



08:15 – 09:00 KEYNOTE ADDRESS Water and urban development for Asian cities Arjun Thapan Philippines <i>Introduced by</i> Laurent Auguste Veolia Water		Room 17
09:15 – 10:45 WATER AND HEALTH Room 1 Occurrence and behaviours of emerging chemicals Chair Tsair Fuh Lin Chinese Taiwan 09:15 Introduction 09:20 Innovative method for prioritising emerging disinfection by-products (DBPS) in drinking water on the basis of their potential impact on public health Armelle Hebert France 09:40 Perfluorinated compounds (PFCs) in Yodo River system, Japan Binaya Raj Shivakoti Japan 10:00 Occurrence of N-nitrosodiphenylamine and N-nitrosodimethylamine in 38 drinking water distribution systems in Canada and the US Jessica Boyd Canada 10:20 Behaviour of brominated and chlorinated flame retardants during drinking water treatment Frank Sacher Germany 10:40 Closing summary	09:15 – 10:45 INDUSTRY FORUM PRESENTED BY SUEZ Room 2 Perspective of different business units and organisations to redefining the process of engagement in delegated management contracts in water supply and sanitation Chair Alexandre Brailowsky France 09:15 Introduction 09:25 Presentation from head of SEAL, SE Alger, Algeria JM Jahn Algeria 09:40 Presentation from Head of Regional Centre at Bordeaux, L Dirickx France 09:55 Presentation from DINEPA, Haiti G Jean Baptiste, M Vermesch Haiti 10:10 Presentation from Senior Vice President Strategy, H Saint Bris France 10:25 Presentation from Head of Aguakan, Mexico J Mateos Mexico 10:40 Closing summary	
10:45 – 11:15 Morning break		Exhibition
11:15 – 12:45 WATER AND HEALTH Room 1 Detection methods for chemical hazards Chair Frans Schulting Netherlands 11:15 Introduction 11:20 ABC in drinking water safety – analytical and bioanalytical chemistry challenges Xing-Fang Li Canada 11:40 Development of immunofluorescent biosensor for detection of cyanobacterial hepatotoxin microcystin-LR In S Kim Korea 12:00 Characterisation of emerging disinfection by-products – development of innovative and sensitive methods David Benanou France 12:20 Proficiency test of non-target screening with gas chromatography mass spectrometry to confirm a detected contamination of raw and drinking water Michael Petri Germany 12:40 Closing summary	11:15 – 12:00 INDUSTRY FORUM PRESENTED BY SUEZ Room 2 Innovative water partnerships Chair Alexandre Brailowsky, Claude Jamati France 11:15 Facilitated debate Presentation from J P Mas Executive Vice President Africa Presentation from F Gourdin Water Projects Vice President 12:00 – 12:45 MANAGING UTILITIES AND THEIR ASSETS Room 2 W Innovative Water Partnerships: How can private sector engagement help avert the global water security/scarcity crisis? How can this help be realised? Chair Michael Norton UK 12:00 Introduction from Chairperson Michael Norton UK 12:05 Opening presentations from the Panel Anthony Cox Head of Environment and Economy Integration, OECD Dominic Waughray, Alex Mung World Economic Forum Water Initiative Jacques Labre Vice President, Suez Environmental Patrick Mullen Water and Sanitation Specialist, International Finance Corporation Jonathan Kaledin Alliance for Water Stewardship, The Nature Conservancy	
12:45 – 14:15 Lunch		Exhibition
14:15 – 15:45 WATER, ECOSYSTEMS AND CATCHMENTS Room 1 Occurrence and control of chemical hazards Chair Thomas Egli Switzerland 14:15 Introduction 14:20 Modelling of biodegradation potential of wastewater-derived organic micropollutants during managed aquifer recharge Gary Amy Saudi Arabia 14:40 Water pollution monitoring of nitrates leaching from agricultural fields with industrial crop harvesting practices – the Belgian case of onsite lysimeters as a monitoring tool Nathalie Fonder Belgium 15:00 Bioremediation of oil-contaminated soil under sulfate reducing condition Yusuke Terhoka Japan 15:20 Assessing natural attenuation of diesel–biodiesel mixture spills in groundwater Henry Xavier Corseuil Brazil 15:40 Closing summary	14:15 – 15:45 MANAGING UTILITIES AND THEIR ASSETS Room 2 W Innovative Water Partnerships: How can private sector engagement help avert the global water security/scarcity crisis? How can this help be realised? Chair Michael Norton UK 14:15 Facilitated debate from the Panel and the Floor Facilitator Richard Harpin UK Panel: Anthony Cox Head of Environment and Economy Integration, OECD Dominic Waughray, Alex Mung World Economic Forum Water Initiative Jacques Labre Vice President, Suez Environmental Patrick Mullen Water and Sanitation Specialist, International Finance Corporation Jonathan Kaledin Alliance for Water Stewardship, The Nature Conservancy 15:30 Summary and concluding remarks from Chairperson Michael Norton UK	
15:45 – 16:15 Afternoon break		Exhibition
16:15 – 17:00 KEYNOTE ADDRESS Cities of the future Khoo Teng Chye Singapore <i>Introduced by</i> Paul Brown CDM		Room 17



