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| <b>Day 1</b>       | <b>Sunday 21 May 2017</b>  | <br><b>FICWTM</b>  |
| <b>17:00-18:00</b> | <b>Registration</b>  |  |
| <b>18:00-21:00</b> | <b>Meet &amp; greet get together</b>   |  |
| <b>Day 2</b>       | <b>Monday 22 May 2017</b>  | <br><b>FICWTM</b> |
| <b>08:00-08:30</b> | <b>Registration</b>  |  |
| <b>08:30-10:00</b> | <b>Opening Session</b>   |  |
| <b>10:00-12:00</b> | <b>Session A - Carbon nutrient removal and recovery (Chairs: E. Volcke, M. Zanetti)</b>  |  |
| <b>10:00-10:30</b> | Keynote - The impact of high mixed liquor concentration (3-13 gVSS/ℓ) on the kinetic rates of the N and P removal bioprocesses in membrane biological nutrient removal activated sludge systems<br><i>prof. G.A. Ekama (V. Parco, G.J.G. du Toit and G.A. Ekama - Italy, South Africa)</i>   |  |
| <b>10:30-10:45</b> | <b>Discussion</b>  |  |
| <b>10:45-11:30</b> | <b>Platform - Session A</b>  |  |
| <b>10:45-11:00</b> | Recovery of ammonia and production of high-grade phosphates from side-stream digester effluents using gas-permeable membranes<br>M.B. Vanotti, P.J. Dube, A.A. Szogi ( <i>USA</i> )  |  |
| <b>11:00-11:15</b> | The start-up of mainstream Anammox process is limited only by nitrite supply<br>Y. Law, S. Swa Thi, X.M. Chen, T.Q.N. Nguyen, T. W. Seviour, R. B.H. Williams, B. Ni, S. Wuertz ( <i>Singapore, Australia</i> )  |  |
| <b>11:15-11:30</b> | The symbiotic role of Thiothrix caldifontis on enhanced biological phosphorus removal<br>F.J. Rubio-Rincón, L. Welles, C.M. Lopez-Vazquez, M. Nierychlo, P.H. Nielsen, M.C.M. van Loosdrecht, D. Brdjanovic ( <i>The Netherlands, Denmark</i> )  |  |
| <b>11:30-12:00</b> | <b>Flash poster - Session A</b>  |  |
| <b>11:30-11:33</b> | Phosphorus recovery from sewage in a pilot-scale UASB-DHS system<br>A. Nurmiyanto, H. Kodera, T. Kindaichi, N. Ozaki, A. Ohashi ( <i>Japan, Indonesia</i> )  |  |
| <b>11:33-11:36</b> | Optimization of the Short-Cut Enhanced Nutrient Abatement (SCENA) system using fermented cellulosic primary sludge as carbon source<br>N. Frison, V. Conca, G. Acleo, A. L. Eusebi, F. Fatone ( <i>Italy</i> )   |  |
| <b>11:36-11:39</b> | An Empirical Model for Carbon Recovery in a Rotating Belt Filter and its Application in the Frame of Plantwide Evaluation<br>C.R. Behera, F. Daynouri-Pancino, D. Santoro, K. V. Gernaey, G. Sin ( <i>Denmark, Canada</i> )  |  |
| <b>11:39-11:42</b> | Linking the microbial community composition to the bioprocess performances of the via-nitrite selection of PHA storing biomass<br>N. Frison, A. Botturi, E. Righetti, M. Andreolli, S. Lampis, F. Fatone ( <i>Italy</i> )  |  |
| <b>11:42-11:45</b> | Thermodynamic modelling is needed to describe the effect of high temperature on microbial nitrogen removal processes<br>K. A. Ismail, M. Patón, J. Rodríguez ( <i>United Arab Emirates</i> )   |  |
| <b>11:45-11:48</b> | Application of DHS-USB system and ozone in a recirculating freshwater aquaria towards zero water exchange aquaria<br>N. A. A. Bakar, M. Hatamoto, Y. Hirakata, T. Watari, N. Matsuura, T. Yamaguchi ( <i>Japan</i> )   |  |
