S2SMALL 2017
INTERNATIONAL IWA CONFERENCE ON SUSTAINABLE SOLUTIONS FOR SMALL WATER AND WASTEWATER TREATMENT SYSTEMS

22 › 26 OCTOBER 2017
La Cité Nantes Events Center
France

IWA JOINT CONFERENCES:
› 14th IWA Specialized Conference on Small Water and Wastewater Systems (SWWS)
› 6th IWA Specialized Conference on Resources Oriented Sanitation (ROS)
› 3rd International Conference Terra Preta Sanitation & Decentralized Wastewater System

www.S2Small2017.org
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<th><strong>Wednesday</strong> 25 October</th>
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<td><strong>Technical visits 08:00 - 12:00</strong></td>
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Download the detailed program online: [http://s2small2017.org/detailed-program](http://s2small2017.org/detailed-program)
I am very happy to welcome you to the International IWA conference on sustainable solutions for small water and wastewater treatment systems (S2small2017) that will be held October 22-26 in Nantes, France. Small2017 co-organized by IMT Atlantique, GEPEA, IWA and ASTEE will be held in Nantes (city congress center). S2small2017 will address the latest advances in the field of water and wastewater management for small systems and decentralized approaches.

This joint conference will bring together the 14th IWA Specialized Conference on Small Water and Wastewater Systems (SWWS) together with the 6th IWA Specialized Conference on Resources-Oriented Sanitation (ROS) and the 3rd International Conference Terra Preta Sanitation & Decentralized Wastewater System.

The event is a continuation of the previous successful Conferences of the 11th SWWS (Harbin, China), the 12th SWWS and 4th ROS (Muscat, Oman), the 13th SWWS and 5th ROS (Athens, Greece) and the 2nd TPS (Goa, India).

The scope of our conference is to go beyond the simple assumption that small water and wastewater systems are technically feasible and working to answer specific needs under many different configurations. The scope of our conference is to demonstrate that small water and wastewater systems represent part of the solution for the future of humanity, from theoretical concepts up to very applied cases study our conference will show that small is smart, small is beautiful, small is efficient, small is affordable, small is generous in other words small is the future!

Only small solutions for water and wastewater will enable to meet UN Sustainable Development Goal 6: « Ensure access to water and sanitation for all ». Only small water and wastewater solutions will help to increase water re-use, water recycle and resource recovery from wastewater. If you also believe that small water and wastewater systems represent tomorrow’s solutions do not hesitate anymore and come to S2small2017 to share your knowledge, meet the main actors in the field, strengthen your network in a wonderful city (surrounded by water) and in a region where small water solutions are really developed!

On behalf of the organizing Committee,

Florent CHAZARENC
Organizing committee:
Florent Chazarenc - IMT Atlantique, Nantes, GEPEA UMR CNRS 6144 (France)
Laurence Le Coq - Director of Research, IMT Atlantique, Nantes (France)
Frédéric Pallu - Directeur relation entreprises, IMT Atlantique, Nantes (France)
Zhanna Grebenshchykova - IMT Atlantique, Nantes (France)
Hernan Ruiz - IMT Atlantique, Nantes (France)
Vincent Serdobbel - IMT Atlantique, Nantes (France)
Sebastian Rodriguez - IMT Atlantique, Nantes (France)
Guy Fendoung - IMT Atlantique, Nantes (France)
Anant Yadav - BITS Goa, Goa (India)

Chair:
Florent Chazarenc - Ecole des Mines de Nantes, GEPEA UMR CNRS 6144 (France)

Programme Committee:
Jean-Marc Choubert - IRSTEA Lyon (France)
Francesco Fatone - Università Politecnica delle Marche (Italy)
Inga Herrmann - Luleå University of Technology (Sweden)
Guenter Langergraber - University of Natural Resources and Life Sciences (BOKU), Vienna (Austria)
Jörg Londong - Bauhaus-Universität Weimar bauhaus institute for infrastructure solutions (Germany)
Simos Malamis - National Technical University of Athens (Greece)
Srikanth Mutnuri - BITS Pilani K K Birla Goa Campus (India)
Paula Paulo - Federal University of Mato Grosso do Sul - UFMS (Brasil)
Kai M. Udert - Swiss Federal Institute of Aquatic Science and Technology (Eawag) (Switzerland)

