



13th IWA International Conference on Water  
Reclamation and Reuse



Water Reuse: Overcoming Challenges of Growth and  
Climate Change

January 15-19, 2023 - Chennai, India

Programme

15th January, Sunday

	Hall 2		Hall 3	
	<b>Workshop – Track 1</b> <i>Desalination and Industrial Water Reuse</i>		<b>Workshop – Track 2</b> <i>EU-India Cooperation in Water Reuse</i>	
10:30	Desalination for Water Reuse (90 min)		Novel and Innovative Solutions for Safe Water Reuse in India (90 min)	
12:00	Lunch			Hall 1
14:00	Best Practice and Novel Strategies for Industrial Water Reuse (90 min)		Minimizing Occupational Risks in Wastewater Treatment: The Role of Technology-based Wastewater Safety Planning (180 min)	
18:00	Welcome Reception			Hall 1

16th January, Monday – Morning

Hall 1&2	
<b>09:00 – 10:20 Opening Ceremony</b>	
<b>Welcome Address</b> Naina Lal Kidwai, Chairman, FICCI Water Mission and Past President, FICCI	
<b>Welcome Address and Conference Introduction</b> Dr Josef Lahnsteiner, Chair, IWA Reuse Specialist Group	
<b>Special Address</b> Mr Rajiv D Mittal, CEO, Va Tech Wabag	
<b>Special Address</b> Dr Thomas Michael MOLLENKOPF, President, IWA	
<b>Inaugural Address</b> Mr. G Asok Kumar, Director General, National Mission for Clean Ganga, Department of Water Resources, River Development and Ganga Rejuvenation, Ministry of Jal Shakti, Government of India	
<b>Concluding Remarks</b> Dr GSK Velu Chairman, FICCI Tamil Nadu State Council	

Tea/Coffee Break with Posters and Exhibitions

**Plenary 1**

10:50

**Transitioning to Circular Economy – Innovations Valuing Wastewater and Sludges in Africa**

Akiça Bahri, National Agricultural Institute of Tunisia, Tunis, Tunisia  
 Chair: Josef Lahnsteiner, VA TECH WABAG, Austria

**Session 1****Water Reuse in Developing Countries**

Chair: Ligy Philip, Department of Civil Engineering, Indian Institute of Technology Madras

11:20

**Windhoek's Multiple Barrier Approach for Resilient DPR**

B. Ndaitwah<sup>1</sup>; T. Honer<sup>1</sup>; L. Narib<sup>2</sup>; S. Husselmann<sup>2</sup>; J. Lahnsteiner<sup>3</sup>; Y. Poussade<sup>4</sup>;  
<sup>1</sup>Wingoc; <sup>2</sup>City of Windhoek; <sup>3</sup>VA TECH WABAG, Austria; <sup>4</sup>Veolia Water, France

11:40

**Exploring Potential of Water Reuse in India**

D. P. Mathuria<sup>1</sup>; S. Palit<sup>1</sup>; <sup>1</sup>National Mission for Clean Ganga

12:00

**Characterization and Analysis of Graywater**

S. Dasgupta<sup>1</sup>; Z. P. Bhathena<sup>1</sup>; <sup>1</sup>Department of Microbiology, Bhavan's College, Mumbai, India

12:20

**Operating Experience of Koyambedu TTRO Plant - A Case Study**

K. Syed Amir Basha<sup>1</sup>; P. S. S. Murugan<sup>1</sup>; <sup>1</sup>VA TECH WABAG, Chennai, India

**Session 2****Non-potable Water Reuse**

Chair: Esper Ncube, Rand Water, South Africa

11:20

**Provision of Reclaimed Water as an Alternative Water Resource for Non-potable Applications Using a Hybrid Membrane-ozonation System**

J. Ahmadj<sup>1</sup>, U. Hübner<sup>1</sup>, C. Schwaller<sup>1</sup>, J. Ho<sup>1</sup>, J. E. Drewes<sup>1</sup>; <sup>1</sup>Urban Water Systems Engineering, Technical University of Munich, Germany

11:40

**Industrial Water Reclamation for Non-potable Reuse at Ujams in Windhoek, Namibia**

J. Villet<sup>1</sup>; T. Honer<sup>1</sup>; D. Le Maoût<sup>2</sup>; J. Lahnsteiner<sup>3</sup>; <sup>1</sup>UWTC, Windhoek, Namibia; <sup>2</sup>Veolia Water, France; <sup>3</sup>VA TECH WABAG, Austria

12:00

**Performance of Pilot Scale Hybrid Constructed Wetland for Greywater Treatment**

M. K. Ravichandran<sup>1</sup>; L. Philip<sup>1</sup>; <sup>1</sup>IIT-Madras, Chennai, India

12:20

**Mechanistic Modelling of Chlorine Decay in Reclaimed Water Containing Ammonia**

R. M. C. Viegas<sup>1</sup>; J. Costa<sup>1,2</sup>; E. Mesquita<sup>1</sup>; F. Ferreira<sup>2</sup>; M. João Rosa<sup>1</sup>; <sup>1</sup>Water Quality and Treatment Laboratory, Urban Water Unit, Hydraulics and Environment Department, LNEC; <sup>2</sup>CERIS, Instituto Superior Técnico, University of Lisbon, Portugal

**Session 3****Innovative Technologies and Applications**

Chair: Nupur Bahadur, TERI, Delhi, India

- 11:20 Chemical-free UV Driven AOPs for Micropollutant Abatement - Not a Fiction Anymore**  
N. K. George<sup>1</sup>; G. Doornbusch<sup>2</sup>; B. Wols<sup>3</sup>; D. Santoro<sup>4</sup>; B. Martjin<sup>5</sup>; B. Domenico<sup>5</sup>; M. Sprujit<sup>5</sup>; K. Bell<sup>6</sup>; J. S. Sánchis<sup>7</sup>; W. Gernjak<sup>8</sup>; <sup>1</sup>Wetsus & University of Girona ; <sup>2</sup>Wetsus ; <sup>3</sup>Wetsus & KWR ; <sup>4</sup>Trojan Technologies & US Peroxide ; <sup>5</sup>PWNT Technologies ; <sup>6</sup>Brown and Caldwell ; <sup>7</sup>Catalan Institute for Water Research & University of Girona ; <sup>8</sup>Catalan Institute for Water Research & Catalan Institution for Research and Advanced Studies
- 11:40 Solar Photocatalysis as Advanced Wastewater Treatment Enabling Agricultural Water Reuse**  
J. Wolters<sup>1</sup>; L. Wacker<sup>1</sup>; S. Schiwy<sup>2</sup>; D. Bastian<sup>1</sup>; B. M. Aumeier<sup>1</sup>; H. Hollert<sup>2</sup>; T. Wintgens<sup>1</sup>; <sup>1</sup>Institute of Environmental Engineering (ISA), Germany; <sup>2</sup>Institute of Ecology, Evolution and Diversity, Germany
- 12:00 Upstream ozone vs downstream UVAOP for 1,4-dioxane removal in high-bromide O3-BAC-GAC-UV based potable reuse**  
M. Pearce<sup>1</sup>; S. Hogard<sup>1</sup>; E. Rosenfeldt<sup>1</sup>; C. Bott<sup>1</sup>; <sup>1</sup>HRSD Virginia Tech, USA
- 12:20 Wastewater Reuse Using a Hybrid Solar vis-LED-photocatalytic Metal Foam Membrane Reactor to Reduce CO<sub>2</sub>-footprint**  
H. Mamane<sup>1</sup>; C. Chaumette<sup>2</sup>; V. Blass<sup>3</sup>; <sup>1</sup>Faculty of Engineering Wolfson Building, Tel Aviv University, Israel; <sup>2</sup>Fraunhofer Institute for Interfacial Engineering and Biotechnology, Germany; <sup>3</sup>Tel Aviv University

