Thursday, 15 September

Track 1
WATER UTILITY MANAGEMENT

Track 2
WASTEWATER TREATMENT AND RESOURCE RECOVERY

Track 3
DRINKING WATER AND POTABLE REUSE

Track 4
CITY-SCALE PLANNING AND OPERATIONS

Track 5
COMMUNITIES, COMMUNICATION AND PARTNERSHIPS

Track 6
WATER RESOURCES AND LARGE-SCALE WATER MANAGEMENT
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<th>Event</th>
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<tr>
<td><strong>Keynote Plenary</strong></td>
<td>09:00 - 09:50</td>
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<tr>
<td>Keynote: Wastewater Gone Viral: Pandemic Signals From the Sewers, Gertjan Medema</td>
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<td><strong>Coffee Break</strong></td>
<td>09:50 - 10:30</td>
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<tr>
<td><strong>Session 1</strong></td>
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<td><strong>REGULATORS FORUM IV — CLOSING PLENARY: REGULATING WATER SERVICES IN TIMES OF INCREASING NATURAL, SOCIAL, AND ECONOMIC UNCERTAINTY</strong></td>
<td>Room A3 Forum</td>
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<td>Chair: Carlos Diaz, Peru</td>
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<td>The 7th International Water Regulators Forum offers a platform for water sector regulators from all over the world to exchange experiences, transfer skills and build new partnerships. It gathers high-level representatives of regulatory authorities and officials of agencies with regulatory and supervisory functions over the provision of water, sanitation, and drainage services, as well as their peers from public health and environmental regulators. The discussions will focus on how regulatory functions are being supplied in times of increasing natural, social, and economic uncertainty. During the Forum, discussions are structured around highly interactive sessions that combine short inspirational presentations and roundtable discussions led by the speakers.</td>
<td>Room A3 Forum</td>
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<tr>
<td><strong>Lunch</strong></td>
<td>12:00 - 13:30</td>
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<td><strong>Session 2</strong></td>
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<td><strong>REGULATORS FORUM V — COPING WITH UNCERTAINTY: FORWARD-LOOKING APPROACHES TO COPE WITH UNCERTAINTY AND HELP DELIVER REGULATORY MANDATES</strong></td>
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<td><strong>Closing Ceremony</strong></td>
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<td><strong>Gala Dinner</strong></td>
<td>Evening</td>
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### Keynote Plenary 09:00 - 09:50

**Keynote:** Wastewater Gone Viral: Pandemic Signals From the Sewers, **Gertjan Medema**  
**Panel:** Joan Rose, Jay Bhagwan, Jonathan Hoffmann, Lasse Dam Rasmussen, Ana Maria de Roda Husman, Marta Vargha

### Coffee Break 09:50 - 10:30

### Session 1 10:30 - 12:00

**CSU RECOGNITION PROGRAMME**

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<thead>
<tr>
<th>Chair: Carlos Diaz</th>
<th>International Water Association</th>
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<td><strong>The IWA Climate Smart Utilities Recognition Programme aims to inspire utilities and all their stakeholders to transition to be increasingly Climate Smart and to embrace the cultural shift on three interconnected pillars for action:</strong></td>
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| • Adaptation: Resilience in the face of climate change is increased.  
• Mitigation: GHG emissions are assessed and aim to be reduced.  
• Leadership: You are a national, regional, or international champion. |

This Recognition Programme builds on the vision endorsement, where utility leaders around the world committed to endorsing a shared vision to build momentum for greater progress. The objective of the programme is to celebrate utilities on the journey to becoming climate smart. This session will showcase adaptation and mitigation actions taken by celebrated utilities according to the framework of IWA Climate Smart Utilities.