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Cristian Barca - Université Aix-Marseille (France)
Véronique Deluchat - Université Limoges (France)
Mathieu Gautier - INSA Lyon (France)
Rémi Gourdon - INSA Lyon (France)
Julie Lions - BRGM Orléans (France)
Pascal Molle - IRSTEA Lyon (France)
Carine Morin-Batut - ASTEE (France)
Baghdad Ouddane - Université de Lille1 (France)
Maxime Pontié - Université d’Angers (France)
Mathieu Sperandio - INSA Toulouse (France)
Jean-Philippe Steyer - INRA Narbonne (France)
Julien Tournebize - IRSTEA Anthony (France)
Adrien Wanko - Engees Strasbourg (France)
Scientific Committee:
Hassimi Abu Hasan - Universiti Kebangsaan Malaysia (Malaysia)
Laura Achene - Istituto Superiore di Sanità Rome (Italy)
Carlos Aragon-Cruz - Centre for New Water Technologies (CENTA) (Spain)
Brig Muhammad Aslam Khan - Chairman Gomal Daman Area Water Partnership (Pakistan)
Moses Basitere - Cape peninsula university of Technology (South Africa)
Torsten Bettendorf - Hamburg University of Technology (Germany)
Latifa Bousselmi - Centre for Water Research and Technologies (Tunisia)
Germán Buitrón - Universidad Nacional Autónoma de México (Mexico)
Mei Yee Chan - Tuv Sud Asia Pacific (Singapore)
Pritha Chatterjee - IIT Kharagpur (India)
Courfia Keba Diawara - Université Assane Seck de Ziguinchor (Senegal)
Eran Friedler - Israel Inst. Of Technol. (Israel)
Makarand M. Ghangrekar - Indian Institute of Technology Kharagpur (India)
Ahmed Ghrabi - Centre for Water Research and Technologies (Tunisia)
Tjaša Griessler Bulc - University of Ljubljana (Slovenia)
Arve Heistad - Norwegian University of Life Sciences (Norway)
Goen Ho - Murdoch University (Australia)
Philippe Ker Rault - Wageningen Environmental Research (The Netherlands)
Johannes Kissner - Alchemia-nova GmbH (Austria)
Stevo Lavrnić - University of Càdiz (Spain)
Olivier Lefebvre - National University of Singapore (Singapore)
Yang Liu - University of Alberta (Canada)
Úlo Mander - University or Tartu (Estonia)
Fabio Masi - IRIDRA (Italy)
Kuruvilla Mathew - Murdoch University (Australia)
Roland Arno Müller - Helmholtz-Centre for Environmental Research (Germany)
Martin Benoit Ngassoum - ENSAI Université de Ngaoundéré (Cameroon)
Jaime Nivala - Helmholtz Center for Environmental Research (Germany)
Joëlle Paing - OPURE (France)
Johannes Paul - International Water Management Institute (Sri Lanka)
Peter K. J. Robertson - Queen's University Belfast (Northern Ireland)
Heribert Rustige - AKUT Umweltschutz Ingenieure Burkard und Partner (Germany)
Michel Torrijos - INRA (France)
Stéphane Troesch - EPUR Nature (France)
Jan Vymazal - Czech University of Life Sciences Prague (Czech Republic)
Norbert Weissenbacher - University of Natural Resources and Life Sciences (BOKU), Vienna (Austria)
Guoren Xu - Harbin Institute of Technology (China)
Yongzhe Yang - Xi’an University of Architecture and Technology (China)
Guozhen Zhang - Lanzhou Jiaotong University (China)
Yaqian Zhao - University College Dublin (Ireland)
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Registered charity number: 207890
Welcome Ceremony 09:00-09:20
Florent CHAZARENC, Chairman

Keynotes 1 09:20-10:20
Session chair: Florent CHAZARENC

INV904 - Integrated waste management approach at Devanahalli, India
SINHA Susmita - Bremen Overseas Research and Development Association, Germany

INV905 - Resource Recovery and Reuse of wastes: An opportunity for African countries
COFIE Olufunke - International Water Management Institute, Ghana

Coffee-break (Mezzanine) 10:20-10:40

Poster Session (very short presentation of each poster) 10:40-12:50
Session chair: Hernan RUIZ
The list of presented posters is on page 21.

Lunch (Salons R2) 12:50-14:00

Opening Ceremony 14:00-15:20

Coffee-break (Mezzanine) 15:20-15:40

Keynotes 2 15:40-16:40
Session chair: Florent CHAZARENC

INV900 - Membrane for energy and water recovery
SECO Aurora - University of Valencia, Chemical Engineering Department, Spain

INV901 - Groundwater arsenic/fluoride contamination: low-cost remediation strategies
BHATTACHARYA Prosun - KTH Royal Institute of Technology, Stockholm, Sweden

Poster Session (Mezzanine) 16:40-18:30
The list of presented posters is on page 21.

Specialist Group Meeting 16:50-18:00
Session chairs:
MATHEW Kuruvilla - Murdoch University
LANGERGRABER Guenter - BOKU University

End of the day one
Parallel session 1 - Aerobic Process 1
08:10-09:30

Session chair: Inga Herrmann

475 - A study on the effects of different organic load (BOD5) on treatment performance of four selected small wastewater treatment plants
ALSAADI Shamsa - Helmholtz Centre for Environmental Research GmbH - UFZ

428 - Biological tubular reactor, new technology for small wastewater treatment plants
GARCÍA-GONZÁLEZ Sergio Adrián - Facultad de Química, Universidad Nacional Autónoma de México

294 - Impacts of operational conditions on oxygen transfer rate, mixing characteristics and residence time distribution in a pilot scale HRAP
PHAM Le Anh - ICube laboratory