12:40 [Lunch Break with Posters and Exhibitions](#)**16th January, Monday – Afternoon****Session 4****Water Reuse in Developing Countries**

Chair: Ulf Miehe, KWB

- 14:00 Keynote 1**  
**Phycoremediation of Greywater Using Microalgae**  
S. Mohan, IIT Madras, Chennai, India
- 14:30 A Comparative Investigation of the Removal Efficiency, Cost and Operation of Conventional Direct Potable Reuse Technology and Biotechnology**  
M. Schalkwyk<sup>1</sup>; S. Getahun<sup>2</sup>; L. Orsini<sup>3</sup>; <sup>1</sup>Umgeni Water; <sup>2</sup>University of Kwa-zulu-Natal; <sup>3</sup>University of Birmingham
- 14:50 Artificial Recharge of Ground Water Using Reclaimed Water from STP**  
B. K. Kumaran<sup>1</sup>; R. Shrinidhi Kasthuri<sup>1</sup>; <sup>1</sup>VA TECH WABAG, Chennai, India

### Session 5 Potable Water Reuse

Chair: Josef Lahnsteiner, VA TECH WABAG, Austria

- 14:00 **Keynote 2**  
**Best (and worst) Practices for Public Acceptance of Reuse**  
Melissa Meeker, The Water Tower, USA
- 14:30 **Process Benefits of Ozone BAC as Pretreatment to Membrane Based Advanced Treatment for Potable Reuse**  
R. S. Trussell<sup>1</sup>; <sup>1</sup>Trussell Technologies, San Diego, USA
- 14:50 **Improving Implementation of Managed Aquifer Recharge (MAR) Systems by Utilizing Updated Pathogen Removal Knowledge**  
V. Zhiteneva<sup>1,2</sup>; J. Mosher<sup>3</sup>; C. P. Gerba<sup>4</sup>; T. Rauch-Williams<sup>3</sup>; J. E. Drewes<sup>1</sup>; <sup>1</sup>Urban Water Systems Engineering, Technical University of Munich; <sup>2</sup>Kompetenzzentrum Wasser Berlin; <sup>3</sup>Carollo Engineers, Inc., Colorado, USA; <sup>4</sup>Department of Environmental Science, The University of Arizona

### Session 6 Innovative Technologies and Applications

Chair: Cristoph Schwaller, Technical University of Munich, Germany

- 14:00 **Keynote 3**  
**Electrocatalytic Membrane Filtration for Removal of Perfluoroalkyl Substances**  
Kwang-Ho Choo, Kyongpook National University, Daegu, Korea
- 14:30 **Removal of Organic and Inorganic Compounds in a Synthetic Textile Effluent by Electrochemical Technology Using a Graphene-coated Electrode**  
O. Garcia-Rodriguez<sup>1</sup>; X. Y. Liao; J. Tan, O. Lefebvre; <sup>1</sup>National University of Singapore
- 14:50 **Anaerobic Electrochemical Fluidized Membrane Bioreactor for Simultaneous Recovery of Reclaimed Water and Energy from Domestic Wastewater**  
K. P. Katuri<sup>1</sup>; H. Anandarao<sup>1</sup>; Y. Singh<sup>1</sup>; P. E. Saikaly<sup>1</sup>; <sup>1</sup>Biological and Environmental Science and Engineering Division, Water Desalination and Reuse Center, King Abdullah University of Science and Technology, KSA

15:10 **Tea/Coffee Break with Posters and Exhibitions**

### Session 7 Water Reuse in Developing Countries

Chair: Abishek Narayan, Eawag, Switzerland

- 15:40 **ANDICOS a Wastewater Treatment Approach that Promotes Water Reuse and Energy Recovery**  
S. Van Ermen<sup>1</sup>; L. Diels<sup>2</sup>; P. Bose<sup>3</sup>; S. Shah<sup>4</sup>; P. Campling<sup>1</sup>; <sup>1</sup>VITO Flemish Institute for Technological Research; <sup>2</sup>University Antwerp; <sup>3</sup>Department of Civil Engineering, Indian Institute of Technology Kanpur; <sup>4</sup>Ion Exchange

16:00 **Optimization of High-Rate Algal Ponds Design and Operation to Enhance Wastewater Reuse and Biomass Production**  
E. Uggetti<sup>1</sup>; A. Ortiz<sup>1</sup>; R. Díez-Montero<sup>1</sup>; N. Khalil<sup>2</sup>; J. García<sup>1</sup>; <sup>1</sup>Universitat Politècnica de Catalunya; <sup>2</sup>Aligarh Muslim University

16:20 **Removal of Heavy Metals in Modified Constructed Wetlands Using Activated Carbon and Zeolite**  
L. Ofiera<sup>1</sup>; F. Voss<sup>1</sup>; P. Bose<sup>2</sup>; C. Kazner<sup>1</sup>; L. Marco<sup>1</sup>; <sup>1</sup>Hochschule Bochum, Department of Civil and Environmental Engineering, Germany; <sup>2</sup>Indian Institute of Technology Kanpur, India

16:40 **A Fallacy in Wastewater Demand: The Case of Rajkot, Gujarat**  
A. Sanjeev<sup>1</sup>; A. Palrecha<sup>1</sup>; <sup>1</sup>People in Centre Consulting, India

Hall 3

### Session 8 Potable Water Reuse

Chair: Melissa Meeker, The Water Tower, USA

15:40 **Wastewater Recycling for Indirect Potable Reuse: Technologies and Approaches for Risk Reduction**  
Ligy Philip<sup>1</sup>, M.R. Jaishankar<sup>2</sup>, <sup>1</sup>Department of Civil Engineering, Indian Institute of Technology Madras, <sup>2</sup>Chennai Metropolitan Water Supply and Sewerage Board, India

16:00 **Validating Pathogen Removal in Ozone-Biofiltration Advanced Treatment Trains**  
S. Hogard<sup>1</sup>; R. Pearce<sup>1</sup>; R. Gonzalez<sup>1</sup>; C. Bott<sup>1</sup>; <sup>1</sup>Virginia Tech, USA