| <b>11:48-11:51</b> | Autotrophic nitrogen removal from mainstream wastewater, during winter<br>M. Hoekstra, S.P. Geilvoet, C.S. Van Erp Taalman Kip, T.L.G. Hendrickx, R. Kleerebezem, M.C.M. van Loosdrecht ( <i>The Netherlands</i> )   |  |
| <b>11:51-11:54</b> | Short and long term effect of decreasing temperature on anammox activity and enrichment in mainstream granular sludge process - P. De Cocker, Y. Bessiere, G. Hernandez-Raquet, S. Dubos, M. Mercade, Sun, X.Y., I. Mozo, B. Barillon, G. Gaval, M. Caligaris, S. Martin Ruel, S.E. Vlaeminck, M. Sperandio ( <i>France, Belgium</i> ) |  |
| <b>11:54-11:57</b> | A control strategy based on pH and DO sensors for improved N-removal: validation in different WWTP configurations<br>M.V. Ruano, A. Robles, A. Seco, J. Ferrer, J. Ribes ( <i>Spain</i> )  |  |

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| 11:57-12:00        | Simulating a novel process for the integrated removal of nitrogen via nitrite from sludge reject water and the selection of PHA-storing biomass<br>V. Gkoutzioupa, C. Noutsopoulos, N. Frison, E. Katsou, F. Fatone, S. Malamis ( <i>Greece, Italy</i> ) |
| <b>12:00-13:00</b> | <b>Lunch</b>   |
| <b>13:00-15:00</b> | <b>Session B - ICA &amp; Benchmarking (Chairs: J. Mąkinia, M.C.M. van Loosdrecht)</b>  |
| 13:00-13:30        | Keynote -The Benchmark Simulation Modelling Platform – Areas of Recent Development and Extension<br><i>prof. U. Jeppsson (Sweden)</i>  |
| 13:30-13:45        | Discussion   |
| <b>13:45-14:30</b> | <b>Platform - Session B</b>  |
| 13:45-14:00        | Hydrodynamic Model for Biofilm Reactors with Carrier Migration - J.P. Boltz, I. Takács, G.T. Daigger, E. Morgenroth, D. Brockmann, J.-M.Choubert ( <i>France, USA, Switzerland</i> )   |
| 14:00-14:15        | Automating the Raw Data to Model Input Process using Flexible Open Source Tools<br>C. De Mulder, T. Flameling, J. Langeveld, Y. Amerlinck, S. Weijers, I. Nopens ( <i>Belgium, The Netherlands</i> )   |
| 14:15-14:30        | Modeling of N <sub>2</sub> O emissions in a full-scale activated sludge sequencing batch reactor<br>T.M. Massara, E. Katsou, A. Guisasola, A. Rodriguez-Caballero, M. Pijuan, J.A. Baeza ( <i>UK, Spain</i> )  |
| <b>14:30-15:00</b> | <b>Flash poster - Session B</b>  |
| 14:30-14:33        | Mathematical Modelling to Explore Pharmaceutical Drug Processing in Wastewater Treatment<br>E. Acheampong, I. L. Dryden, J. A. D. Wattis, J. Twycross, R. L. Gomes ( <i>UK, Ghana</i> )  |
| 14:33-14:36        | Comprehensive Evaluation of a Sewage Treatment Plant as a Base for Recirculation of Materials and Energy in the Region<br>T. Fukushima ( <i>Japan</i> )  |
| 14:36-14:39        | Development of an In-House Lattice-Boltzmann Simulator towards Bioreactors for Wastewater Treatment: Underlying Concepts<br>V. A. Fortunato, F. L. Caneppele, R. Ribeiro, J. A. Rabi ( <i>Brazil</i> )   |
| 14:39-14:42        | Performance investigation of the primary clarifier- Case study of Castiglione Torinese<br>S. Borzooei, M. C. Zanetti, E. Lorenzi, G. Scibilia ( <i>Italy</i> )   |