508 - Effects of an increase in salinity on PAOs in EBPRR-SBBR reactors in coastal small populations
ARAGON-CRUZ Carlos - Centro de las Nuevas Tecnologías del Agua

Coffee-break (Mezzanine)
09:30-09:50

Parallel session 2 - Industrial effluent 1
09:50-11:10

Session chair: Jaime Nivala

461 - Ten years of German experience in using ecotechnologies for onsite treatment of industrial pollution
AUBRON Thomas - Helmholtz Environmental Research Centre - UFZ

476 - Cleaning up landfill leachate in rural China with low-energy gas flotation and oxidation
KINDLER Jean Louis - OriginClear

651 - Environmental behavior of MSWI fly ash in leachate from solid waste landfill
SUN Xiaolei - Nanjing University of Science and Technology

477 - Performance of a vertical flow soil filter treating industrial wastewater under cold climatic conditions and avoiding filter clogging problems
RAHMAN Khaja Zillur - Helmholtz Environmental Research Centre - UFZ

Health Break (Mezzanine)
11:10-11:30

Parallel session 3 - Phosphorus Treatment and recovery 1
11:30-12:50

Session chair: Gabriela Dotro

527 - Treatment performances and operating experiences of the first full-scale Discfilter facility featuring enhanced P removal from pure-MBBR effluent
GIZEM Mutlu - Veolia Water Technologies AB, Sweden

512 - Phosphorus recovery from pretreated sewage sludge and phosphorus saturated filter materials
BARCA Cristian - Laboratory M2P2 Aix-Marseille University

319 - Long-term investigation of phosphorus removal by iron electrolysis in actual small-scale wastewater treatment plants
MISHIMA Iori - Center for Environmental Science in Saitama

652 - Phosphate removal from aqueous solution using ZVI/sand bed reactor: Behavior and mechanism
SLEIMAN Nathalie - Université de Limoges

Lunch (Salons R2)
12:50-14:00
### Parallel session 4 - Anaerobic Digestion 1  
**14:00-15:20**

**Session chair: Paula Paulo**

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<th>Institution</th>
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<tr>
<td>516 - Two- vs. single-stage anaerobic wastewater treatment: Evaluation of effluent quality and energy production potential</td>
<td>MOTA Vera Tainá</td>
<td>University of São Paulo</td>
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<tr>
<td>301 - Evaluation of spatial alkalinites distribution in an up-flow fixed bed anaerobic digestion reactor</td>
<td>HMISSI Maha</td>
<td>Laboratory of Hydraulic Modelisation and environnement, Tunisia</td>
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<tr>
<td>552 - Post-treatment of UASB effluent by phototrophic reactors for sulphide and organic matter removal</td>
<td>BRESSANI Thiago</td>
<td>Federal University of Minas Gerais, Department of Sanitary and Environmental Engineering (UFMG/DESA)</td>
</tr>
<tr>
<td>466 - Acclimation of mesophilic granular sludge for the anaerobic digestion of agroindustrial effluents under thermophilic conditions</td>
<td>CARRILLO-REYES Julian</td>
<td>University of Mexico</td>
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**Health Break (Mezzanine)**  
**15:20-15:40**

### Parallel session 5 - Anaerobic Digestion 2  
**15:40-17:00**

**Session chair: Philippe Ker Rault**

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<tr>
<td>451 - Anaerobic municipal wastewater treatment in centralized and decentralized treatment systems: biological methane potential and microbial community at 20 and 35°C</td>
<td>GAO Mengjiao</td>
<td>University of Alberta</td>
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<td>470 - Hybrid Anaerobic Upflow Sludge Blanket Baffled Reactor for Source-separated Blackwater Treatment</td>
<td>MOGES Melesse Eshetu</td>
<td>PhD Candidate</td>
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<tr>
<td>510 - Anaerobic digestion of sieved, statically and mechanically thickened blackwater at different organic loading rates</td>
<td>MORANDI Carlo G.</td>
<td>Kaiserslautern University of Technology</td>
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<tr>
<td>604 - Carbon footprint assessment and management of sludge and gaseous emissions in decentralized anaerobic-based sewage treatment plants</td>
<td>BRESSANI Thiago</td>
<td>Federal University of Minas Gerais</td>
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**Coffee-break (Mezzanine)**  
**17:00-17:20**

### Parallel session 6 - Anaerobic / Aerobic systems  
**17:20-18:20**

**Session chair: Yves Andres**

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<tr>
<td>467 - Coupling wastewater treatment based on microalgae-bacteria with the continuous methane recovery: effect of digester temperature</td>
<td>CARRILLO-REYES Julian</td>
<td>University of Mexico</td>
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<td>488 - Sequential “electrochemical-peroxidation – electro-Fenton” process for the treatment of anaerobic sludge from a poultry farm</td>
<td>OLIVIER Lefebvre</td>
<td>National University of Singapore</td>
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<tr>
<td>490 - Identifying optimal conditions for the start-up of an AnMBR treating concentrated domestic wastewater</td>
<td>FERRARI Federico</td>
<td>Catalan Institute for Water Research</td>
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**Gala dinner in Nantes downtown**  
**20:00**
Parallel session 1 - Greywater Treatment  08:10-09:30