16:20 **Reducing Life-cycle Cost of Groundwater Recharge and Drinking Water Augmentation**  
V. Sundaram<sup>1</sup>; G. Salazar-Benites<sup>2</sup>; <sup>1</sup>AECOM, USA; <sup>2</sup>Hampton Roads Sanitation District SWIFT Research Center, USA

16:40 **Contaminants of Emerging Concern Removal in Windhoek's New Goreangab Water Reclamation Plant**  
T. Honer<sup>1</sup>; B. Ndaitwah<sup>1</sup>; Y. Poussade<sup>2</sup>; J. Lahnsteiner<sup>3</sup>; <sup>1</sup>Wingoc; <sup>2</sup>Veolia Water, France; <sup>3</sup>VA TECH WABAG, Austria

Hall 5

### Session 9 Innovative Technologies and Applications

Chair: Uwe Hübner, Technical University of Munich, Germany

15:40 **Minimal Backwashing Impacts Breakthrough of Granular Activated Carbon Filters in Advanced Wastewater Treatment**  
B.M. Aumeier<sup>1</sup>; P. Jans<sup>1</sup>; D. Hillebrandt<sup>2</sup>; E. von Lieres<sup>3</sup>; T. Wintgens<sup>1</sup>; <sup>1</sup>RWTH Aachen University, Institute of Environmental Engineering; <sup>2</sup>Niersverband, Department Wastewater; <sup>3</sup>Forschungszentrum Jülich, Institute of Bio- and Geosciences

16:00 **Biological Oxygen-dosed Activated Carbon (BODAC) Filters in the Ultrapure Water Production Process**  
A. Larasati<sup>1</sup>; S. Pinela<sup>1,2</sup>; O. Bernadet<sup>1,3</sup>; R. Meulepas<sup>1</sup>; M. C. Gagliano<sup>1</sup>; <sup>1</sup>Wetsus, European centre of excellence for sustainable water technology; <sup>2</sup>Environmental Technology, Wageningen University & Research; <sup>3</sup>Engineering and Technology Institute Groningen, University of Groningen, The Netherlands

16:20 **Persistence of SARS-CoV-2 in Wastewater - Implications for Water Reuse**  
S. Sherchan<sup>1</sup>; <sup>1</sup>Morgan State University, USA

16:40 **Water Reuse Perspectives in Green Hydrogen Production**  
T. Track<sup>1</sup>; D. Frank<sup>1</sup>; A. Lucht<sup>1</sup>; <sup>1</sup>DECHEMA e.V., Water Management Division, Frankfurt, Germany

17:00 **Young Water Reuse Professionals (YWRPs) Meeting** Hall 5

Hall 1&2	
<b>Business Forum</b>	
Chair: Rajneesh Chopra, Global Head-Business Development, VA Tech Wabag Ltd, India	
17:00	<b>Use not Abuse: A Perspective on Groundwater</b> Shraman Jha, CEO, Hindustan Unilever Foundation
17:15	<b>Adoption of the Israel Wastewater Reuse Model for Agriculture through Community Irrigation Project in India</b> Lior Asaf, Water Attache Embassy of Israel, New Delhi, India
17:30	<b>Advanced Technologies on Water reclamation and Reuse</b> Abinash Patro, Marketing Leader, Xylem India
17:45	<b>Possibilities of Wastewater reuse through Nature Based Solutions</b> Rohini Pradeep, CDD India
18:00	<b>Submerged UF and MBR over conventional treatment products and practices</b> Anand Sathya, Geofluid Processors, India
18:15	<b>Pressure Exchangers for Industrial wastewater treatment</b> Mayank Srivastava, Sales Manager India - IWW

## 17th January, Tuesday – Morning

Hall 1&2	
<b>Plenary 2</b>	
09:00	<b>Potable Reuse in California</b> Shane Robert Trussell, Trussell Technologies, San Diego, USA Chair: Jörg Drewes, Technical University of Munich, Germany

Hall 1&2	
<b>Session 10</b>	
<b>Water Reuse in Developing Countries</b>	
Chair: Akiça Bahri, National Agricultural Institute of Tunisia, Tunis, Tunisia	
09:30	<b>Waste Stabilization Ponds For Water Reuse: First Systematic Evaluation Of Nine Urban Communities In Namibia</b> J. Sinn <sup>1,2</sup> ; S. Agrawal <sup>2</sup> ; L. Orschler <sup>2</sup> ; S. Lackner <sup>2</sup> ; <sup>1</sup> KfW Development Bank Frankfurt; <sup>2</sup> Technical University of Darmstadt, Department of Civil and Environmental Engineering Sciences, Germany
09:50	<b>National framework on Safe Reuse of Treated Water for India and feasibility assessment in Panipat, Haryana</b> Laura Sustersic, Jeremy Bird <sup>1</sup> , Girija Bharat <sup>2</sup> , Krishna C Rao <sup>3</sup> , Christoph Hugi <sup>4</sup> and Lena Breitenmoser <sup>5</sup>
10:10	<b>The Challenges of Water Reuse in an Algerian Oasis Pioneer Front</b> S. Bekaddour <sup>1</sup> ; T. Hartani <sup>2</sup> ; N. Ait mouheb; P. Mayaux <sup>4</sup> ; <sup>1</sup> Ecole Nationale Superieure agronomique; <sup>2</sup> Laboratory Management and Valorization of Agricultural and Aquatic Ecosystems, Morsli Abdellah Tipaza University; <sup>3</sup> INRAE, UMR G-eau, University of Montpellier; <sup>4</sup> CIRAD, UMR G-eau, University of Montpellier

## Session 11 Agricultural Reuse

Chair: Stevo Lavrnic, <sup>1</sup>Department of Agricultural and Food Sciences, University of Bologna, Italy

- Agricultural Water Reuse in Brandenburg, Germany: Potentials for Point-of-use Reuse Concepts and Extensive Risk Assessment for Fate of Organic Micro-pollutants**
- 09:30 D. Dittmann<sup>1</sup>; M. Thalmann<sup>2</sup>; A. Seelig<sup>3</sup>; T. Wilkes<sup>1,4</sup>; V. Junghans<sup>5</sup>; S. Klitzke<sup>1</sup>; A. Peters<sup>2</sup>; J. Haberkamp<sup>4</sup>; T. Reemtsma<sup>3</sup>; A. S. Ruhl<sup>1,6</sup>; <sup>1</sup>German Environment Agency; <sup>2</sup>Technische Universität Braunschweig; <sup>3</sup>Helmholtz Centre for Environmental Research – UFZ; <sup>4</sup>Münster University of Applied Sciences, IWARU; <sup>5</sup>Humboldt-Universität zu Berlin; <sup>6</sup>Technische Universität Berlin, Germany
- Effect of Irrigation With Treated Domestic Waste Water and Fertigation Scheduling on Vegetative Growth and Yield of Guava**
- 09:50 P. Sankapal<sup>1</sup>; S. Kolekar<sup>1,2</sup>; R. Borgaonkar<sup>1,3</sup>; M. Kshirsagar<sup>1</sup>; G. Pophali<sup>4</sup>; R. Bresciani<sup>5</sup>; F. Masi<sup>5</sup>; A. Rizzo<sup>5</sup>; S. Patil<sup>6</sup>; U. Kadam<sup>6</sup>; D. Panse<sup>3</sup>; K. Khare<sup>1</sup>; <sup>1</sup>Symbiosis International University, Pune; <sup>2</sup>Indian Institute of Technology, Mumbai; <sup>3</sup>Ecosan Services Foundation; <sup>4</sup>CSIR-National Environmental Engineering Research Institute, Nagpur; <sup>5</sup>IRIDRA S.r.l.; <sup>6</sup>Department of Irrigation and Drainage, Dr Babasaheb Sawant Kokan Krishi Vidyapeeth, Dapoli
- Reclaimed Wastewater Reuse in Viticulture: Social and Physical Singularities of Water**
- 10:10 A. L. Collard<sup>1</sup>; P. Garin<sup>1</sup>; N. Ait-Mouheb<sup>1</sup>; <sup>1</sup>INRAE, UMR G-EAU, University of Montpellier, France