08:15 – 09:00 KEYNOTE ADDRESS Water and urban development for Asian cities Arjun Thapan Philippines <i>Introduced by</i> Laurent Auguste Veolia Water		Room 17
09:15 – 10:45 SECURING NEW AND TRADITIONAL WATER RESOURCES FOR THE FUTURE Room 3 Desalination – 1 Chair Gary Amy Saudi Arabia 09:15 Introduction 09:20 Gold Coast desalination plant – providing a safe and reliable drinking water supply to south-east Queensland Nelly Cannesson Australia 09:40 Desalination in the Mediterranean basin – focus on Spain Joan Tobella Spain 10:00 Aging of high-pressure operated polyamide reverse osmosis membranes – characterisation of the oxidised state Axel Etti France 10:20 The role of desalination in a diversified water resources portfolio – lessons learned Edward Means US 10:40 Closing summary		09:15 – 10:45 WATER, CLIMATE AND ENERGY Room 4 Water–energy linkages in the water industry Chair Adam Lovell Australia 09:15 Introduction 09:20 The water–energy nexus – a review Steven Kenway Australia 09:40 Energy efficiency in the water industry – a global research project Malcolm Brandt UK 10:00 Water and energy as inseparable twins for sustainable solutions Jan Hofman Netherlands 10:20 Rainwater harvesting – environmentally beneficial for the UK? Celia Way UK 10:40 Closing summary
10:45 – 11:15 Morning break		Exhibition
11:15 – 12:45 SECURING NEW AND TRADITIONAL WATER RESOURCES FOR THE FUTURE Room 3 Desalination – 2 Chair In Kim Korea 11:15 Introduction 11:20 A novel desalination technology suitable for arid climates with constrained electricity supply Benjamin Sparrow Canada 11:40 Desalination using an air-cathode microbial desalination cell Maha Mehanna US 12:00 CaSO ₄ scale formation in forward osmosis desalination Sangho Lee Korea 12:20 A direct contact membrane distillation module couples to a salt-gradient solar pond for water production Francisco Suarez US 12:40 Closing summary		11:15 – 12:45 WATER, CLIMATE AND ENERGY Room 4 Carbon footprint of wastewater treatment plants – reducing greenhouse gas emissions Chair Daniel Nolasco Argentina 11:15 Introduction 11:20 Methodology for the assessment of the greenhouse gas impact of wastewater sludge treatment Anna Åkerman France 11:40 Low temperature sludge drying and the Kyoto Protocol – a case study Lynne Bouchy Spain 12:00 Nitrous oxide inventories from activated sludge at full-scale wastewater treatment facilities in the US Kartik Chandran US 12:20 Development of a simplified methodology for determining greenhouse gas emissions from Canadian biosolids management John Lavery Canada 12:40 Closing summary
12:45 – 14:15 Lunch		Exhibition
14:15 – 15:45 SCIENCE AND APPLICATION OF WATER TREATMENT Room 3 Membrane filtration for removal of particulate matter – 1 Chair Roger Ben Aim France 14:15 Introduction 14:20 Fouling of ceramic and polymeric membranes – reasons, effects, countermeasures Stefan Panglisch Germany 14:40 Physicochemical process and ultrafiltration as pretreatment of reverse osmosis of seawater – a comparative study Miguel Ángel Gómez Spain 15:00 Three countries, three water sources, three low-pressure membrane pilot studies Anthony Wachinski China 15:20 Evaluation of an emerging water treatment technology – ceramic membranes Sunil Kommineni US 15:40 Closing summary		14:15 – 15:45 WATER, CLIMATE AND ENERGY Room 4 Carbon footprint of wastewater treatment plants – increasing energy efficiency Chair Jean-Michel Terry France 14:15 Introduction 14:20 From best practices to the plant of the future – the WERF optimisation programme George Crawford Canada 14:40 Green energy resource – research and learning experiences from wastewater treatment plants Valerie Guimet France 15:00 Microalgae cultivation in domestic wastewater – III raw material for bio-fuel production Jose Antonio Perales Spain 15:20 Production of energy by co-fermentation with substrate from fat separators Alexander Wriege-Bechtold Germany 15:40 Closing summary
15:45 – 16:15 Afternoon break		Exhibition
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09:15 – 10:45 SECURING NEW AND TRADITIONAL WATER RESOURCES FOR THE FUTURE Room 5 Strategies of integrated water resources management, including water reuse Chair David Molden Sri Lanka 09:15 Introduction 09:20 Innovation for integrated water management John Martin UK 09:40 Water reuse for irrigation in Jordan – plant beneficial nutrients, farmer awareness and management strategies Gemma Carr UK 10:00 Strategies for water security – collaboration in the Colorado River Basin and comparison to Australia Pamela Kenel US 10:20 IntegTa – a tool for integrative management of dammed water reservoirs for drinking water production Irene Slavik Germany 10:40 Closing summary	W	09:15 – 10:45 CITIES OF THE FUTURE Room 6 The future show 1 Chair Steve Moddemeyer US 09:15 IWA and cities of the future Paul Reiter IWA 09:25 Cities of the future programme – the vision and where we are going Paul Brown US, Kala Vairavamoorthy UK 09:45 Draft water management principles for sustainable cities of the future Rob Skinner Australia 10:05 Managing change in the water community Wim van Vierssen Netherlands 10:25 Roundtable discussion Eric Lesueur France Jean-Marie Dubreuil France Nick Apostolidis Australia Sharon Nunes US
10:45 – 11:15 Morning break		Exhibition