| 14:42-14:45        | Differential titrimeter for nitrification process control and energetic optimization in a large WRRF<br>C. Caretti, A. Mannucci, G. Munz, I. Ducci, D. Fibbi ( <i>Italy</i> )  |
| 14:45-14:48        | Assessing Potential Savings at WWTP Using Dynamic Simulation<br>E. Remigi, A. Lynggaard-Jensen, P. Andreasen, E. Fontenot, J. Christensen ( <i>Denmark, USA</i> )  |
| 14:48-14:51        | The impact of immigration on the diversity in biofilms<br>M. J. Wade, R. González-Cabaleiro, I. D. Ofițeru, T. P. Curtis ( <i>UK</i> )   |
| 14:51-14:54        | Wastewater treatment plant (WWTP): benchmarking analysis and aeration optimization<br>V.A. Riggio, D. Panepinto, M.C. Zanetti, E. Lorenzi ( <i>Italy</i> )   |
| 14:54-14:57        | Modelling Polyphosphate Release during Anaerobic Digestion of Sludge from Nutrient removal Systems<br>D. S. Ikumi, G. A. Ekama, C. J. Brouckaert ( <i>South Africa</i> )   |
| 14:57-15:00        | Effect of sludge retention time on the efficiency of excess sludge reduction by ultrasonic disintegration<br>N. Lambert, P. Van Aken, I. Smets, R. Dewil ( <i>Belgium</i> )  |
| <b>15:00-15:30</b> | <b>Coffee break</b>  |

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| <b>15:30-17:30</b> | <b>Session C - Membrane bioreactors (Chairs: H. Ødegaard, I. Smets)</b>   |
| 15:30-16:00        | Keynote -MBR for wastewater treatment: where do we stand?<br><i>prof. B. Jefferson (United Kingdom)</i>   |
| 16:00-16:15        | Discussion  |
| <b>16:15-17:00</b> | <b>Platform - Session C</b>   |
| 16:15-16:30        | Future Perspectives for MBR Applications at the Erftverband<br>C. Brepols, K. Drensla, A. Janot, L. Beyerle, H. Schäfer ( <i>Germany</i> )  |
| 16:30-16:45        | The Removal of PhACs And Their Transformation Products by MBR-RO vs. MBR-NF processes<br>J. Mamo, M.J. García Galán, M. Stefani, S. Rodríguez-Mozaz, H. Monclús, I. Rodriguez-Roda, J. Comas ( <i>Spain</i> ) |
| 16:45-17:00        | Performance of a Baffled Membrane Bioreactor (BMBR) Operated with Sponge Biomass Carriers: Substantial Reduction in Operational Energy<br>K. Kimura, S. Yamamoto ( <i>Japan</i> )                             |
| <b>17:00-17:30</b> | <b>Flash poster - Session C</b>   |
| 17:00-17:03        | Optimizing water and resource recovery facilities (WRRF) for energy generation without compromising effluent quality<br>G.A. Ekama ( <i>South Africa</i> )  |
| 17:03-17:06        | An electro moving bed membrane bioreactor (eMB-MBR) as a novel technology for wastewater treatment and reuse<br>L. Borea, V. Naddeo, V. Belgiorno ( <i>Italy</i> )  |
| 17:06-17:09        | Some Trends and Features of MBR Implementation in Russia and CIS Counties<br>A.Ya. Vanyushina, M. A. Ilesin, D.A. Tsarenko ( <i>Russia, Ukraine</i> )   |
| 17:09-17:12        | Influence of temperature on the start-up of membrane bioreactor: Kinetic study<br>J. C. Leyva-Díaz, J. Martín-Pascual, G. Calero-Díaz, J. C. Torres, J. M. Poyatos ( <i>Spain</i> )                           |