Session chair: Makarand M. Ghangrekar

440 - Electrocoagulation of domestic and office-building greywater
FRIEDLER Eran - Faculty of Civ. & Env. Eng., Technion - Israel Inst. of Technology

448 - Impact of suspended solids and organic matter on chlorine disinfection efficiency of greywater
FRIEDLER Eran - Faculty of Civ. & Env. Eng., Technion - Israel Inst. of Technology

449 - Long term micropollutant removal in a Vertical Ecosystem for decentralised greywater reuse in a Euro-Mediterranean resort
KISER Johannes - Alchemia-Nova

434 - The alternative use of Pseudomonas aeruginosa as an indicator on the disinfection of greywater
PAULO Paula - Federal University of Mato Grosso do Sul - UFMS

Coffee-break (Mezzanine)  09:30-09:50

Parallel session 2 - Infiltration systems  09:50-11:10

Session chair: Srikanth Mutnuri

497 - Greenhouse gas emissions from soil treatment units of on-site domestic wastewater treatment systems in Ireland
SOMLAI-HAASE Celia - Trinity College Dublin

299 - The performance of a self-contained recirculating evapotranspiration system in tropical and temperate climates
KELE Ben - Central Queensland University and Arris Pty Ltd

483 - Willow evapotranspiration systems to mitigate surface water pollution from domestic wastewater in rural areas with low permeability soils
GILL Laurence - Trinity College Dublin

259 - Effects of nitrogen and organic shock loadings on a soil filter treating matured landfill leachate
GUAN Yidong - Nanjing University of Information Science and Technology

Health Break (Mezzanine)  11:10-11:30

Parallel session 3 - Treatment wetlands 1  11:30-12:50

Session chair: Carlos Arias

524 - Combination of constructed wetlands and photocatalysis processes for the elimination of persistent organic pollutants from municipal wastewater
GONZALO Gael - University of A Coruña

566 - Constructed wetlands planted with willow for domestic wastewater treatment under cold climate
GREBENSHCHYKOVA Zhanna - IMT Atlantique

274 - Efficiency of a short rotation willow coppice for the treatment of municipal wastewater under a North American humid continental climate
LACHAPELLE T. Xavier - Polytechnique Montréal

514 - Domestic wastewater treatment by a two stage vertical subsurface flow constructed wetland: removal efficiency
SEGURA Irleth - Mexican Institute of Water Technology

Lunch (Salons R2)  12:50-14:00
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<td><strong>Session chair: Thomas Aubron</strong></td>
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<td>588 - Onsite one stage constructed wetland fed by raw wastewater: performances and resilience of the system</td>
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<td>DUBOIS Vivien - Irstea</td>
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<td>296 - The new draft German constructed wetland guideline for treatment of domestic and municipal wastewater</td>
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<td>RUSTIGE Heribert - AKUT Umweltschutz Ingenieure Burkard und Partner</td>
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<td>496 - On-site wastewater treatment in France: statistical analysis of the outlet effluent quality of 240 facilities</td>
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<td>OLIVIER Laurie - Irstea</td>
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<td>439 - Green Bio-sorption Reactor: Making wastewater treatment plant an attractive scenario</td>
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<td>ZHAO Yaqian - Xi'an University of Technology</td>
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<td><strong>Session chair: Mathieu Gautier</strong></td>
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<td>690 - Nkolfoulou landfill leachate treatment performances in VFCWs planted with Echinochloa Pyramidalis during dry season</td>
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<td>FENDOUNG Guy - IMT Atlantique</td>
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<td>689 - Design parameters influence on pollution removal performance of full-scale constructed-wetlands treatments plants for domestic wastewater</td>
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<td>RODRIGUEZ VASQUEZ Sebastian - IMT Atlantique</td>
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<td>641 - Electroactive Biofilm-based Constructed Wetland (EABB-CW): Testing of an innovative setup for wastewater treatment</td>
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<td>ARIAS Carlos - Aarhus University</td>
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<td>498 - Nutrients removals in vertical flow constructed wetlands combined or not with biological and/or chemical treatment processes</td>
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<td>KIM Boram - INSA Lyon, DEEP laboratory</td>
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<td><strong>Session chair: Tjaša Griessler Bulc</strong></td>
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<td>443 - The key factors of building a microbial fuel cell in a pilot-scale constructed treatment wetland</td>
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<td>TANG Cheng - Chang’an University</td>
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<td>631 - Peat as substrate for small-scale constructed wetlands polishing secondary effluents</td>
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<td>CHAMPAGNE Pascale - Queen’s University, Department of Civil Engineering</td>
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<td>688 - The effect of nitrification-denitrification process in one single stage Vertical Flow Constructed Wetlands (VFCW) treating domestic wastewater</td>
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<td>RUIZ Hernan - Institute Mines Telecom Atlantique</td>
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<td>Parallel session 1 - State of the art small treatment systems</td>
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<td>721</td>
<td>High rate algal ponds come of age in rural South Australia</td>
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<td>532</td>
<td>New standards for non-sewered on-site sanitation systems</td>
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<td>Ten years of Vertical Flow Constructed Wetlands the experience after the Danish EPA guidelines</td>
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<td>Session 2</td>
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<td>Towards Safe Water and Sanitation in Rural Localities - Applying Water Safety Planning methodology in Manastiur, Romania</td>
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<td>Wastewater treatment for small communities in tropical conditions: performances technologies comparison in real conditions</td>
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<td>Characterization of the composition of dissolved organic matter during aerobic and anaerobic digestion of excess activated sludge</td>
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<td>Planning for achieving resource recovery from small sewage treatment plants: a case study in two watersheds in Minas Gerais, Brazil</td>
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<td>Innovation at scale: the scaling-up process of small-scale sanitation in India</td>
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<td>A multi-criteria approach to compare on-site sanitation systems</td>
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<td>Energy savings at the small-scale wastewater treatment plants</td>
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Parallel session 4 - Phosphorus Treatment and recovery 2  
Session chair: Cristian Barca