**Speakers:**  
Carlos Diaz, Manager Climate Smart Utilities Initiative, IWA (UK), Brenda Apomah, Programmes Officer Climate Smart Utilities Initiative, IWA (UK), Norbert Jardin, Ruhrverband, CEO (DE), Bernat Cami Xavier, Aigües de Barcelona, Climate Action Director (ES), Juan José Iervasi Scokin, AySA, Technical Advisor (AG), Pauline Ottoy, De Watergroep, Program Manager R&D Circular Systems (BE), Reshma Ghisaidoobe, DUNE A DUNIN &WATER (NL)

### Lunch 12:00 - 13:30

### Session 2 13:30 - 15:00

### Break 15:00 - 15:15

### Closing Ceremony 15:15 - 16:45

Including Poul Harremoës Lecture by Prof. Wolfgang Rauch

### Gala Dinner  
**Evening**
# Thursday | Programme

**Keynote Plenary** 09:00 - 09:50

Keynote: Wastewater Gone Viral: Pandemic Signals From the Sewers, Gertjan Medema
Panel: Joan Rose, Jay Bhagwan, Jonathan Hoffmann, Lasse Dam Rasmussen, Ana Maria de Roda Husman, Marta Vargha

**Coffee Break** 09:50 - 10:30

**Session 1** 10:30 - 12:00

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<th>Room C2</th>
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| **6.13 | INTEGRATED ASSESSMENT**

**Chairs:** Markus Starkl, Austria and Carmen Snowdon, United Kingdom

- The SADC revised protocol: a tool for an integrated climate action in southern Africa, Thomasi Manungufala, Parliament of the Republic of South Africa, South Africa
- Evolving water resources management in response to socio-economic changes: Japanese experience in modernization over the past century, Mikio Ishiwatari, The University of Tokyo, Japan
- Managing stormwater in South African neighbourhoods: when engineers and scientists need social science skills to get their jobs done, Craig Tanyanyiwa, Future Water UCT, South Africa
- Exporting Danish groundwater management to South Africa, Philip Grinder Pedersen, Danish Environmental Protection Agency, Denmark

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| **2.1.4-1 | AEROBIC GRANULAR SLUDGE**

**Chairs:** Hallvard Ødegård, Norway and Thiago Bressani Ribeiro, Brazil

- Could the treatment capacity of a continuous wastewater treatment plant be increased with aerobic granular sludge? Laurence Strubbe, Ugent, Belgium
- Assessing densification performance potential in continuous flow bioreactors — how to predict new hydraulic capacities for WWTPs, Densification Index (DI) and SVI? Zamir Alam, SUEZ WTS, Canada
- Diffusion and enzymatic conversion of polymeric substrate in aerobic granular sludge, Merle de Kreuk, TU Delft, Netherlands
- Results of the first AGS application in the Nordic countries, Mark de Blois, H2OLand AB, Sweden

**Lunch** 12:00 - 13:30

**Session 2** 13:30 - 15:00

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<th>Room C2</th>
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| **5.6 | INNOVATION & ENTREPRENEURSHIP: DEVELOPING ENTREPRENEURIAL CAPABILITIES FOR THE WATER SECTOR**

**Chairs:** Odwa Ntsika Mtembu, South Africa and Mbali Sibiya, South Africa

- This highly interactive and collaborative training aims at equipping water professionals with the skills to develop entrepreneurial and innovative ideas to tackle challenges in the water sector.
- Speakers: Odwa Ntsika Mtembu, World Merit South Africa (ZA), Mbali Sibiya, Umgeni Water (ZA), Jacob Amengor, University of Calgary (CA) & Lee-Ann Modley, University of Johannesburg (ZA)

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| **2.5 | AEROBIC GRANULAR SLUDGE: INTENSIFYING AND GREENING WWTPS**

**Chairs:** Andreas Giesen, Netherlands, Bryce Figdore, United States and Mark van Loosdrecht, Netherlands

- The goal of the workshop is to disseminate current best practices for AGS in SBR and FT systems and determine needs, and trigger collaboration, for scientific and application research that will enable more practitioners and societies across the globe to benefit from the sustainability advantages.
- Speakers: Andreas Giesen, Royal HaskoningDHV (NL), Mari Winkler, University of Washington (US), Mark van Loosdrecht, Delft University of Technology (NL), Bryce Figdore, HDR (US), Per Overgaard Pedersen, Aarhus ReWater (DK) & Erik Rekswinkel, Water Board Hoogheemraadschap De Stichtse Rijnlanden (NL)

**Break** 15:00 - 15:15

**Closing Ceremony** 15:15 - 18:46

Including Poul Haremolids Lecture by Prof. Wolfgang Rauch

**Gala Dinner** Evening
Keynote Plenary 09:00 - 09:50

Keynote: Wastewater Gone Viral: Pandemic Signals From the Sewers, Gertjan Medema
Panel: Joan Rose, Jay Bhagwan, Jonathan Hoffmann, Lasse Dam Rasmussen, Ana Maria de Roda Husman, Marta Vargha