11:15 – 12:45 SECURING NEW AND TRADITIONAL WATER RESOURCES FOR THE FUTURE Room 5 Water reclamation and reuse technologies Chair Peter Cornel Germany 11:15 Introduction 11:20 Comparison of different technologies on the reduction of toxicity of reclaimed wastewater Yu Zhang China 11:40 Removal of bulk organic matter from different wastewater effluents during soil aquifer treatment (SAT) Saroj Kumar Sharma Netherlands 12:00 Full-scale trials of lightweight expanded shale aggregates (LESA) as tertiary filter media for wastewater treatment Dal Wayment US 12:20 Pilot-scale study of salt removal by electrodialysis from RO concentrate with high scaling potential Boudewijn Meesschaert Belgium 12:40 Closing summary	W	11:15 – 12:45 CITIES OF THE FUTURE Room 6 Urban metabolism and the footprints of cities 2 Chair Kala Vairavamoorthy UK 11:15 The footprint of the city, urban metabolism and water Vladimir Novotny US 11:30 The metabolism of cities – latest Australian research Steven Kenway Australia 11:45 Urban metabolism in practice Dave Spector Singapore 12:00 Collaboration through city information modelling for sustainable cities Nick Apostolidis Australia 12:15 Roundtable discussion
12:45 – 14:15 Lunch		Exhibition
14:15 – 15:45 MANAGING UTILITIES AND THEIR ASSETS Room 5 Measuring and improving performance and sustainability indicators in benchmarking Chair Peter Dane Netherlands 14:15 Introduction 14:20 Benchmarking of Indian urban water sector – performance indicator system versus data envelopment analysis Mamata Singh India 14:40 Assessing the operational performance of water treatment plants – focus on water quality and treatment efficiency Paula Vieira Portugal 15:00 Application of model-based management for groundwater treatment plant Oldeholtspade – a feasibility study Wilhelmus van de Ven Netherlands 15:20 Adapting the economic level of leakage concept to include the cost of carbon emissions Ian Smout UK 15:40 Closing summary	W	14:15 – 15:45 CITIES OF THE FUTURE Room 6 Integrated technologies for the cities of the future 3 Chair Valerie Nelson US 14:15 Possible reuse concepts and technologies for cities of the future Hallvard Odegaard Norway 14:30 Emerging concepts and technologies for integrated treatment Peter Cornel Germany 14:45 Case study – district- and site-scale strategies for resource recovery, stormwater harvesting and energy recovery Ed Clerico US 15:00 Interactive discussion including Professor Xiaochang Wang China Valerie Nelson US 15:15 Case study – tools for resource recovery at centralised plants Jurg Keller Australia 15:30 Case study – rehabilitation of Qingdao wastewater treatment plant to 21st Century strategies Fabrice Latchoumanin France
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09:15 – 10:45 WATER, CLIMATE AND ENERGY Room 7	09:15 – 10:45 MANAGING UTILITIES AND THEIR ASSETS Room 8	
W Climate change impacts on watershed management – challenges and emerging solutions Chair Michael Weyand Germany 09:15 Introduction Michael Weyand Germany, Stefano Barchiesi Switzerland 09:25 Developments in watershed management responding to climate change – the American way Alan Vicory , Carol Collier US 09:45 Discussion 09:50 Climate change and European water policy – current directives and future directions Geoff Darch UK 10:10 Discussion 10:15 Flow management under climate change conditions – enabling resilience in practice Mark Smith Switzerland 10:35 Discussion	W Focusing on what works – service provision solutions in developing countries Chair Darren Saywell IWA 09:15 Introduction 09:20 Keynote – overview and analysis of main lessons learned and recommendations emerging from 1st IWA Development Congress – what do we know now that we did not know before for service provision in developing countries? Blanca Jimenez Cisneros Mexico 09:40 Q&A on presentation 09:45 Presentation on examples of innovations in technology / technical components of water and sanitation service provision in low- and middle-income countries and the role of operator partnerships in delivering service improvement to utilities and operators Doulaye Kone Ivory Coast 10:00 Q&A on presentation 10:05 Presentation on innovations in non-technical elements / software / behaviour change that supports improved service provision in low- and middle-income countries Akissa Bahri Ghana 10:20 Q&A on presentation 10:25 Moderated discussion with panelists focusing on: <ul style="list-style-type: none"> • What are the critical roles of different stakeholders in achieving the level of change required to transform service provision models? • There are no magic bullets, but do we know enough from common elements in these cases and best practice experience to articulate the pre-conditions for what works? 	
10:45 – 11:15 Morning break		Exhibition
11:15 – 12:45 WATER, CLIMATE AND ENERGY Room 7	11:15 – 12:45 MANAGING UTILITIES AND THEIR ASSETS Room 8	