## Session 12 Antimicrobial Resistance

Chair: Nobert Kreuzinger, Vienna University of Technology, Austria

- Sequential Managed Aquifer Recharge as a Multi-objective Treatment Process to Remove Pathogens and Trace Organic Chemicals in Potable Reuse**
- 09:30 U. Hübner<sup>1</sup>; J. Ho<sup>2</sup>; S. Karakurt-Fischer<sup>1</sup>; J. Müller<sup>1</sup>; A. Tiehm<sup>2</sup>; J. E. Drewes<sup>1</sup>; <sup>1</sup>Technical University of Munich, Chair of Urban Water Systems Engineering; <sup>2</sup>DVGW-Technologiezentrum Wasser (TZW), Department of Microbiology and Molecular Biology, Germany
- Following Antimicrobial Resistance Through a Multi-Barrier Treatment Facility for Direct Potable Reuse**
- 09:50 L. Wallmann<sup>1</sup>; J. Krampe<sup>1</sup>; J. Lahnsteiner<sup>2</sup>; E. Radu<sup>1</sup>; P. van Rensburg<sup>3</sup>; K. Slipko<sup>1</sup>; N. Kreuzinger<sup>1</sup>; <sup>1</sup>Technische Universität Wien, Institute for Water Quality and Resources Management, Austria; <sup>2</sup>VA TECH WABAG, Austria; <sup>3</sup>City of Windhoek, Namibia
- Removal Efficiency Database to Support Decisions for Water Reuse in the Context of the Spread of Antibiotic Resistance in the Environment**
- 10:10 T. U Berendonk<sup>1</sup>; A. Chandrasekar<sup>1</sup>; E. Cytryn<sup>2</sup>; D. Kneis<sup>1</sup>; <sup>1</sup>Institute of Hydrobiology, Technische Universität Dresden; <sup>2</sup>Institute of Soil, Water and Environmental Sciences, Volcani Institute, Agricultural Research Organization, Germany

- 10:30 **Tea/Coffee Break with Posters and Exhibitions**

**Session 13****Integrating Water Reuse in Existing Systems**

Chair: Thomas Honer, Windhoek Goreangab Operating Company, Windhoek, Namibia

11:00 **Innovative Concept for Water Reclamation and Reuse for Agricultural and Urban Landscape Irrigation Purposes in Northern Franconia, Germany**

C. Schwaller<sup>1</sup>; J. E. Drewes<sup>1</sup>; <sup>1</sup>Chair of Urban Water Systems Engineering, Technical University of Munich, Germany

11:20 **Functionality and Effect of Filter Module for a Recycling Shower System**

T. Pérez Guillemette<sup>1</sup>; H. Albrechtsen; B. O. Olsen<sup>2</sup>; <sup>1</sup>DTU Environment, Denmark; <sup>2</sup>Flow Loop

11:40 **Closing The Loop - A Conceptual Approach for Water Reuse as an Alternative Water Resource In Germany**

J. Bräcker<sup>1</sup>; S. Panglisch<sup>1</sup>; <sup>1</sup>University of Duisburg-Essen, Germany

12:00 **The Bacterial Community In Water Through A Pilot Scale Wastewater Treatment Facility Consisting Of Direct Membrane Filtration And Granular Activated Carbon**

M. Takman<sup>1</sup>; C. Paul<sup>2</sup>; S. Gidstedt<sup>1</sup>; M. Cimbritz<sup>1</sup>; Å. Davidsson<sup>1</sup>; <sup>1</sup>Department of Chemical engineering, Lund University, Sweden; <sup>1</sup>Department of Building and Environmental Technology and Department of Chemistry, Lund University, Sweden**Session 14****Agricultural Reuse**

Chair: Srikant Mutnari, Birla Institute of Technology, India

11:00 **Decentralized Wastewater Treatment with a Small-scale Membrane Bioreactor for Agricultural Water Reuse**

J. Haberkamp<sup>1</sup>; C. Tievesch<sup>1</sup>; M. Roß<sup>2</sup>; R. Eschrich<sup>3</sup>; E. Sandyk<sup>3</sup>; D. Dittmann<sup>3</sup>; A. Fischer<sup>4</sup>; M. Werner<sup>4</sup>; A. S. Ruhl<sup>2</sup>; <sup>1</sup>Münster University of Applied Sciences, IWARU; <sup>2</sup>Technische Universität Berlin; <sup>3</sup>German Environment Agency; <sup>4</sup>Mann & Hummel Water & Fluid Solutions GmbH, Germany

11:20 **Soil Microbial Community and Pathogens Variation during Lettuces Drip Irrigation by Raw And Reclaimed Wastewaters**

V. Moulia<sup>1,2,3</sup>; N. Ait-Mouheb<sup>1</sup>; G. Lesage<sup>2</sup>; J. Hamelin<sup>3</sup>; N. Wéry<sup>3</sup>; M. Heran<sup>2</sup>; <sup>1</sup>INRAE, UMR G-EAU, University of Montpellier; <sup>2</sup>IEM, University of Montpellier; <sup>3</sup>IEM, University of Montpellier, France

11:40 **Irrigation of Agroforestry System with Reclaimed Water from Full-scale UASB-CW System Treating Domestic Wastewater**

T. Seintos<sup>1</sup>; A. Koukoura<sup>2</sup>; E. Statoris<sup>1</sup>; C. Noutsopoulos<sup>1</sup>; D. Mamais<sup>1</sup>; F. Masi<sup>3</sup>; A. Stasinakis<sup>2</sup>; S. Malamis<sup>1</sup>; <sup>1</sup>National Technical University of Athens, School of Civil Engineering; <sup>2</sup>Water and Air Quality Laboratory, Department of Environment, University of the Aegean; <sup>3</sup>Iridra Srl