Coffee Break 09:50 - 10:30

Session 1 10:30 - 12:00

2.4.1 | DEDICATED TREATMENT
Chairs: Tom Williams, United Kingdom and Pritha Chatterjee, India

- METlands: performance of a new intensified nature-based wastewater treatment system, Carlos A. Ramirez-Vargas, Aarhus University, Denmark
- Factors affecting effluent quality in on-site wastewater treatment systems in cold climate regions, Juho Kinnunen, University of Oulu, Finland
- Removal of perfluoroalkyl substances (PFAs) in industrial runoff water, Ellen Aartander Vik, Aquateam COWI, Norway
- Scaling-up the production of volatile fatty acid from dairy wastewater, Celia Maria Castro Barros, CETAQUA (Water Technology Center), Spain

--- POSTERS ---
- Pilot-scale recovery of nickel and cobalt from mine drainage water, Małgorzata Szlachta, Geological Survey of Finland, Finland
- Preliminary results of an on-site pilot-scale experiment to improve tertiary agri-food effluent using customized floating treatment wetlands, Rita Abi Hanna, MT Atlantique, France

6.16 | HOLISTIC APPROACHES TO SOLVING CONFLICTS ABOUT WATER
Chairs: Ulrike Gayh, Germany and Andrea Gerber, Germany

The objective is to develop innovative and sustainable project ideas to solve the most common conflicts related to water issues while considering the economic, social, and environmental aspects.

Speakers: Ulrike Gayh, SRH University Heidelberg (DE), Andreas Gerber, SRH University Heidelberg (DE) & Belen Zevaillos, SRH University Heidelberg (DE)

Lunch 12:00 - 13:30

Session 2 13:30 - 15:00

2.3.4 | OTHER PHYSICO-CHEMICAL TREATMENT TECHNIQUES
Chairs: David Garman, Australia and Joseph Maudorm, Germany

- Enhanced phosphorus removal in dewatering filtrate with CO2 stripping and surface-modification of steel slag, Junghyeon Kim, Pusan National University, Republic of Korea
- Molecular two phase properties of water, can this be exploited? Michael Bache, BA Chemical Aps, Denmark
- Use of Atmospheric Dissolved Air Flotation (DAF) in removal of surfactants, Ali Rostaminaragh, Water and Wastewater Company East Azerbaijan Province, Azerbaijan & Azerbaijan Shahid Madani University, Iran

--- POSTERS ---
- What’s in your water? Rapid water quality assessment for low resource settings, Esther Shaylor, UNICEF, Denmark
- Predicting free chlorine residual and disinfection by-products in a water distribution network in southern Quebec with a variable reaction rate model, Faezah Absalan, Polytechnique Montreal, Canada

Break 15:00 - 15:15

Closing Ceremony 15:15 - 16:45

Including Poul Harremoës Lecture by Prof. Wolfgang Rauch

Gala Dinner Evening
### Thursday | Programme

**Keynote Plenary 09:00 - 09:50**

**Keynote:** Wastewater Gone Viral: Pandemic Signals From the Sewers, Gertjan Medema
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**Coffee Break 09:50 - 10:30**

**Session 1 10:30 - 12:00**

#### 3.4 | LEADING EDGE SAND FILTRATION
**Chairs:** Doris van Halem, Netherlands and Luis Guillermo Romero Esquivel, Costa Rica

The objective of the workshop is to identify key opportunities for lifting the design of traditional technologies into the 21st century based on best practises as well as the state-of-the-art in science. Therefore, in this interactive workshop we want to bring together cross-continental practical knowledge and academic insights to formulate the future challenges of sand filters.

**Speakers:** Doris van Halem, Delft University of Technology (NL); Luis Guillermo Romero Esquivel, Technologica de Costa Rica (CR); Tanvir Ahmed, BUET (BD); Frank Schoonenberg Kegel, Vitens (NL); Brent Pieterse, Dunea (NL) & Inês Breda, Silhorko-Euwator A/S (DK)

#### 5.5 | REACHING OUT FOR THE WATER WISE GENERATION
**Chairs:** Stig Dalum, Denmark and Anna Kristiansson, Sweden

While we are focusing on how to share knowledge and to communicate with professionals in the water sector, this workshop will focus on how we can engage the youth to share commitment and enthusiasm to contribute to sustainable development in the water sector.