W Climate change impacts on watershed management – challenges and emerging solutions Chair Michael Weyand Germany 11:15 Climate change impacts on water and rivers 11:35 Development of river quality under climate change conditions Alan Vicory US 11:55 Impact of climate change effects on necessary water uses Matthijs Bonte Netherlands 12:15 Climate change implications for reservoir management and hydropower 12:35 General moderated discussion	W Focusing on what works – service provision solutions in developing countries Chair Darren Saywell IWA 11:15 Short summary of first session and overview of second session 11:20 Presentation on innovations in policy, regulation, standards and norms in service provision in low- and middle-income countries Rivka Kfir South Africa 11:35 Q&A on presentation 11:40 Presentation on innovation in capacity development approaches in developing countries Damir Bradjanovic Netherlands 11:55 Q&A on presentation 12:00 Moderated discussion with panelists focusing on: <ul style="list-style-type: none"> • What role can professional associations have in supporting wider scale-up of service provision? • What can we learn from process that will help the international community to start delivering at scale to address the MDG backlog? 12:40 Short summary of session and implications for agenda of 2nd IWA Development Congress	
12:45 – 14:15 Lunch		Exhibition
14:15 – 15:45 WATER, CLIMATE AND ENERGY Room 7	13:00 – 17:30 INVITATION ONLY Room 8	
W Climate change impacts on watershed management – challenges and emerging solutions Chair Michael Weyand Germany 14:15 Implementation aspects and economic issues Michael Weyand Germany 14:35 Simulation and optimisation of watersheds – review of recent methodologies and future directions Avi Ostfeld Israel 14:55 Governance and participation activities 15:15 General moderated discussion and workshop summary	Utility CEO Forum: Financing Long and Short Term Sustainability The Forum builds on previous IWA events and facilitates networking amongst the leaders of major utilities around the globe. The Forum aims to provide insights into new and different ways of financing sustainability and to enhance knowledge and understanding of the various means of addressing what is now a universal challenge. Each utility faces unique challenges with a variety of tools and resources at their disposal. From country to country, and even city to city, plans and approaches to dealing with sustainability vary. During this Forum, we will explore building a business continuity plan that reflects what is happening in society, appropriate cost of service studies, obtaining rates that support sustainable utilities, paying for growth and green infrastructure, incorporating change, financing new infrastructure while maintaining and replacing old infrastructure in an economically constrained environment.	
15:45 – 16:15 Afternoon break		Exhibition
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09:15 – 10:45 SCIENCE AND APPLICATION OF WATER TREATMENT Room 9 Biofilm processes Chair Takashi Mino Japan 09:15 Introduction 09:20 Evaluation of biofilm retention time and biofilm activity in moving-bed biofilm reactor for treating aniline wastewater Sheng Chen China 09:40 Evaluation of biofilm performance as a protective barrier against biocorrosion using an enzyme electrode Banu Ormeci Canada 10:00 Formation and performance of thin biofilms in an aerobic fluidised bed Dianxun Hou China 10:20 Process optimisation of H ₂ S removal from biogas in an anoxic biotrickling filter Gabriela Soreanu Canada 10:40 Closing summary	W	09:15 – 10:45 SCIENCE AND APPLICATION OF WATER TREATMENT Room 10 Accelerating innovation in the water sector Chair Helge Daebel Switzerland and Glen Daigger US Session 4 Entrepreneurs driving innovation 09:15 Framing the issue – the role of entrepreneurs and the challenges they face Helge Daebel Switzerland 09:25 Keys to success for entrepreneurs in the water space Andrew Benedek Canada 09:40 Entrepreneur at work – wastewater treatment Ronen Shechter Israel 09:55 Entrepreneur at work – water transmission and distribution Brian Mergelas Canada 10:10 Breakout and summary Glen Daigger US
10:45 – 11:15 Morning break		Exhibition
11:15 – 12:45 SCIENCE AND APPLICATION OF WATER TREATMENT Room 9 Industrial wastewater treatment 1 Chair Darren Sun Singapore 11:15 Introduction 11:20 Biological removal of cationic fission products from nuclear wastewater Evans M Nkhalambayausi-Chirwa South Africa 11:40 Optimisation of lead (II) biosorption in an aqueous solution using chemically modified aerobic digested sludge Reza Darvishi Cheshmeh Soltani Iran 12:00 Modelling of lead removal by an aquatic moss Ramiro Espinheira Martins Portugal 12:20 Effects of the cometabolite/growth substrate ratio on the aerobic degradation of 4-monochlorophenol Stefano Milia Italy 12:40 Closing summary	W	11:15 – 12:45 SCIENCE AND APPLICATION OF WATER TREATMENT Room 10 Accelerating innovation in the water sector Chair Rivka Kfir South Africa and Sanjay Bhatnagar India Session 5 Social entrepreneurs driving innovation 11:15 Framing the issue – need for innovation in water and sanitation through social entrepreneurship Rivka Kfir South Africa 11:25 Commercialisation of a product for water supply in small communities – Africa Heidi Snyman South Africa 11:40 Creating sanitation markets in developing countries – South America Malva-Rosa Baskovich Peru 11:55 Social entrepreneurship, water and security Jeffrey Talley US 12:10 Discussion and summary Sanjay Bhatnagar India
12:45 – 14:15 Lunch		Exhibition