12:00 **RichWater® SBR as a Competitive Option for Wastewater Treatment and for the Use of Reclaimed Water In Agriculture**

A. Caballero<sup>1,2</sup>; A. Lorenzo<sup>1,3</sup>; P. Zapata<sup>1</sup>; <sup>1</sup>BIOAZUL S.L.; <sup>2</sup>Department of Biochemistry and Molecular Biology, University of Sevilla; <sup>3</sup>Department of Agricultural Economics, Finance and Accounting, University of Córdoba, Spain



## Session 15 Concentrate and Residual Management/ZLD

Chair: Paul Schausberger, UNIHA Wassertechnologie GmbH, Linz, Austria

- 11:00 **Advanced Water Reclamation Process to Reuse High Salinity Wastewater for Irrigation Purposes**  
M. Pastur<sup>1</sup>; E. Mena<sup>2</sup>; B. Lefevre<sup>3</sup>; J. Cortina<sup>4</sup>; J. López<sup>4</sup>; C. Castro-Barros<sup>1</sup>; J. Tobella<sup>1</sup>; A. Romero<sup>5</sup>; <sup>1</sup>Cetaqua, Carretera d'Esplugues; <sup>2</sup>Empresa Municipal de Aguas y Saneamiento de Murcia; <sup>3</sup>AQUATEC; <sup>4</sup>Chemical Engineering Department, Multiscale Science and Engineering Research Center, Barcelona TECH UPC; <sup>5</sup>Cetaqua, Water Technology Center, Spain
- 11:20 **Cost Optimisation by Using Ultra High-pressure Reverse Osmosis Membranes in ZLD Plant**  
M. Vasudevan<sup>1</sup>; R. Franks<sup>2</sup>; Y. Tomi<sup>3</sup>; R. Yeleswarapu<sup>1</sup>; <sup>1</sup>India Branch, Hydranautics Inc.; <sup>2</sup>Hydranautics Inc.; <sup>3</sup>Membrane Division, Nitto Denko Corporation
- 11:40 **Successful Implementation of Water Reuse and Zero Liquid Discharge Supporting Industrial Development in Water Scarce Areas**  
Y. Poussade<sup>1</sup>; A. Brahim<sup>2</sup>; T. Bensaid<sup>2</sup>; <sup>1</sup>Veolia France; <sup>2</sup>Veolia Industries Maroc
- 12:00 **Seeded Membrane Distillation Crystallization for Hypersaline Brine Treatment**  
S. Flatscher<sup>1</sup>; M. Rezaei<sup>2</sup>; F. Hell<sup>3</sup>; M. W. Hlawitschka<sup>1</sup>; J. Lahnsteiner<sup>3</sup>; <sup>1</sup>Institute of Process Engineering, Johannes Kepler University Linz; <sup>2</sup>GIG Karasek GmbH; <sup>3</sup>VA TECH WABAG, Austria

12:20 [Lunch Break with Posters and Exhibitions](#)

## 17th January, Tuesday – Afternoon

## Session 16 Regulation and Governance

Chair: Pierre van Rensburg, City of Windhoek, Namibia

- 14:00 **Keynote 4  
South African Water Reuse Programme**  
Johann Lubbe, Southern African Development Bank, South Africa
- 14:30 **Multi-agency Water Reuse Programs: Lessons for Successful Collaboration**  
D. Smith<sup>1</sup>; E. Rosenblum<sup>2</sup>; F. Marcus<sup>3</sup>; R. Raucher<sup>4</sup>; S. Spurlock<sup>5</sup>; <sup>1</sup>Water Innovation Services; <sup>2</sup>Envirosppectives, USA; <sup>3</sup>Stanford University; <sup>4</sup>Raucher LLC; <sup>5</sup>Pacific Institute, USA
- 14:50 **Developing DPR Regulations in California: Findings from State Research Efforts**  
B. Pecson<sup>1</sup>; A. Olivieri<sup>2</sup>; A. Kaufmann<sup>1</sup>; <sup>1</sup>Trussell Technologies; <sup>2</sup>EOA, Inc., USA

## Session 17 Agricultural Reuse

Chair: Jörg Drewes, Technical University of Munich, Germany

- 14:00 **Keynote 5  
Resource Recovery from Septage for Agriculture**  
Srikant Mutnuri, BITS Pilani, Goa, India

**Domestic Wastewater Treatment Through a Combination of UASB and Constructed Wetland for Agricultural Reuse**  
14:30 S. Lavrnić<sup>1</sup>; A. Foglia<sup>2</sup>; G. Mancuso<sup>1</sup>; E. Marinelli<sup>2</sup>; F. Fatone<sup>2</sup>; A. Toscano<sup>1</sup>; <sup>1</sup>Department of Agricultural and Food Sciences, Alma Mater Studiorum - University of Bologna; <sup>2</sup>Department of Science and Engineering of Materials, Environment and Urban Planning-SIMAU, Faculty of Engineering, Marche Polytechnic University, Ancona, Italy

**Advanced Water Reclamation Process to Reuse High Salinity Wastewater for Irrigation**  
14:50 M. Pastur<sup>1</sup>; E. Mena<sup>2</sup>; B.Lefevre<sup>3</sup>; J. Cortina<sup>4</sup>; J. López<sup>4</sup>; C. Castro-Barros<sup>1</sup>; J. Tobella<sup>1</sup>; A. Romero<sup>1</sup>; <sup>1</sup>Cetaqua, Water Technology Center, Spain; <sup>2</sup>Empresa Municipal de Aguas y Saneamiento de Murcia; <sup>3</sup>AQUATEC, Proyectos para el sector del agua; <sup>4</sup>Chemical Engineering Department, Multiscale Science and Engineering Research Center, Barcelona

Hall 5

### Session 18

#### Concentrate and Residual Management/ZLD

Chair: Christina Jungfer, DECHEMA e.V., Water Management Division, Frankfurt, Germany

#### Keynote 6

14:00 **Improve The ZLD Plant Performance and Optimise the Cost by Innovative Membrane Technologies**  
M. Vasudevan<sup>1</sup>; R. Franks<sup>2</sup>; Y. Tomi<sup>3</sup>; R. Yeleswarapu<sup>1</sup>; <sup>1</sup>India Branch, Hydranautics Inc.; <sup>2</sup>Hydranautics Inc.; <sup>3</sup>Membrane Division, Nitto Denko Corporation, Japan

14:30 **Wastewater Treatment and Recycle - An Overview of the Water Recovery Facility for a Petrochemical Plant, India**  
Y. P. Koganti<sup>1</sup>; <sup>1</sup>VA TECH WABAG, Chennai, India

14:50 **Evaluation of a Low-fouling High-pressure RO For a ZLD System Compared with a Conventional SWRO**  
Y. Tomi<sup>1</sup>; M. Vasudevan<sup>2</sup>; R. Yeleswarapu<sup>2</sup>; <sup>1</sup>Membrane Division, Nitto Denko Corporation, Japan; <sup>2</sup>Hydranautics