This workshop will draw on experienced school services in utilities in Denmark and Sweden to share our experiences in creating learning environments in close cooperation between utilities and public schools.

**Speakers:** Anna Kristiansson, VA SYD and Sweden Water Research (SE); Stig Graeser Dalum, BIOFOS (DK); Emilia Dall’Osso, Kretsum/VA SYD, (SE); Mette Lynge Nielsen, School Coordinator BIOFOS (DE) & Carin Hernqvist, Kretsum/VA SYD, (SE)

**Lunch 12:00 - 13:30**

**Session 2 13:30 - 15:00**

#### 3.1 | SG HEALTH RELATED WATER MICROBIOLOGY AND WHO WORKSHOP: RECREATIONAL WATER QUALITY TRANSLATING SCIENCE TO POLICY
**Chairs:** Regina Sommer, Austria and Kate Medlicott, WHO

In this workshop, the requirements of best-practice guideline development will be discussed in the context of the recently released WHO recreational water quality guidelines, in light of the scientific results of recent high-quality reviews on the human health impact of faecal pollution in recreational waters, sand, and harmful algal blooms.

**Speakers:** Regina Sommer, Medical University of Vienna (AT); Kate Medlicott, World Health Organization (SZ); David Kay, CREH (UK); João Brandão, National Institute of Health Dr. Ricardo Jorge (PT); Joan Rose, Michigan State University (US); Anne Roiko & Maja Feder, European Commission

#### 3.5 | AN INNOVATIVE PARADIGM IN WATER INFORMATICS FOR SMART CITY APPLICATIONS
**Chairs:** Amlan Chakrabarti, India and Jyoti Gautam, India

Encompassing most of the latest technologies under the roof of Water Informatics and discussion of the case studies.

**Speakers:** Amlan Chakrabarti, University of Calcutta (IN); Jyoti Gautam, AKTU (IN); Dola Gupta, University of Calcutta (IN)

**Break 15:00 - 15:15**

**Closing Ceremony 15:15 - 16:45**

Including Poul Harremoës Lecture by Prof. Wolfgang Rauch

**Gala Dinner  Evening**
Keynote Plenary 09:00 - 09:50

Keynote: Wastewater Gone Viral: Pandemic Signals From the Sewers, Gertjan Medema
Panel: Joan Rose, Jay Bhagwan, Jonathan Hoffmann, Lasse Dam Rasmussen, Ana Maria de Roda Husman, Marta Vargha

Coffee Break 09:50 - 10:30

Session 1 10:30 - 12:00

1.3 | ADVANCING COASTAL RESILIENCY FOR IMPERILED BARRIER ISLAND SYSTEMS

Chairs: Linda Åmand, Sweden and Hamred Chungani, Kenya

The intent of the Resilient Long Beach Island Project, one of four pilot regions within the Mid-Atlantic U.S., was to solidify a shared vision for a resilient barrier island. The project addresses the complexities of striking the delicate balance between protecting coastal communities and enhancing ecosystem services. Technological advancements were made during the course of this dynamic project to best translate complex analyses into user-friendly information to allow stakeholders to make informed decisions. Two specific methods we wish to highlight include the development of an integrated flood model (“Cloudburst”), storm surge and sea level rise, and the preparation of intricate scenario planning typologies illustrating nature-based solutions and community transformation.

Speakers: Christian Nyerup Nielsen, Ramboll (DK) & Sophia Ertel, Ramboll Americas (US)

1.4 | OPTIMISATION OF WATER DISTRIBUTION NETWORKS

Chairs: Michael Storey, Australia and Athanasios Serafeim, Greece

Migration from materials in contact with drinking water — application of non-target screening analysis, Lone Tolstrup Karlby, Hofor, Denmark

Performance evaluation of flow-starved water transmission network, Abhishek Sinha, IIT Bombay, India

Real-time software for distribution system operations: an operator-focused design approach, Ian Rodgers, Xylem Inc, United Arab Emirates

Decision for hazard ranking of water distribution network using TOPSIS Method, Haekeum Park, University of Seoul, Republic of Korea