433 - Phosphorus removal in small catchments – A case study from Austria  
LANGERGRABER Guenter - BOKU University

538 - Phosphorus removal from secondary effluent using chemically modified zeolite  
MALAMIS Simos - National Technical University of Athens

309 - Alumina-based adsorbant for Phosphorus removal and recovery on small wastewater treatment plants  
CORNET François - SAS MAANEO

874 - Tertiary nitrification and phosphorus removal from domestic wastewater with constructed wetlands  
DOTRO Gabriela - Cranfield University

Health Break (Mezzanine)  

European-Indian workshop  
Network on Decentralized Grey Water Treatment & Recycling

Chairs:  
Hoysall N Chanakya - Indian Institute of Science  
and Michel Torrijos - INRA

Coffee-break (Mezzanine)  

European-Chinese Workshop  
Nature based solutions for sponge cities

Chair:  
Yaqian Zhao - University College Dublin

Gala dinner in Nantes downtown
Parallel session 1 - Small water treatment systems 1 08:10-09:30
Session chair: Mei Yee Chan

313 - UV LEDs for small systems: a revolution in robust and effective disinfection?
HULL Natalie - University of Colorado Boulder

458 - Moringa oleifera functional sand: a practical, reusable water treatment option
WILLIAMS Frances - The University of Adelaide

293 - An evaluation of small drinking water systems in a region of Brazil
BENETTI Antonio - Federal University of Rio Grande do Sul, Hydraulics Research Institute

456 - The Defluoridation Mechanism of Hydroxyapatite/Attapulgite Composite Beads
FENG Li - School of Chemical Engineering and Technology, China University of Mining &Technology

Coffee-break (Mezzanine) 09:30-09:50

Parallel session 2 - Onsite Sanitation systems 09:50-11:10
Session chair: Sinha Susmita

542 - Development of a Solar Heating System for Improving Performance of On-site Sanitation Systems
POLPRASERT Chongrak - Thammasat University

541 - Isolation of butyric acid-degrading bacterium from pit latrine faecal sludge
NJALAM’MANO John - University of Pretoria

659 - Empowered septic tank as decentralized treatment system for a single household and for a community
TALEKAR Guruprasad - Birla Institute of Technology and Science - Pilani K K Birla Goa campus

Health Break (Mezzanine) 11:10-11:30

Parallel session 3 - Environmental Assessment 14:00-15:20
Session chair: Kai M. Udert

314 - Stoichiometric life-cycle assessment for smart sewage treatment
ALVARADO ROMAN Valeria Isabel - The Hong Kong Polytechnic University

511 - Influence of pre-treatment on the attenuation performance of soil receiving on-site effluent
KNAPPE Jan - Trinity College Dublin

642 - Real-time-monitoring of water quality parameters for identification of the origin and the pathways of impacts in small and middle scale rivers
MEYER Angelika - Saarland University - Institute for Inorganic and Analytical Chemistry

517 - Chemical fingerprinting of on-site wastewater effluent contamination of small rivers and wells in Ireland
GILL Laurence - Trinity College Dublin

Lunch (Salons R2) 12:50-14:00
Aquavalens special sessions 14:00-18:00

Developments in the microbial monitoring of small water supplies: A series of linked talks from 7 Researchers in this EU FP7 funded research
Chair: Ricardo Santos - Instituto Superior Tecnico

Protecting the health of Europeans by improving methods for the detection of pathogens in drinking water and water used in food preparation. How to better assess risk and control safety in water supplies
Robert Pitchers - WRC plc

Small water systems across Europe: overview and technical approach
Ricardo Santos - Instituto Superior Tecnico

Integrated Stand-alone Treatment Stations: a solutions for microbiological problems in Small Water Systems
Ana Pereira - Enkrott, S.A.