15:10 [Tea/Coffee Break with Posters and Exhibitions](#)

Hall 1&2

### Session 19

#### Regulation and Governance

Chairs: Eric Rosenblum<sup>1</sup> and Shannon Spurlock<sup>2</sup>; <sup>1</sup>Envirospectives, USA; <sup>2</sup>Pacific Institute, USA

15:40 **Perceived Drivers and Barriers in the Governance of Wastewater Treatment and Reuse in India: Insights from the EU-India Pavitra Ganga Project**  
G. Cuadrado-Quesada<sup>1</sup>; L. Breitenmoser<sup>2</sup>; Mr. Anshuman; N. Bassi; N. B. Dkhar; S. Kumar; M. Phukan; A. Naga Babu; A. Kierstein; H. De Schampelaere; P. Campling; C. M. Hooijmans<sup>1</sup>; <sup>1</sup>IHE Delft, Institute for Water Education; <sup>2</sup>Institute for Ecopreneurship, School of Life Sciences, University of Applied Sciences and Arts Northwestern Switzerland

16:00 **Wastewater Reuse in Food and Pandemics**  
P. W. M. H. Smeets<sup>1</sup>; R.P. Bartholomeus<sup>1,2</sup>; N. Koeman<sup>1</sup>; A. Hockin; <sup>1</sup>KWR Water Research Institute; <sup>2</sup>Soil Physics and Land Management Group, Wageningen University, The Netherlands

16:20 **A Communication Strategy for Water Reuse in South Africa**  
J. C. Slabbert<sup>1</sup>; N.Green<sup>1</sup>; N. Kalebaila<sup>2</sup>; <sup>1</sup>BHI32; <sup>2</sup>Water Research Commission, South Africa

16:40 **Stormwater Management with Source and Regional Control Measures**  
T. T. Tanyimboh<sup>1</sup>; RN Nyawo<sup>1</sup>; <sup>1</sup>University of the Witwatersrand, Johannesburg, South Africa

Hall 3

### Session 20 Urban Water Reuse

Chair: S. Mohan, IIT Madras, India

15:40 **Innovative Urban Water Reuse Project for 400 Households and Local Industry, Including Nutrient and Energy Recovery (Run4Life And NEREUS)**  
B. de Gussem<sup>1,2</sup>; D. Seutjens<sup>3</sup>; L. Demolder<sup>3</sup>; B. Buysschaert<sup>1,2</sup>; W. Jacobs<sup>2</sup>; P. de Smet<sup>3</sup>; <sup>1</sup>Center for Microbial Ecology and Technology (CMET), Ghent University; <sup>2</sup>FARYS|TMVW; <sup>3</sup>Clean Energy Innovative Projects cvba (CEIP)

16:00 **Decentralized Wastewater Treatment Using Combined Aerobic Granular Sludge and Gravity-Driven Membrane System**  
M. Alia<sup>1,2</sup>; Y. Singha<sup>1</sup>; M. Pronk<sup>3</sup>; M. van Loosdrecht<sup>3</sup>; Pascal E. Saikaly<sup>1</sup>; <sup>1</sup>Biological and Environmental Science and Engineering Division, Water Desalination and Reuse Center, King Abdullah University of Science and Technology; <sup>2</sup>Department of Civil, Structural & Environmental Engineering, Trinity College Dublin, The University of Dublin; <sup>3</sup>Department of Biotechnology, Delft University of Technology

16:20 **Water Reclamation and Reuse in Circular Cities**  
G. Langergraber<sup>1</sup>; N. Atanasova<sup>2</sup>; <sup>1</sup>University of Natural Resources and Life Sciences Vienna (BOKU); <sup>2</sup>Faculty of Civil and Geodetic Engineering, University of Ljubljana

16:40 **Vital Urban Filter: A Novel Solution to Remove Micropollutants from Urban Streams for Healthy Reuse**  
E. Sithamparanathan<sup>1</sup>; K. Kujawa-Roeleveld<sup>1</sup>; N. Sutton<sup>1</sup>; H. Rijnaarts<sup>1</sup>; <sup>1</sup>Department of Environmental Technology, Wageningen University & Research, The Netherlands

Hall 5

### Session 21 Concentrate and Residual Management/ZLD

Chair: Yvan Poussade, Veolia Water, Aubervilliers, France

15:40 **Innovative Brine Concentration Membranes To Lower The Cost of MLD/ZLD Treatment**  
M. M. Kulkarni<sup>1</sup>; <sup>1</sup>DuPont, India

16:00 **Novel Antiscalant Deactivation In Mining Wastewater Effluent For Minimized zero liquid ZLD**  
B.C.Y. Lee<sup>1</sup>; E.C.H. Tan<sup>1</sup>; K. Hideyuki<sup>1</sup>; S. Pietsch<sup>2</sup>; <sup>1</sup>Kurita R&D Asia Pte Ltd; <sup>2</sup>Avista Technologies, Inc.

16:20 **Future-oriented Technologies and Concepts to Increase Water Availability by Water Reuse And Desalination**  
T. Track<sup>1</sup>; C. Jungfer<sup>1</sup>; <sup>1</sup>DECHEMA e.V., Water Management Division, Frankfurt, Germany

16:40 **Jindal Steel and Power Coal Gasification Water Reclamation Plant, Angul – India**  
V. P. Bharti<sup>1</sup>; Abhilash Dwivedi<sup>1</sup> <sup>1</sup>VA TECH WABAG, Pune, India

17:00	<p style="text-align: right;">Hall 1&amp;2</p> <p style="text-align: center;"><b>Plenary 3</b></p> <p><b>The New EU Regulation on Minimum Requirements for Water Reuse and It's Implementation</b></p> <p>Jörg Drewes, Technical University of Munich, Germany Chair: Stuart Khan, University of New South Wales, Sydney, Australia</p>
17:30	<p style="text-align: right;">Hall 1&amp;2</p> <p style="text-align: center;"><b>IWA Water Reuse Specialist Group Meeting &amp; Water Reuse2025 Presentation</b></p>
19:30	<p style="text-align: right;">Hall 6&amp;7</p> <p style="text-align: center;"><b>Conference Dinner</b></p>