--- POSTERS ---

Optimization of electrical energy consumption and reduction of carbon footprint in water supply — AdRA’s Case Study, Mafalda Tavares, AdRA-Águas da Região de Aveiro, Portugal

Vulnerability of water distribution networks, Richárd Wéber, Budapest University of Technology and Economics, Hungary

Lunch 12:00 - 13:30

Session 2 13:30 - 15:00

1.2 | UTILITY EFFICIENCY AND EXCELLENCY

Chairs: Linda Åmand, Sweden and Hamred Chungani, Kenya

Assessing the financial sustainability of water service providers in Kenya, Kelvin Mwangi, Nairobi City Water and Sewerage Company Ltd, Kenya

Benchmarking the sewage treatment facilities of Indian cities using a novel index-based approach, Divya Zaman, Indian Institute of Technology Kharagpur, India

Towards collaborating and integrated water companies, Carl Heyrman, AquaFlanders, Belgium

Benchmarking sustainability of European water services, Peter Dane, EBC Foundation, Netherlands

--- POSTERS ---

Alliance for water stewardship: a case study of sustainable water stewards in the northern Italy, Gabriele Andreani, Philip Morris Manufacturing and Technology, Italy

Achieving a sustainable step-change in water management in a UK campus environment, James Daly, University of Surrey, United Kingdom

Break 15:00 - 15:15

Closing Ceremony 15:15 - 16:45

Including Poul Harremoës Lecture by Prof. Wolfgang Rauch

Gala Dinner Evening
Thursday | Programme

Keynote Plenary
09:00 - 09:50

Keynote: Wastewater Gone Viral: Pandemic Signals From the Sewers, Gertjan Medema
Panel: Joan Rose, Jay Bhagwan, Jonathan Hoffmann, Lasse Dam Rasmussen, Ana Maria de Roda Husman, Marta Vargha

Coffee Break
09:50 - 10:30

Session 1
10:30 - 12:00

1.1 | INTEGRATION OF DECENTRALISED SOLUTIONS IN A CENTRALISED SYSTEM
Chairs: Eiman Karar, South Africa and Avinash Vijay, France

Can we sum the performance of green infrastructures? The potential of system-based planning, Vincent Panu, Norwegian University of Science and Technology, Norway

“Water 4 Later” — Collective rainwater storage and reuse, coupled to ASR, within a business park in Keiberg-Vossem, Ian Montauban van Swijndregt, De Watergroep, Belgium

Cluster-based fecal sludge and septage management in the hilly region: a case study of Uttarakhand, Mahreen Matto, National Institute of Urban Affairs, India

Hybrid water model: a strategic decision making tool for sustainable water management, Louise Vanysscher, De Watergroep, Belgium

— P O S T E R S —

Sustainable water management for Indian cities — a conceptual framework, Suresh Sharma, J P School of Global Management, India

Mitigation of hospital centralisation caused increases of antibiotic-resistant bacteria in sewers by source treatment utilising peracetic acid, Henrik Andersen, DTU, Denmark

Lunch
12:00 - 13:30

Session 2
13:30 - 15:00

1.14 | INTEGRATION OF DECENTRALISED SOLUTIONS IN A CENTRALISED SYSTEM
Chairs: Riku Vahala, Aalto University (FI), Ilkka Miettinen, Finnish Institute for Health and Welfare (FI), Susanne, Høitetad, National Health Institute of Norway (NO), Birger, Wallsten, The Swedish Water and Wastewater Association (SE), Dorte, Skrom, Danish Water and Wastewater Association (DK), Heidi Härkki, HSY (FI), Riina Liikanen, Vesiallisuusliitos (FI) & Kjetil Furuberg, Norsk vann BA (NO)

Speakers: Riku Vahala, Aalto University (FI), Ilkka Miettinen, Finnish Institute for Health and Welfare (FI), Susanne, Høitetad, National Health Institute of Norway (NO), Birger, Wallsten, The Swedish Water and Wastewater Association (SE), Dorte, Skrom, Danish Water and Wastewater Association (DK), Heidi Härkki, HSY (FI), Riina Liikanen, Vesiallisuusliitos (FI) & Kjetil Furuberg, Norsk vann BA (NO)