14:15 – 15:45 SCIENCE AND APPLICATION OF WATER TREATMENT Room 9 Industrial wastewater treatment 2 Chair Takashi Mino Japan 14:15 Introduction 14:20 Sequestering mechanism of cationic dye (Safranin O) from aqueous phase by dead macro fungus biosorbent Nityanand Singh Maurya India 14:40 Application of an anaerobic hybrid reactor for petrochemical effluent treatment Mohammad Taghi Jafarzaadeh Iran 15:00 Biosorption of reactive black 5 dye in an up-flow packed bed column Sumathi Suresh India 15:20 Biosorptive recovery of platinum from refining wastewaters by immobilised <i>Saccharomyces cerevisiae</i> Jo Burgess South Africa 15:40 Closing summary	W	14:15 – 15:45 SCIENCE AND APPLICATION OF WATER TREATMENT Room 10 Accelerating innovation in the water sector Chair Glen Daigger and Sudhir Murthy US Session 6 Closing plenary – task force development 14:15 Introduction of future task force Glen Daigger US 14:25 Panel presentations summarising previous sessions and discussion of panel presentations 14:55 Discussion and summary Sudhir Murthy US 15:30 Facilitated discussion – future actions and volunteer list 15:40 Facilitated discussion – wrap-up
15:45 – 16:15 Afternoon break		Exhibition
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09:15 – 10:45 WATER, ECOSYSTEMS AND CATCHMENTS Room 11 Model development and application – 1 Chair Monirul Islam Canada 09:15 Introduction 09:20 Use of socio-economic typologies for improved integrated management in the data-poor catchments – explorations from the Australian north Silva Larson Australia 09:40 On the effect of scaling conceptual model complexity on stochastic response for water quality modelling Geoffrey T Parker UK 10:00 A tool to forecast and warn of real-time flash floods in urban areas Carlos Montero Spain 10:20 Water resources modelling in the Rift Valley Lakes Basin, Ethiopia – a tool to define acceptable limits of environmental degradation to underpin economic development strategy Carolyn Faith Francis UK 10:40 Closing summary	09:15 – 10:45 SCIENCE AND APPLICATION OF WATER TREATMENT Room 12 Fundamentals of advanced oxidation processes in wastewater treatment Chair Michael Sievers Germany 09:15 Introduction 09:20 Radial distribution modelling of liquid-phase phenol concentration in liquid-solid fluidised bed photoreactor Shuangshi Dong China 09:40 Chlorine photolysis as an advanced oxidation process – yield of hydroxyl radicals Jing Jin Canada 10:00 Impact of ozone disinfection of wastewater on persistent pollutants removal at full scale Sylvie Baig France 10:20 Comparison of the different methods used for indigo carmine textile dye treatment Mohammad Ebrahim Olya France 10:40 Closing summary	
10:45 – 11:15 Morning break		Exhibition
11:15 – 12:45 WATER, ECOSYSTEMS AND CATCHMENTS Room 11 Model development and application – 2 Chair Geoffrey Parker UK 11:15 Introduction 11:20 Diffusion and desorption of contaminant in heterogeneous media Guannan Jiang US 11:40 Modelling to evaluate the sustainability of a loop-cut channel – case study of the Matamuhuri River in south-eastern Bangladesh Monirul Islam Canada 12:00 The use of scenario-based modelling to support the development of a sustainable, integrated water resources plan for south-east England Peter von Lany UK 12:20 Relocating groundwater abstraction wells at the drinking water production site Zichem Vinkenbergh, north-east Belgium Tom Diez Belgium 12:40 Closing summary	11:15 – 12:45 SCIENCE AND APPLICATION OF WATER TREATMENT Room 12 Advanced oxidation of emerging contaminants Chair Deniz Nasuhoglu Germany 11:15 Introduction 11:20 UV photolysis of perfluorooctanoic acid (PFOA) in dilute aqueous solution Rabindra Raj Giri Japan 11:40 Effects of ultrasound treatment on 23 emerging contaminants in urban wastewater Vincenzo Naddeo Italy 12:00 Removal of mixtures of pharmaceuticals from hospital wastewater using UV/H ₂ O ₂ /O ₃ advanced oxidation process Hadas Mamane Israel 12:20 Removal of antibiotics in water and secondary municipal effluent by ozonation Angela Rodayan Canada 12:40 Closing summary	
12:45 – 14:15 Lunch		Exhibition
14:15 – 15:45 WATER, ECOSYSTEMS AND CATCHMENTS Room 11 Water allocation and sharing in national and transboundary systems Chair Akisa Bahri Ghana 14:15 Introduction 14:20 Environmental water allocation in Australia – multiple paradigms in a vast and complex landscape Tony Church Australia 14:40 Water scarcity – the invisible crisis Richard Harpin UK 15:00 Sharing water from international watercourses Stephen Draper US 15:20 Fourth edition of the United Nations World Water Development Report (WWDR4) Olcay Unver France 15:40 Closing summary	14:15 – 15:45 SCIENCE AND APPLICATION OF WATER TREATMENT Room 12 Advanced oxidation of industrial chemicals Chair Achim Ried Germany 14:15 Introduction 14:20 Experimental study on the H ₂ O ₂ /UV process for colour removal from textile wastewaters Cecilia Caretti Italy 14:40 Advanced treatment of membrane bioreactor (MBR) effluents for effective wastewater reclamation Sarper Sarp Korea 15:00 Uncatalysed hydrogen transfer reduction of acetone into isopropanol under hydrothermal conditions Zheng Shen China 15:20 Influence of system configuration on the treatment of industrial effluents in a photo-catalytic membrane reactor Bruce Jefferson UK 15:40 Closing summary	
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16:15 – 17:00 KEYNOTE ADDRESS Cities of the future Khoo Teng Chye Singapore <i>Introduced by</i> Paul Brown CDM		Room 17