## 18th January, Wednesday – Morning

09:00	<p style="text-align: right;">Hall 1&amp;2</p> <p style="text-align: center;"><b>Plenary 4</b></p> <p><b>Asian Development Bank's Initiatives to Support Water Reclamation and Reuse in South Asia</b></p> <p>Norio Saito, Asian Development Bank, Manila, Philippines Chair: Mauricius Marques Dos Santos, Nanyang Environment and Water Research Institute, Singapore</p>
09:30	<p style="text-align: right;">Hall 1&amp;2</p> <p style="text-align: center;"><b>Session 22</b></p> <p style="text-align: center;"><b>Water Energy Food Nexus</b></p> <p>Chair: Kwang-Ho Choo, Kyongpook National University, Daegu, Korea</p> <p><b>Water Energy Nutrient Nexus - Sustainable Development of Rural Wastewater Treatment</b></p> <p><u>K. M. Kinuya</u><sup>1</sup>; <sup>1</sup>Nairobi City Water &amp; Sewerage Company LTD, Kenya</p>
09:50	<p><b>Estimating Potential Of Greenhouse Gas Emissions Reduction Using Water-Energy-Food Nexus Approach In Leh Town, Ladakh, India</b></p> <p>D. Keilmann-Gondalekar<sup>1</sup>; <u>Abishek Narayan</u><sup>2</sup>, M. Lahmouri<sup>1</sup>; J. E. Drewes<sup>1</sup>; <sup>1</sup>Technical University of Munich, Germany, <sup>2</sup>Eawag, Switzerland</p>
10:10	<p><b>Production Of High Value Bioresources From Treatment Wetland Biomass; "closing The Loop"</b></p> <p>C. A. Arias <sup>1,2</sup>; M. A. Rodriguez-Dominguez<sup>1,2</sup>; <u>A. C. Acosta</u><sup>1,2,3,4</sup>; B. E. Bonefeld<sup>3</sup>; P. Biller<sup>3</sup>; M. Hanel<sup>1,2</sup>; H. Brix<sup>1,2</sup>; <sup>1</sup>Department of Biology, Section of Aquatic Biology, Aarhus University, <sup>2</sup>Centre for Water Technology WATEC Aarhus University, <sup>3</sup>Centre for Circular Bioeconomy, Department of Bioengineering, Aarhus University, <sup>4</sup>.Technology Transfer Center (TTZ) Bremerhaven</p>
9:30	<p style="text-align: right;">Hall 3</p> <p style="text-align: center;"><b>Session 23</b></p> <p style="text-align: center;"><b>Managing Water Reuse in Fast-growing Megacities</b></p> <p>Chair: Shane Robert Trussell, Trussell Technologies, San Diego, USA</p> <p><b>A Proposed Road Map to Exploit Wastewater Treatment, Water Reuse and Resource Recovery Opportunities in Kanpur, India</b></p> <p><u>A. Fenu</u><sup>1</sup>; H. De Schampelaere<sup>1</sup>; P. Bose<sup>2</sup>; S. Van Ermen<sup>3</sup>; P. Campling<sup>3</sup>; <sup>1</sup>Aquafin; <sup>2</sup>IIT Kanpur; <sup>3</sup>VITO</p>

9:50 **The North Georgia (US) Journey to Indirect Reuse: Legal Challenges, a 100 Year Drought, and an Oyster**  
M. Meeker<sup>1</sup>; <sup>1</sup>The Water Tower Institute, USA

10:10 **Sustainable Reuse of Treated Wastewater and Future Strategy Plan in Kuwait**  
S. M. AlMuzaini<sup>1</sup>; <sup>1</sup>Kuwait Institute for Scientific Research, Kuwait

Hall 5

### Session 24

#### Smart and Digital Water Reuse

Chair: Rajneesh Chopra, VA TECH WABAG, Chennai, India

9:30 **Scale Up of Baffled Membrane Bioreactor(B-MBR) Based on an Integrated Hydrodynamic-Biokinetic Model**  
N. Tamura<sup>1</sup>; N. Thanh Phong<sup>1</sup>; L. Zhang<sup>1</sup>; T. Tsumuraya<sup>1</sup>, M. Yang<sup>2</sup>; M. Daza-Gomez<sup>2</sup>; U. Rehman<sup>2</sup>; W. Audenaert<sup>2</sup>; K. Kimura<sup>3</sup>; <sup>1</sup>Maezawa Industries Inc.; <sup>1</sup>AM-Team; <sup>3</sup>Division of Environmental Engineering, Hokkaido University

9:50 **Evaluation of Real-time Excitation-Emission Matrix (EEM) Measurement for Hygiene Safety Monitoring for Greywater Reuse**  
Y. Hu<sup>1</sup>; C. Jacquin<sup>1</sup>; <sup>1</sup>Eawag, Switzerland

10:30 **Tea/Coffee Break with Posters and Exhibitions**

Hall 1&2

### Session 25

#### Risk Management

Chair: Stuart Khan, University of New South Wales, Sydney, Australia

11:00 **Operational Monitoring of Enteric Viruses for DPR Compliance**  
S. Pooja<sup>1</sup>; M. Adelman<sup>1</sup>; L. Furatian<sup>1</sup>; J. Jacangelo<sup>1</sup>; <sup>1</sup>Stantec, USA

11:20 **Evaluating Post-treatment Options after Ozonation Of Secondary Effluent**  
U. Miehe<sup>1</sup>; M. Stapf<sup>1</sup>; F. Knoche<sup>1</sup>; M. Lukas<sup>2</sup>; A. Bogusz<sup>3</sup>; I. Putna-Nimane<sup>4</sup>; S. B. Larsen<sup>5</sup>; R. Sehlén<sup>6</sup>; J. Nilsson<sup>6</sup>; S. Kharel<sup>7</sup>; K. Bester<sup>7</sup>; <sup>1</sup>Kompetenzzentrum Wasser Berlin gGmbH; <sup>2</sup>Umweltbundesamt, Berlin, Germany; <sup>3</sup>Institute of Environmental Protection, Warszawa, Poland; <sup>4</sup>Latvian Institute of Aquatic Ecology, Riga, Latvia; <sup>5</sup>Kalundborg Forsyning, Kalundborg, Denmark; <sup>6</sup>Tekniska Verken, Linköping, Sweden; <sup>7</sup>Aarhus University, Roskilde, Denmark

11:40 **Refining Log-removal Estimates for Water Reuse QMRA**  
P.W.M.H. Smeets<sup>1</sup>; U. Miehe<sup>2</sup>; G.J. Medema<sup>1,3</sup>; <sup>1</sup>KWR Water Research Institute; <sup>2</sup>Kompetenzzentrum Wasser Berlin (KWB); <sup>3</sup>Department of Water Management; <sup>3</sup>Faculty of Civil Engineering & Geosciences, Delft University of Technology

12:00 **Applying WHO's Multiple Barriers Approach for a Participatory and Integrated Risk Management in the Agricultural Reuse Project of Clermont-Ferrand (France)**  
A. Thomas<sup>1</sup>; R. Declercq<sup>2</sup>; E. Hassenforder<sup>3</sup>; G. Abrami<sup>1</sup>; P. Molle<sup>1</sup>; R. Lombard-Latune<sup>1</sup>; <sup>1</sup>INRAE; <sup>2</sup>ECOFILAE<sup>2</sup>; <sup>3</sup>CIRAD

Hall 3

### Session 26

#### Industrial Reuse

Chair: Olivier Lefebvre, National University of Singapore, Singapore

11:00 **Membrane Bioreactor Technology Driving Sewage Recycling - The Variety of Uses Explained Through Implemented Cases**  
S. Katz<sup>1</sup>, G. Kale<sup>2</sup>, Rajesekaran N, <sup>1</sup>Veolia Water Technologies & Solutions, Canada; <sup>2</sup>Suez Water Technologies and Solutions, India