Coffee Break
15:00 - 15:15

Closing Ceremony
15:15 - 16:45

Including Poul Harremoës Lecture by Prof. Wolfgang Rauch

Gala Dinner
Evening
### Keynote Plenary | 09:00 - 09:50

**Keynote:** Wastewater Gone Viral: Pandemic Signals From the Sewers, Gertjan Medema  
**Panel:** Joan Rose, Jay Bhagwan, Jonathan Hoffmann, Lasse Dam Rasmussen, Ana Maria de Roda Husman, Marta Vargha

### Coffee Break | 09:50 - 10:30

### Session 1 | 10:30 - 12:00

#### 2.4 MICROPLASTICS IN WASTEWATER AND BIOSOLIDS
**Chairs:** Stefan Kools, Netherlands and Banu Ormeci, Canada  
In this session we will gather a global overview of the state-of-technology in sampling and analysis for the aquatic environment, with a perspective from both drinking water and waste water treatment.  
**Speakers:** Stefan Kools, KWR Water Research Institute (NL), Jan Hofman, Bath University (UK), Banu Ormeci, Carleton (CA) & Danence Lee, PUB (SG)

### Room B3 c Workshop

#### 6.12 UNFC SYSTEM FOR GROUNDWATER-RESOURCE PROJECTS
**Chairs:** Kevin Parks, Canada and Klaus Hinsby, Denmark  
The purpose of this session is to evaluate the application of the Draft UNFC Specifications for Groundwater through a representative use case based on the GeoERA groundwater projects.  
**Speakers:** Kevin Parks, Deep Time Ltd. (CA), Klaus Hinsby, GEUS (DK), Peter van der Keur, GEUS (DK) & Marco Petitta, Sapienza Univ. of Rome (IT)

### Lunch | 12:00 - 13:30

### Session 2 | 13:30 - 15:00

#### 4.7 SANITATION IN URBAN INFORMAL SETTLEMENTS
**Chairs:** Bo N Jacobsen, Denmark  
The workshop will put into focus how to share and transfer knowledge and good experiences from new technical-scientific findings to large-scale practical implementations of sustainable sanitation solutions in urban informal settlements. Linkages to the Congress themes, e.g., Wash and community scale water management, and to the IWA Strategic Plan 2019–24, e.g., providing a targeted platform that helps utilities (and communities) share experiences, recognise and learn from emerging disruption, and adapt and embrace change.  
The outcome of the workshop will be documented as a legacy. It is planned to involve an IWA Young Water Professional in the rapporteur process and in writing a blog to share the outcomes.  
**Speakers:** Bo N Jacobsen, Engineers Without Borders & IAWPRC-IAWQ-IWA Member since 1990 (DK), Hezekiah Pireh, Yirah O. Conteh, Shack/Slum Dwellers International (SA), Jay Bhagwan, Water Research Commission (ZA), Stuart White, University of Technology Sydney (AU), Kai Udert, Markus Starkl, BOKU Wien (AT) & James Ebdon, University of Brighton (UK)

### Room B3 d Workshop

#### 4.8 ACTIONABLE PATHWAY TO IMPLEMENTATION OF NATURE-BASED SOLUTIONS
**Chairs:** Maria Dubovik, Finland and Laura Wendling, Finland  
The session brings together Europe’s leading experts in nature-based solutions design, implementation and impact evaluation. The session presents the components of the NBS implementation cycle and offers participants an opportunity to engage in NBS discussions. Components of the NBS cycle discussed will include the identification of important stakeholders, co-creation, policy contexts, and means to strengthen and upscale nature-based interventions via monitoring and impact assessment. After the session, participants will be able to identify key stakeholders and steps necessary for targeted NBS implementation, performance and impact evaluation, and replication. Local experts can translate the session’s learning outcomes to local agendas and decision-making, and replicate the NBS implementation process for the local environmental, social and economic challenges.  
**Speakers:** Maria Dubovik, VTT Technical Research Centre of Finland (FI) & Laura Wendling, VTT Technical Research Centre of Finland (FI), Margot Olbertz & Pedro Carvalho, Aarhus University (DK)