08:15 – 09:00 KEYNOTE ADDRESS

Water and urban development for Asian cities **Arjun Thapan** Philippines *Introduced by Laurent Auguste* Veolia Water

Room 17

09:15 – 10:45

SCIENCE AND APPLICATION OF WATER TREATMENT

Room 13

Stormwater pollution and control

Chair **Peter Steen Mickleson** Denmark

09:15 Introduction

09:20 Urban stormwater as a diffuse source of pollution – knowledge overview and recent advances **Jiri Marsalek** Canada

09:40 Priority pollutants in urban stormwater – a global overview at catchment scale **Bruno Barillon** France

10:00 Characteristics of urban runoff and removal using grass pavers and woodchip in a commercial and industrial area, Korea **Sung Min Cha** Korea

10:20 An innovative method for spatial quantification of contaminant build-up and wash-off from impermeable urban surfaces **Daniel Wicke** New Zealand

10:40 Closing summary

09:15 – 10:45

INDUSTRY FORUM PRESENTED BY ENVIRONMENT CANADA

Room 14

Measuring progress for better results – harmonisation of environmental performance measurement and verification of water technologies

09:15 Value of performance measurement and verification of clean water solutions **Paul Jiapizian** Canada

09:20 Requirements for successful implementation of performance measurement and verification initiatives **Benoit Desforges** Canada

09:25 Overview of international harmonisation efforts and the role of the International Working Group on ETV (IWG-ETV) **Paul Jiapizian** Canada

09:30 Panel discussion – inter-jurisdictional efforts towards mutual acceptance of verified water technologies Moderated by **Sebastien Belanger** Canada

10:00 Strengthening Canadian capacity to test and verify water and wastewater technologies **Jeffrey Guthrie** Canada

10:05 Panel discussion – challenges in establishing a level playing field for solution providers and adopters in the water sector Moderated by **Jeffrey Guthrie** Canada

10:40 Concluding remarks **Paul Jiapizian** Canada

10:45 – 11:15 Morning break

Exhibition

11:15 – 12:45

SCIENCE AND APPLICATION OF WATER TREATMENT

Room 13

Combined sewer overflow (CSO) pollution reduction strategies

Chair **Jose Matos** Portugal

11:15 Introduction

11:20 Modelling combined sewer overflow reductions using green roofs in the Bronx, New York **Danielle Hartman** US

11:40 A comprehensive measurement campaign to characterise combined sewage and combined sewer overflows in a rehabilitated drainage area in Berlin (R&D Project MIME) **Bernd Heinzmann** Germany

12:00 Evaluation of effectiveness of combined sewer overflow control measures by operational data **Regina Gnirss** Germany

12:20 Reducing CSOs and giving the river back to the public – innovative combined sewer overflow control and riverbanks restoration of the St-Charles River in Quebec City **Olivier Fradet** Canada

12:40 Closing summary

11:15 – 12:00

INDUSTRY FORUM PRESENTED BY SUEZ

Room 14

Water footprinting and water accounting

Chair **Jacques Labre** France

11:15 Setting the scene – state of play of water accounting and water footprinting

11:30 Standardisation of the water footprint? Current ISO work

11:45 Discussion – how to account for the footprint of a glass of water and how to involve water professionals in ongoing water indicator initiatives