Microbiological quality of small water supplies across Europe: can we trust the traditional indicators?
Silvia Monteiro - Instituto Superior Tecnico

Do AQUAVALENS analytical methods meet the expectations of both the users of the technologies and water consumers? Talk based on large water and small water users
Alma López-Avilés - University of Surrey

Epidemiological studies of health risks associated with small drinking water supplies
Paul Hunter - University of East Anglia

Water safety plans in small water supplies. Using a WSP to safeguard water in rural communities of less than 5,000 inhabitants
Maria Gunnarsdottir - University of Iceland

Gala dinner in Nantes downtown

20:00

Gala dinner
The gala dinner will be held on Tuesday, October 24th at 20:00, in an original place of Nantes down-town: “The Nantilus”.
This event of the social program is dedicated to promote the relationship between confirmed professors and young researchers.
### Keynotes 3  
**Session chair: Guenter LANGERGRABER**

**INV903 - Small wastewater treatment plant in France: what have constructed wetlands changed?**  
*MOLLE Pascal - Irstea, France*  

**INV902 - How resource recovery and energy efficient technologies should be deployed in the cities? Small or big?**  
*SPERANDIO Mathieu - Toulouse University, France*  

**INV906 - Decentralized Systems Engineering Course Delivery in U.S. Higher Education - Past, Present and Future**  
*SIEGRIST Robert - Colorado School of Mines, USA*  

Coffee-break (Mezzanine)  

### Parallel session 7 - Nitrogen treatment and recovery 1  
**Session chair: Johannes Kisser**

**300 - The use of different types of zeolite and scoria as filtration and treatment media in small wastewater treatment systems**  
*KELE Ben - Central Queensland University and Arris Pty Ltd*  

**501 - Performance of a continuous-flow single stage deammonification system with mesh separated compartments**  
*WEISSENBACHER Norbert - University of Natural Resources and Life Sciences, Vienna*  

**278 - Intelligent control for ammonia compliance in small works receiving variable loads, a case study**  
*BLANCO Ivan - Severn Trent Water*  

**707 - Optimal Selective pressures to achieve partial nitritation in continuously fed activated sludge reactors**  
*EUSEBI Anna Laura - Università Politecnica delle Marche*  

Health Break (Mezzanine)  

### Parallel session 8 - Nitrogen treatment and recovery 2  
**Session chair: Mathieu Sperandio**

**308 - Denitrifying Downflow Hanging Sponge (DDHS) reactors reduce total nitrogen and antibiotic resistance genes for decentralized wastewater treatment applications**  
*BUNCE Joshua - MR JT BUNCE*  

**474 - Combined Ion Exchange and Biological Nitrogen Removal in a Novel Two-stage Biofiltration system**  
*RODRIGUEZ-GONZALEZ Laura - University of South Florida*  

**298 - Two-Step Denitrification with Elemental Sulfur: Kinetic Tests and Dynamic Mathematical Modeling**  
*KOSTRYSIA Anastasia - University of Cassino and Southern Lazio*  

**465 - Nitrogen removal in single chambered batch fed microbial electrolysis cell (MEC) operated with combined landfill leachate and dairy wastewater**  
*YOGALAKSHMI K N - Central University of Punjab*  

Lunch (Salons R2)
Parallel session 9 - Nutrients recovery and reuse 14:00-15:00

Session chair: Joëlle Paing

506 - How important is acclimation for the start-up of an anammox reactor at low temperature and nitrogen concentration?
PEDROUSO Alba - Universidade de Santiago de Compostela

460 - Nutrients recovery from the effluent of a decentralized anaerobic membrane bioreactor treating fresh domestic wastewater by cultivation of the microalgae Acutodesmus obliquus
FOIX-CABLE Mathilde - Technical University of Berlin

619 - Potential of using synthesized Nano-zeolite for Nitrogen and Phosphorus removal
GAO Fei - Department of Civil, Structural and Environmental Engineering, Trinity College Dublin

Health Break (Mezzanine) 15:00-15:20

Parallel session 10 - Phosphorus Treatment and recovery 3 15:20-16:20

Session chair: Norbert Weissenbacher

782 - Phosphorus removal using steel slag in reactive filters: 6 years monitoring at large scale
PAING Joëlle - OPURE

478 - Modelling of reactions in a fixed bed reactor for phosphate recovery by scallop shell particles
ITO Ryusei - Hokkaido University

658 - Use of reactive material for P removal in small treatment plants, potential of industrial by-products in India
MUTNURI Srikanth - Birla Institute of Technology and Science - Pilani KKBirla Goa campus

Coffee-break (Mezzanine) 16:20-16:40

Closing Ceremony 16:40-18:00

Session chairs:
Florent Chazaren
Kuruvilla Mathew
Guenter Langergraber
Srikanth Mutnuri

End of the day three
### Parallel session 7 - Waste Stabilization Ponds  
**Session chair: Kuruvilla Mathew**