### Break | 15:00 - 15:15

### Closing Ceremony | 15:15 - 16:45

*Including Poul Harremøes Lecture by Prof. Wolfgang Rauch*

### Gala Dinner | 17:30 - 18:20
### Keynote Plenary 09:00 - 09:50

**Keynote:** Wastewater Gone Viral: Pandemic Signals From the Sewers, Gertjan Medema  
**Panel:** Joan Rose, Jay Bhagwan, Jonathan Hoffmann, Lasse Dam Rasmussen, Ana Maria de Roda Husman, Marta Vargha

### Coffee Break 09:50 - 10:30

### Session 1 10:30 - 12:00

#### 6.13 | HOW TO OPERATIONALISE INTEGRATED URBAN WATER MANAGEMENT — A FIVE-STEP GUIDE

**Chairs:** Katharine Cross, Australia and Michael Wilson, Australia  
The workshop will be presented through the lens of a “water sensitive city” to draw on a decade’s worth of research in this area, as well as a five-step framework to address the urgent urban water challenges.  
**Speakers:** Katharine Cross, Australian Water Partnership (AU) & Michael Wilson, eWater (AU) & Tony Wong, Monash University (AU)

#### 6.19 | GOVERNANCE AND TRANSITION TO A CIRCULAR ECONOMY IN PUBLIC WATER SERVICES

**Chairs:** Jordi Morató, Spain and Nicola Tollin, Denmark  
The workshop will analyse and compare various cases of small and medium-sized water utilities that have worked on their transition to a circular economy within the context of the SDGs.  
**Speakers:** Jordi Morató, UNESCO Chair on Sustainability - UPC (ES) & Nicola Tollin, University of Southern Denmark (DK), Jose Luis Martin Bordes, Partnership WDPs Expert, Carlos A. Arias, Univ. Aarhus (DK), Lykke Leonardsen, Copenhagen Region Municipality (DK) & Rogier van den Berg

### Lunch 12:00 - 13:30

### Session 2 13:30 - 15:00

#### 6.16 | LIFECYCLE SYSTEM THINKING AND SYSTEM BOUNDARIES FOR SUSTAINABILITY ASSESSMENT OF WATER MANAGEMENT

**Chairs:** Martin Rygaard, Denmark and Maria Farago, Denmark  
Sustainability Development Goals and Planetary Boundaries are taking water management by storm. In that storm, well-conducted lifecycle assessments (LCA) and cost-benefit analyses can provide quantitative decision support for strategic planners and management as such support tools, the first step is always a thorough understanding of the water system and its interaction with associated energy, material, and transport systems. In this training session, you will be introduced to the concept of lifecycle systems thinking. We will provide an example based on state-of-the-art water resource recovery. Following the introduction, an interactive session with peers will challenge you to map your own system and identify all links to upstream and downstream processes. The session is a modified version of training sessions successfully held with participants from Argentina, China, Denmark, Egypt, Ghana, Kenya, and South Africa.  
**Speakers:** Martin Rygaard, Technical University of Denmark (DK) & Maria Farago, Technical University of Denmark (DK)

#### 1.4 | THE DIGITAL WORKER — CHALLENGES AND LESSONS LEARNED BY INTERNATIONAL UTILITIES

**Chairs:** Cheryl Davis, United States and Lisa Bross, Germany  
The purpose of this workshop is to identify and discuss workforce challenges and lessons learned in relation to issues (e.g., selection of tools, organisational culture, staff training, human resource issues, and IT support) that are key to the effective use of digital tools. A combination of presentations and facilitated discussion will be used to document challenges and lessons learned. Output from this session will be used as the basis for the creation of future reports, presentations, and guidelines for effective use of digital tools by utilities.  
**Speakers:** Cheryl Davis, Chair of IWA Specialist Group on Sustainability in the Water Sector CKD Consulting (US) & Lisa Bross, WVR (DE), Nozomi Ishida, Tokyo Metropolitan Government (JP), Victor Faria, CEDEA (BR) & Juan Iervasi, Agua y Saneamientos Argentinos (AR)