12:00 – 12:45

INDUSTRY FORUM PRESENTED BY WATER CANADA

Room 14

Water technology cooperation and capacity building

Chair **Kerry Freek** Canada

12:00 Welcome and introduction **Kerry Freek** Canada

12:05 Technology and the global water crisis **Corinne Schuster-Wallace** Canada

12:15 Panel discussion – water sector response **Linda Gowman**, **Henry David Venema** Canada

12:25 Q&A

12:40 Session summary **Kerry Freek** Canada

12:45 – 14:15 Lunch

Exhibition

14:15 – 15:45

MANAGING UTILITIES AND THEIR ASSETS

Room 13

Clean pipes, good pipes = good water

Chair **John Batten** US

14:15 Introduction

14:20 Ice pigging technology to clean potable water trunk mains in an environmental friendly and cost-effective manner **Dominique Demessence** Spain

14:40 What is the risk of plastic pipe long-term degradation on water quality? **Auguste Bruchet** France

15:00 Dual benefits from a contamination warning system – improving quality and saving dollars using real-time online water quality monitoring **Kenneth Thompson** US

15:20 Integrated decision support system for bio-contamination detection and onsite mitigation monitoring **Ilan Juran** US

15:40 Closing summary

14:15 – 15:00

INDUSTRY FORUM PRESENTED BY SNC-LAVALIN

Room 14

Securing new and traditional water resources for the future

Chair **Martin Stapinsky** Canada

14:15 Securing new and traditional water resources for the future **Martin Stapinsky** Canada

14:20 Algeria – Taksebt water treatment plant **Nicolas Stein** Canada

14:30 Guarani – environmental protection and sustainable development of the Transboundary Aquifer System **Adriana Lafleur** Canada

14:40 Ghana hydrogeological assessment **Martin Stapinsky** Canada

14:50 Panel discussion

15:00 – 15:45

INDUSTRY FORUM PRESENTED BY CNIGUARD

Room 14

Protecting water infrastructure

15:45 – 16:15 Afternoon break

Exhibition

16:15 – 17:00 KEYNOTE ADDRESS

Cities of the future **Khoo Teng Chye** Singapore *Introduced by Paul Brown* CDM

Room 17



08:15 – 09:00 KEYNOTE ADDRESS Water and urban development for Asian cities Arjun Thapan Philippines Introduced by Laurent Auguste Veolia Water		Room 17	
09:15 – 10:00 INDUSTRY FORUM PRESENTED BY VEOLIA	Room 15	09:15 – 10:45 AFRICA REGIONAL FORUM	Room 16
Managing risk through asset management 09:15 Overview of some methodologies that have been used with success in mitigating risk at operating facilities by VVNA, with real case studies of effective risk management and examples of successful implementations, insisting on the factors that are considered in evaluating the various risk management options William Flahey US		Water supply and sanitation challenges in the wake of an evolving climate and growing energy and food requirements Chair Mamadou Dia Senegal 09:15 Opening address Mamadou Dia Cote d'Ivoire, Sylvain Usher Cote d'Ivoire 09:40 Opening keynotes and panel discussion Overview of current and future WSS challenges in Africa with an emphasis on urbanisation and service coverage Piers Cross South Africa Looking beyond water supply – the need for environmental protection and adaptation by water operators Samir Bensaid Morocco Financing needs in Africa over the coming decade World Bank	
10:00 – 10:45 INDUSTRY FORUM PRESENTED BY TAKADU	Room 15		
Smart water networks – data-driven solutions for water infrastructure 10:00 Online water infrastructure monitoring – leak detection and burst prevention without deploying new meters Haggai Scolnicov Israel Algorithmic approach to pressure management – benefits and application The smart utility – a vision for 2020 and what we should do now to get there			
10:45 – 11:15 Morning break		Exhibition	
11:15 – 12:00 INDUSTRY FORUM PRESENTED BY VEOLIA	Room 15	11:15 – 12:45 AFRICA REGIONAL FORUM	Room 16
Sustainability as a driver of innovation 11:15 Benchmark of various solutions compared for green house gas emission, with some of the BAT that can be proposed today, including water treatment line, new trends in sludge treatment line along with waste to energy solutions, and new advanced control system George Abraham US		Responding to the challenges ahead Chair Piers Cross South Africa 11:15 Panel discussion: Improving coverage and efficiency – developing a shared agenda Panelists: William Muhairwe Uganda, Archard Mualemwa Kenya, Manuel Alvarinho Mozambique, Levy Zulu Zambia, Jim Franckiewicz US, AfDB World Bank EIB 12:20 Panel discussion: Looking ahead – using upcoming events to accelerate a shared agenda for Africa Panelists: Silver Mugisha Uganda, Sylvain Usher Cote d'Ivoire, Darren Saywell Netherlands, Sara Tibatwa Kenya, Samir Bensaid Morocco	
12:00 – 12:45 INDUSTRY FORUM PRESENTED BY VEOLIA	Room 15		
Underground management system for sewage collection 12:00 Raising the awareness on pitfall in GIS based asset management system, and providing interesting solution to overcome those pitfalls Benoît Cliché US			
12:45 – 14:15 Lunch		Exhibition	
14:15 – 15:00 INDUSTRY FORUM PRESENTED BY VEOLIA	Room 15	14:15 – 15:45 AFRICA REGIONAL FORUM	Room 16
Underground management system for drinking water network and meters 14:15 Show cases will be provided related to the use of two specific tools: CLOVIS and MOSARE that have been developed by Veolia and are now used in Europe and Asia Pacific Frédéric Blanchet France		How can Water Operator Partnerships (WOPs) help sustain development in the water and sanitation sector in Africa? Chair Doulaye Kone Cote d'Ivoire 14:15 Introduction to WOPs Africa 14:30 WOPs case studies Presentations – Mozambique – Mauritania – Uganda Panel discussion: Speakers Faraj El-Awar UN Habitat, Hamanth Kasan South Africa, Steen Bjerggaard Netherlands 15:35 Closing summary	
15:00 – 15:45 INDUSTRY FORUM PRESENTED BY ITT	Room 15		
The future of Water technologies 15:00 The water treatment industry has undergone significant changes in the last 20 years. The demand for clean and safe water continues to increase, as does the cost for meeting this demand. This seminar will focus on the future of energy management, water re-use, infrastructure and treatment practices, and will include industry trends for both the developed and developing markets.			
15:45 – 16:15 Afternoon break		Exhibition	
16:15 – 17:00 KEYNOTE ADDRESS Cities of the future Khoo Teng Chye Singapore Introduced by Paul Brown CDM		Room 17	