- **09:50-11:10**
- **493** - Small is beautiful, small is efficient: The future of waste stabilisation ponds in Australia  
  GHADOUANI Anas - The University of Western Australia
- **482** - Application of high-resolution bathymetry mapping for sludge management in waste stabilisation ponds  
  COGGINS Liah - The University of Western Australia
- **629** - Factors affecting the removal of bacterial indicator organisms in wastewater stabilization ponds operated in a temperate climate  
  LIU Lei - Queen's University, Department of Civil Engineering
- **632** - Modeling and validation of stratification and hydrodynamics in a wastewater stabilization pond using Delft3D  
  CHAMPAGNE Pascale - Queen's University, Department of Civil Engineering

**Health Break (Mezzanine)**  
**11:10-11:30**

### Parallel session 8 - Membrane technology  
**Session chair: Maxime Pontie**

- **11:30-12:50**
- **491** - Correcting nutrient imbalance in hand washing water to permit recycling with a biologically activated membrane bioreactor (BAMBi)  
  ZIEMBA Christopher - Eawag
- **574** - Economic and environmental analysis of the new resource toilet with forward osmosis technology  
  SHI Yi-lei - Tsinghua University
- **611** - Innovative and easy-handling membrane-based water treatment system for decentralized applications  
  ORDONEZ ANDRADE Jose Abdón - University of Kassel, Department of Sanitary & Environmental Engineering
- **312** - Optimizing the design and operation of a novel process: The Membrane aerated biofilm reactor integrated with activated sludge-(MABR-IFAS)  
  PEREZ CALLEJA Patricia - University of Cantabria

**Lunch (Salons R2)**  
**12:50-14:00**

### Parallel session 9 - Toxic and emerging pollutants 2  
**Session chair: Yaqian Zhao**

- **14:00-15:00**
- **437** - Drugs abatement in surface water using photocatalytic coated glass surfaces  
  BIANCHI Claudia - University of Milan
- **265** - Biochar efficiently removes recalcitrant pharmaceuticals from wastewater  
  DALAHMEH Sahar - Swedish University of Agricultural Sciences
- **446** - Removal of micropollutants and nutrients in filter beds for on-site sewage treatment - column and field experiments  
  ZHANG Wen - KTH Royal Institute of Technology

**Health Break (Mezzanine)**  
**15:00-15:20**

### Parallel session 10 - Small wastewater treatment systems 3  
**Session chair: Michel Torrijos**

- **15:20-16:20**
- **718** - Integrated piggery wastewater and microalgal biomass production – a pilot plant case study  
  CHENG Ngai Ning - Flinders University
- **322** - Alternative On-Site Wastewater Treatment Technologies to Reduce Biochemical Oxygen Demand, Total Suspended Solids, Oil and Grease, and Total Nitrogen from High Strength Commercial Wastewater  
  HAASE Peter - Fall Creek Engineering
- **295** - Recently emerging eco-friendly systems for wastewater purification: A review  
  ZHAO Yaqian - University College Dublin
Parallel session 7 - Ressource Oriented Sanitation systems 1  09:50-11:10
Session chair: Heribert Rustige

302 - High time to normalize ‘alternative’ sanitation models in engineering curricula
OBERG Gunilla - IRES, UBC, Vancouver, Canada

288 - Economic feasibility assessment of integrated sanitation systems for Uganda Christian University
AGUNYO Miria Frances - Europa University Flensburg

481 - Impacts of urban typologies on efficiency of source-separation systems with decentralized treatment
BESSON Mathilde - LISBP-INSIA

479 - Water Hub @ NEST: Practical Implications of Source Separation
ETTER Bastian - Eawag

Health Break (Mezzanine)  11:10-11:30

Parallel session 8 - Ressource Oriented Sanitation systems 2  11:30-12:50
Session chair: Stéphane Troesch

297 - Vermifiltration toilets as an on-site household sanitation option
TEMPLETON Michael - Imperial College London

637 - Sustainable sanitation mangement tool to decision making in isolated areas in Brazil
PAULO Paula - Dom Bosco Catholic University

487 - Optimizing chlorination and electrolysis dosages for hand washing water recycling post-treatment
LARIVE Odile - Eawag

503 - Evaluation of the hygienization at composting toilets in remote areas
WEISSENBACHER Norbert - University of Natural Resources and Life Sciences, Vienna

Lunch (Salons R2)  12:50-14:00

Parallel session 9 - Water Reuse 1  14:00-15:00
Session chair: Eran Friedler

285 - Local Sustainability! - Insights from On-site Wastewater reuse plants around the globe
LAHAV Yotam - Aqwise

502 - Sanitation and Water Reuse for urban gardening in informal settlements. Lessons learnt from a systemic approach in Namibia
SINN Jochen - Technische Universität Darmstadt

655 - Wastewater Reuse for Irrigation – unconventional or un-welcome resource? Local perceptions on barriers and drivers for reuse in Egypt, Morcco and Tunisia
KER RAULT Philippe - Wageningen Environmental Research