11:20 **Treatment of Refinery Effluent Using a Membrane Separation for the Recycling and Reuse Of Water**  
P. S. Patila<sup>1</sup>; N. V. Thombre<sup>2</sup>; Y. Prasad<sup>2</sup>; A. V. Patwardhan<sup>1</sup>; <sup>1</sup>Department of Chemical Engineering, ICT, Mumbai; <sup>2</sup>VA TECH WABAG, India

11:40 **Case Study on Reclamation and Reuse of Purified Terephthalic Acid Plant Effluent at a Petrochemical Complex**  
D. Bene Peter Abraham<sup>1</sup>; V. Bharti<sup>1</sup>; S. Ramalingam<sup>1</sup>; <sup>1</sup>VA TECH WABAG, India

12:00 **Tertiary Treatment Using Ultrafiltration in an Existing STP for Industrial Reuse**  
D. Ramkumar<sup>1</sup>; V. Jothiprakash<sup>1</sup>; <sup>1</sup>Department of Civil Engineering, Indian Institute of Technology Bombay, India

Hall 5

### Session 27

#### Smart and Digital Water Reuse

Chair: Tom Mollenkopf, International Water Association, London, U.K.

11:00 **Escherichia Coli Sensor for Quality Control of Reused Water**  
S. Gómez-Cuervo<sup>1</sup>; M. Placer; S. Iglesias; P. Villar; F. Rodríguez; L. P. Herrero  
<sup>1</sup>Asociación de Investigación Metalúrgica del Noroeste

11:20 **Sensor Setpoints for Small-Scale Water Reuse Systems that Ensure Compliance with Microbial Water Quality Targets**  
E. Reynaert<sup>1</sup>; F. Gretener<sup>2</sup>; T. R. Julian<sup>1</sup>; E. Morgenroth<sup>1</sup>; <sup>1</sup>Eawag; <sup>1</sup>ETH Zürich, Switzerland

11:40 **Harvesting the Value of Wastewater to Preserve Freshwater Supply Through Circular and Digital Water Use Innovations**  
J. Poinapen<sup>1</sup>; S. Seshan<sup>1</sup>; C. J. Teo<sup>1</sup>; <sup>1</sup>KWR Water Research Institute, Nieuwegein, The Netherlands

12:00 **Artificial Neural Networks As A Tool For Optimization And Risk Management In Water Reuse**  
M. Mohr<sup>1</sup>; M. Beckett<sup>1</sup>; S. Scherle<sup>1</sup>; A. Nink<sup>2</sup>; M. Besier<sup>2</sup>; <sup>1</sup>Fraunhofer IGB; <sup>2</sup>aquatune GmbH, Germany

12:20 [Lunch Break with Posters and Exhibitions](#)

## 18th January, Wednesday – Afternoon

Hall 1&2

### Session 28

#### Risk Management

Chair: Jörg Drewes, Technical University Munich, Germany

#### Keynote 7

14:00 **Quantitative Chemical and Microbial Risk Assessment to Support Purified Recycled Water in Australia**  
Stuart Khan, University of New South Wales, Sydney, Australia

14:30 **Risk Management Associated with Loading of Emerging Contaminants in Waterways**  
V. Choudhary<sup>1</sup>; L. Philip<sup>1</sup>; <sup>1</sup>Environmental and Water Resources Engineering Division, Department of Civil Engineering, IIT-Madras, India

14:50 **Wastewater Safety Planning in Kanpur, Uttar Pradesh: Approach and Learnings from the EU-India Pavitra Ganga Project**  
L. Breitenmoser<sup>1</sup>; C. Furlong<sup>2</sup>, C. Hugli; I. Parihar; M. K. Maurya; P. Bose; Anshuman; P. Campling; C. M. Hooijmans; <sup>1</sup>Institute for Ecopreneurship, School of Life Sciences, University of Applied Sciences and Arts Northwestern Switzerland (FHNW); <sup>2</sup>IHE Delft, Institute for Water Education

Hall 3

### Session 29 Industrial Reuse

Chair: Thomas Track, DECHEMA e.V., Water Management Division, Frankfurt, Germany

14:00 **Keynote 8**  
**Electrochemical advanced oxidation processes for industrial water reuse: overview, challenges and perspectives**  
Olivier Lefebvre, National University of Singapore, Singapore

14:30 **Recovery of Values Streams from Fermentation Wastewater by Electrodialysis and Electrodialysis with Bipolar Membranes**  
K. Knezevic<sup>1</sup>, J. Krampe, N. Kreuzinger; <sup>1</sup>Institute for Water Quality and Resource Management, TU Wien, Austria

14:50 **Reshape Water Use at Dow's Key Water Stressed Sites in Europe**  
G. M. Chapanova<sup>1</sup>; C. Groot<sup>2</sup>; N. Van Belzen<sup>2</sup>; C. Kaisera<sup>1</sup>; F. Guertin<sup>3</sup>; C. Huth<sup>2</sup>; T. Diekow<sup>1</sup>; A. De Las Heras García<sup>2</sup>; Senthil<sup>4</sup>; <sup>1</sup>Dow Olefinverbund GmbH; <sup>2</sup>Dow Benelux BV; <sup>3</sup>The Dow Chemical Company, United States of America; <sup>4</sup>Water SME

Hall 5

### Workshop 5

14:00 **Collaboration as the Key to Successful Water Reuse Projects (90 min)**  
Moderators: Eric Rosenblum EnviroSpectives, USA and Shannon Spurlock, Pacific Institute, USA  
Speakers: Akiça Bahri, National Agricultural Institute of Tunisia, Tunis, Tunisia  
Ligy Philip, IIT Madras, India  
Pierre van Rensburg, City of Windhoek, Namibia

15:10 **Tea/Coffee Break**

Hall 1&2

15:30 **Special Keynote Address**  
Thiru Shiv Das Meena, IAS, Additional Chief Secretary, Municipal Administration and Water Supply Department, Government of Tamil Nadu

Hall 1&2

15:50 **Plenary 5**  
**Deployment of Best Available Technologies into Underserved Communities: Opportunities and Challenges**  
Mauricius Marques Dos Santos, Nanyang Environment and Water Research Institute, Singapore  
Chair: Josef Lahnsteiner, VA TECH WABAG, Austria

16:20

Hall 1&2

## Closing Ceremony

### Welcome Address

Dr GSK Velu Chairman, FICCI Tamil Nadu State Council \*

### Special Address

Dr Thomas Michael MOLLENKOPF, President, IWA

### Keynote Address

Ms D Thara (I.A.S.), Additional Secretary (A&CV), Ministry of Housing and Urban Affairs, Government of India

### Valedictory Address

Mr Suman Bery, Vice Chairman, Niti Aayog, Government of India

### Concluding Remarks

Dr Josef Lahnsteiner, Chair, IWA Reuse Specialist Group

17:30

## End of Conference