08:15 – 09:00 KEYNOTE ADDRESS Water and urban development for Asian cities Arjun Thapan Philippines <i>Introduced by</i> Laurent Auguste Veolia Water		Room 17
09:15 – 10:45 ASIA–PACIFIC REGIONAL FORUM Room 17 Energy efficiency in the water sector Chair Arjun Thapan ADB 09:15 Mumbai Energy Alliance Nitin Pandit India 09:35 NRW and its impact on energy efficiency gains Roland Leimberger Philippines 09:55 Experiences on improving water energy efficiency 10:15 Efficient energy use in the water supply sector of Japan Yoshihiko Misono Japan	W	09:15 – 12:45 SCIENCE AND APPLICATION OF WATER TREATMENT Room 18 IWA Bio Cluster workshop Chair Hans-Curt Flemming 09:15 Introduction David Garman 09:20 Presentations and discussions Genomics for characterisation of healthy water Joan Rose US How dead are 'dead' microorganisms? Hans-Curt Flemming Germany Biofilm on membranes Roger Ben Aim France Metabolic flux modelling Mark van Loosdrecht Netherlands
10:45 – 11:15 Morning break		Exhibition
11:15 – 12:45 ASIA–PACIFIC REGIONAL FORUM Room 17 Urban sanitation Chair Anand Chiplunkar ADB 11:15 Asia–Pacific urban sanitation outlook and challenges Rudolf Frauendorfer Philippines 11:35 Panel discussion: Almud Weitz WSP World Bank Sekhar Bonu ADB Andreas Ulrich Germany Perry Rivera Philippines	W	11:15 – 12:45 SCIENCE AND APPLICATION OF WATER TREATMENT Room 18 IWA Bio Cluster workshop Chair Hans-Curt Flemming 11:15 Presentations and discussions Population dynamics – how do we describe this? Per Nielsen Denmark Quantitative microbial risk assessment versus faecal indicator bacteria standards to describe microbial water quality Stefan Wuerzt US Science and engineered systems – exciting discoveries on both sides Jürg Keller Australia 12:00 Discussions: how to further proceed <ul style="list-style-type: none"> • Charter update • Organisation of workshops/conferences on the hot topics • Next meetings
12:45 – 14:15 Lunch		Exhibition
14:15 – 15:45 ASIA PACIFIC REGIONAL FORUM Room 17 Water Reuse Chair Almud Weitz WSP World Bank 14:15 Surat wastewater recycling project Anand Chiplunkar Philippines Water reuse – making Singapore's water supply more robust PUB representative Singapore Water reuse experiences in Australia Mark Pascoe Australia		14:15 – 15:45 SCIENCE AND APPLICATION OF WATER MANAGEMENT Room 18 Monitoring system development and data management Chair Hillel Shuval Israel 14:15 Introduction 14:20 Measurements of aquatic humic substances by simple linear regression based on spectral absorption method Asha Udayamali Meegolke Lokuhewage Japan 14:40 Issues of drinking water quality of small-scale water services towards global change Estelle Baures France 15:00 Monitoring the effects on the water balance of the Garzweiler open pit mine – concepts, methods and experience Bernd Bucher Germany 15:20 Dynamic changes of the ecological environment in Songhua River Basin through remote sensing monitoring Lingjun Yan China 15:40 Closing summary
15:45 – 16:15 Afternoon break		Exhibition
16:15 – 17:00 KEYNOTE ADDRESS Cities of the future Khoo Teng Chye Singapore <i>Introduced by</i> Paul Brown CDM		Room 17