Health Break (Mezzanine)  15:00-15:20

Parallel session 10 - Water Reuse 2  15:20-16:20
Session chair: Eran Friedler

462 - Treated Domestic Greywater Reuse and Associated Health Risks - Integrated with Green Wall Structure for Hydroponic Lettuce Production
EREGNO Fasil Ejigu - PhD Candidate

473 - A preliminary survey on public attitude for the reuse of grey water as an alternative source of water in Turkey
EFE Hilal - Istanbul Technical University

End of parallel session
European-African Workshop 09:50-11:10

Improvement and development of innovative technologies for landfill leachate and septage sludge treatment for water re-use in Africa

Chairs:
Olufunke Cofie - IWMI
and Günter Langergraber - BOKU University

Health Break (Mezzanine) 11:10-11:30

Parallel session 8 - Toxic and emerging pollutants 1 11:30-12:50

Session chair: Véronique Deluchat

260 - Retention of the endocrine disruptors ethinylestradiol, bisphenol A and levonorgestrel by subsurface constructed wetlands
CAMPOS Julyenne Meneghetti - University of Campinas

281 - Physico-Chemical Analysis and Implications of Partially Treated Wastewater from Textile Industries in Nigeria
DAN’AZUMI Salisu - Bayero University Kano

711 - Phenol biodegradation by bacterial cultures encapsulated in 3D microfiltration-membrane capsules for industrial wastewater treatment
KURZBAUM Eyal - Shamir Research Institute, University of Haifa, Israel

485 - Removal of phenolic compounds from wastewater by Phragmites australis-bacteria association
WIRASNITA Riry - University of Yamanashi

Lunch (Salons R2) 12:50-14:00

Workshop Aquavalens 14:00-16:00

Chairs:
Maria Figueras - Universitat Rovira I Virgili
María J. Gunnarsdóttir - University of Iceland

Introduction of Aquavalens

Status of water safety plans and risk assessment in small water supplies in Europe
Arnt Dierner - WHO Regional Office for Europe

Water safety plans with improved techniques to detect pathogens
María J. Gunnarsdóttir - University of Iceland

Quantitative Microbial Risk Assessment in small private supplies
Paul Hunter - University of East Anglia

Carbon Footprint and economic implications of new technologies in detecting waterborne pathogens
Maria Figueras - Universitat Rovira I Virgili

Discussion

End of parallel session
Thursday 26 October
Technical and touristic visits

Visit 1:

- Meeting point at 9:30 front of the « Machines de l’Île » main entrance, Parc des Chantiers, Boulevard Léon Bureau
- Ecossolies project (1, rue du Tonkin, 44200 NANTES)
- Lunch-picnic on « L’Île de Nantes » and dawdling around the « Machines de l’Île »
- Walking tour in Nantes downtown

Visit 2:

- Meeting point at 8:30 « rue de Jemmapes » closed to the convention center
- Constructed Wetland of La Chapelle-Rousselin
- Lunch-picnic
- Natural Wetland of Grand-Lieu
- End and return to Nantes downtown

Visit 3:

- Meeting point at 8:30 « rue de Jemmapes » closed to the convention center
- Brière Wetlands and Kerhinet village
- Lunch-picnic
- Wastewater treatment plant of Sion-les-Mines combining trickling filter and treatment wetland (1 050 Pe)
- End and return to Nantes downtown

Visit 4:

- Meeting point at 8:00 « rue de Jemmapes » closed to the convention center
- Wastewater treatment plant of Daumeray
- Lunch-picnic
- Visit of the « Maison de la Rivière » at Châteauneuf-sur-Sarthe and walk in boat « La Gogane »
- End and return to Nantes downtown
Nantes and its surroundings:
• tourisme-Loire-Atlantique: https://tourisme-loireatlantique.com/
• Nantes: https://en.nantes.fr/home.html

About Nantes:
The climate in Nantes is usually mild and sunny. One can expect 16°C mean temperature with 20°C the hottest days in October. The ocean is not far from Nantes. Suggestion to relax at the end of the day for a bath: there are trains to LA BAULE, or PORNIC. From the train stations, a short walk of 1 or 2 km allows to get on the beach.

The destination:
• 1 hour from Paris and London, the leading European hubs
All the European capital cities in less than 2 hours
• 60 destinations served with direct flights and over 15 with connecting flights
Airport Nantes Atlantique: 1st airport of Western France (ISO 9001 certified)
• 20 minute-drive to La Cité-Nantes Events Center by shuttle (every 30 min.)
• 2h from Paris by train
• 5-minute walk to La Cité-Nantes Events Center
• 2 hours away from Paris and direct journey to Paris CDG airport

Engaged city:
• 6th French largest city with 600 000 inhabitants
The highest population growth over the last decade (+10.3% since 1999)
Nantes regularly retains the 1stplace for its widely envied quality of life
• Nantes, European Green Capital 2013
An eco-city that prefers to recycle and convert its industrial heritage
• Protected biodiversity
• 15 500 hectares natural spaces
• 4 aeras Natura 2000

A dense and eco-friendly public transport network
Nantes boasts an extensive network of: tram lines, bus lines, boat lines.