### Break 15:00 - 15:15

### Closing Ceremony 15:15 - 18:46

Including Poul Harremoëls Lecture by Prof. Wolfgang Rauch

### Gala Dinner Evening
### Keynote Plenary 09:00 - 09:50

### Coffee Break 09:50 - 10:30

### Session 1 10:30 - 12:00

#### 1.5 | WATER IN CIRCULAR ECONOMY AND RESILIENCE: AN OPPORTUNITY TO TRANSFORM URBAN WATER SERVICES

**Chairs:** Anna Delgado, United States

The purpose of the workshop is to present the World Bank’s Water in Circular Economy and Resilience (WICER) Framework, which aims to establish a common understanding of circular economy and resilience in the urban water sector and to showcase global experiences of different cities in different contexts applying circular economy and resilience principles. The presenters will discuss how to operationalize and mainstream these concepts in urban water, reflecting on their experiences and identifying challenges and opportunities. The purpose of the workshop is also to engage the audience and promote a collaborative discussion to identify challenges and opportunities in the sector and to foster the application of circular solutions in the water sector. The power points and a summary of the workshop will be available on the World Bank’s WICER website: www.worldbank.org/wicer.

**Speakers:** Anna Delgado, World Bank (US), Daniel Nolasco, NOLASCO & Asoc. S.A. (AG), Jose Luis Valverde, Sociedad Minera Cerro Verde S.A.A. (PR), Frodo van Oostveen, World Waternet (NL) & Marta Colet Gonzalo, Aguas Andinas (CL)

### Lunch 12:00 - 13:30

### Session 2 13:30 - 15:00

### Break 15:00 - 15:15

### Closing Ceremony 15:15 - 16:45

### Gala Dinner Evening
### Thursday | Business Forums

#### Keynote Plenary 09:00 - 09:50

<table>
<thead>
<tr>
<th>BUSINESS FORUM ROOM 1 (HALL E)</th>
<th>BUSINESS FORUM ROOM 2 (HALL C)</th>
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<tbody>
<tr>
<td>10:30 — 11:15</td>
<td>GRUNDFOS</td>
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<td>Creating a digital platform for smart and liveable cities</td>
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<td>Digitalisation is an enabler for smart and liveable cities. Utilising the increasing amount of available data, connecting the dots and leveraging the ability to predict and prioritise, the digital platform created by Grundfos simplifies and optimises daily operations and long-term planning in a proactive, profitable and smart way.</td>
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<tr>
<td>10:30 — 11:15</td>
<td>ISKREA</td>
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<td>Veitur project. A complete AMI solution for the multiutility connecting electricity, heat, and water metering points within single-point management access</td>
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<td>The session will present a use case in Veitur, Iceland’s largest utility company, implementing an AMI solution on a country scale, connecting electricity, heat, and water metering points with single-point management access within Iskraemeco’s software suite – SYMBIOT.</td>
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<td>- Daniele Del Negro, Sales and Business Development Manager</td>
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| 11:15 — 12:00 | KAMSTRUP |
| Reducing Non-Revenue Water through optimized leak-detection |
| Sharing the innovation story on how acoustic leak detecting (ALD) technology was developed, and the value it generates |
| Sharing our “It’s time to know” perspectives on how data becomes increasingly important in daily decision making |
| Sharing learnings from practical smart metering cases with focus on measurable results and key learnings |
| - Hans Christian Jørgensen, Head of Solution & Application Management |

11:15 — 12:00 | DHI |

Water modelling tools – transforming science into practice

Sharing the innovation story on how acoustic leak detecting (ALD) technology was developed, and the value it generates
Sharing our “It’s time to know” perspectives on how data becomes increasingly important in daily decision making
Sharing learnings from practical smart metering cases with focus on measurable results and key learnings

- Hans Christian Jørgensen, Head of Solution & Application Management

| 12:15 — 13:00 | DENMARK PAVILION |
| Climate adaptation - turning necessity into benefits |
| Denmark is surrounded by coast and over time developed world class efficient climate adaption solutions. This seminar addresses top modern ways of securing vital urban infrastructure as well as creating value added projects in close cooperation with various stakeholders to improve city livability. |
| - Bjarne Rasmussen, Engineer, Middelfart Municipality |
| - Morten Kristensen, Sales Director, Apx10 |
| - Jacob P. Larsen, Director of Urban Water & Infrastructure, WSP Denmark |

| 13:30 — 14:15 | GRUNDFOS |
| To be announced later |

#### Closing Ceremony 15:15 - 16:45

- Bjarne Rasmussen, Engineer, Middelfart Municipality
- Morten Kristensen, Sales Director, Apx10
- Jacob P. Larsen, Director of Urban Water & Infrastructure, WSP Denmark