Room 15	14:15 – 15:45 NORTH AMERICA REGIONAL FORUM	Room 16
Assessment of biological tools and new technologies for water quality surveillance Chair Zdravka Do Quang France 14:15 Drivers and needs for environmental monitoring and water quality assessment using biological tools – the point of view of water professionals Presentation of solutions from technology providers Field assessment and feedback from end users		Integrated watershed management approaches in protecting water quality and quantity – the Lake Simcoe, Ontario case Chair Michael Walters Canada 14:15 Introduction and principles of integrated watershed management Rob Baldwin Canada 14:30 Case studies of integrated water quality and management in North America Raed EL-Farhan US 14:45 Source water drinking protection – the Ontario, Canada example Don Goodyear Canada 15:00 Innovations in water quality and quantity management – breaking down the barriers Mike Walters Canada 15:15 Facilitated roundtable discussion 15:40 Chair's closing remarks	
15:00 – 15:45 INDUSTRY FORUM PRESENTED BY ITT	Room 15		
Corporate citizenship as a business advantage 15:00 Trust in politicians is low. Trust in business is low. Values such as Responsibility, Integrity and Respect are returning and with those a changing social contract driving community involvement and more local citizenship. This seminar examines how companies and organizations can respond using corporate citizenship as a tool to create new value for itself and all of its stakeholders. We will discuss the changing role of business in society. How emerging expectations are creating new opportunities.			
15:45 – 16:15 Afternoon break		Exhibition	
16:15 – 17:00 KEYNOTE ADDRESS Water and energy Helmut Kroiss Austria Introduced by Oil Sands Developers Group Poster awards ceremony		Room 17	



08:15 – 09:00 KEYNOTE ADDRESS How can we make a better case for water use efficiency in non-water-stressed regions? John Carey Canada Introduced by Canadian Utilities		Room 17		
09:15 – 10:45 NORTH AMERICA REGIONAL FORUM Managing water quality in lakes and reservoirs using in situ technologies (with IWA Lake and Reservoir Management specialist group) Chairs John Little US, Michael Anderson US 09:15 Introduction 09:20 Comparing systems that replenish oxygen in lakes and reservoirs – Speece Cone, airlift aerator and bubble plume diffuser John Little US 09:35 The effect of effuser-induced mixing on sediment oxygen demand in Carvins Cove Reservoir Lee Bryant US 09:50 Controlling iron and manganese using oxygenation in Carvins Cove Reservoir Paul Gantzer US 10:05 Challenges experienced during mixing and aeration of the shallow Lake Elsinore Michael Anderson US 10:20 Effects of lake oxygenation on mercury cycling in Twin Lakes, Washington Marc Beutel US	Room 17	09:15 – 10:00 NATIONAL PLATFORM PRESENTED BY SINGAPORE Singapore's Hydrohub is your gateway to Asia 09:15 This presentation will be of interest to those companies, especially those from Canada, the US and Latin America, which are keen to find out about Singapore International Water Week 2011.	Room 18	
10:45 – 11:15 Morning break		Exhibition		
11:15 – 12:45 NORTH AMERICA REGIONAL FORUM Managing water quality in lakes and reservoirs using in situ technologies Co-chairs John Little US, Michael Anderson US 11:15 Managing mercury contamination in lakes of the Upper Midwest – investigation of aeration, oxygenation, and nitrate addition David Austin US 11:35 Managing phytoplankton using alternative algaecides in drinking water reservoirs Tsair-Fuh Lin Chinese Taiwan 11:55 Monitoring and management of water quality in Singapore – leveraging technology and innovative solutions Cheng Hua Sim Singapore 12:15 Roundtable discussion and conclusion	Room 17	Room 18		
12:45 – 14:15 Lunch		Exhibition		
14:15 – 15:45 NORTH AMERICA REGIONAL FORUM Small and remote rural water systems Chair Duncan Ellison Canada 14:15 Introduction 14:20 An overview of First Nations' systems in Canada Witold Wilewski and Mohammed Karim Canada 14:35 Challenges in northern communities Dennis Kefalas Canada 14:50 Challenges in Arctic communities Tom Livingstone Canada 15:05 Can rural water pipelines solve the issue? Sam Ferris Canada 15:20 Possibilities for remote monitoring and control as a management strategy Lawrence Moore Canada 15:35 Alternative technologies for centralised rural wastewater systems Brent Wootton Canada 15:50 Closing summary	Room 17	14:15 – 15:00 NATIONAL PLATFORM PRESENTED BY PORTUGAL The reorganisation of the water sector in Portugal 15:00 Introduction 15:05 General presentation by Jaime Melo Baptista Portugal 15:20 Panel discussion Pedro Serra, Nunes Correia Portugal	Room 18	
15:45 – 16:15 Afternoon break		Exhibition		
16:15 – 17:00 KEYNOTE ADDRESS Water and energy Helmut Kroiss Austria Introduced by Oil Sands Developers Group Poster awards ceremony		Room 17		
		15:00 – 15:45 INDUSTRY FORUM PRESENTED BY MIYA Insights gained from experience in NRW reduction projects		Room 18