| 17:12-17:15        | Potential and challenges of osmotic membrane bioreactor (OMBR) for (potable) water reuse: a pilot scale study<br>G. Blandin, J. Comas, I. Rodriguez-Roda ( <i>Spain</i> )                                     |
| 17:15-17:18        | On-line monitoring of NDMA precursors in MBR-NF pilot plant by using fluorescence EEM<br>R. Finocchiaro, M. J. Farré, J. Mamo, P. Roccaro ( <i>Italy, Spain</i> )   |
| 17:18-17:21        | Self-Forming Dynamic Membrane As A Sustainable Alternative To Synthetic Membranes For MBR<br>P. Vergine, C. Salerno, G. Berardi, A. Pollice ( <i>Italy</i> )  |
| 17:21-17:24        | Nitrous oxide Production in Membrane-aerated Nitrifying Biofilms: Experimentation and Modelling<br>Y. Ma, C. Domingo-Félez, B. F. Smets ( <i>Denmark</i> )  |
| 17:24-17:27        | Landfill leachates treatment in pilot scale MBR system –case study<br>S. Fudala-Ksiazek, W. Szpakowski, A. Remiszewska-Skwarek, A. Luczkiewicz ( <i>Poland</i> )  |
| 17:27-17:30        | Membrane Electro-bioreactor for Small Wastewater Treatment Systems<br>M. Elektorowicz, S. Ibeid, A. Belanger, J.A. Oleszkiewicz ( <i>Canada</i> )   |
| <b>17:30-18:00</b> | <b>Poster Session</b>   |
| <b>18:30-23:00</b> | <b>Sicilian taste Social Dinner</b>   |

## Code

## Poster Session

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| P.4   | Phosphorus recovery from sewage in a pilot-scale UASB-DHS system<br>A. Nurmiyanto, H. Koderu, T. Kindaichi, N. Ozaki, A. Ohashi ( <i>Japan, Indonesia</i> )   |
| P.11  | A bio-based process of P-recovery from digester sludge<br>S. Günther, S. Müller ( <i>Germany</i> )  |
| P.18  | Optimizing water and resource recovery facilities (WRRF) for energy generation without compromising effluent quality<br>G.A. Ekama ( <i>South Africa</i> )  |
| P.19  | An electro moving bed membrane bioreactor (eMB-MBR) as a novel technology for wastewater treatment and reuse<br>L. Borea, V. Naddeo, V. Belgiorno ( <i>Italy</i> )  |
| P.20  | An Empirical Model for Carbon Recovery in a Rotating Belt Filter and its Application in the Frame of Plantwide Evaluation<br>C.R. Behera, F. Daynouri-Pancino, D. Santoro, K. V. Gernaey, G. Sin ( <i>Denmark, Canada</i> )                                 |
| P.21  | Mathematical Modelling to Explore Pharmaceutical Drug Processing in Wastewater Treatment<br>E. Acheampong, I. L. Dryden, J. A. D. Wattis, J. Twycross, R. L. Gomes ( <i>UK, Ghana</i> )   |
| P.22  | Comprehensive Evaluation of a Sewage Treatment Plant as a Base for Recirculation of Materials and Energy in the Region<br>T. Fukushima ( <i>Japan</i> )   |
| P.24  | Development of an In-House Lattice-Boltzmann Simulator towards Bioreactors for Wastewater Treatment: Underlying Concepts<br>V. A. Fortunato, F. L. Caneppele, R. Ribeiro, J. A. Rabi ( <i>Brazil</i> )  |
| P.31  | Differential titrimeter for nitrification process control and energetic optimization in a large WRRF<br>C. Caretti, A. Mannucci, G. Munz, I. Ducci, D. Fibbi ( <i>Italy</i> )   |
| P.38  | Assessing Potential Savings at WWTP Using Dynamic Simulation<br>E. Remigi, A. Lynggaard-Jensen, P. Andreasen, E. Fontenot, J. Christensen ( <i>Denmark, USA</i> )   |
| P.39  | Partial Nitrification Achieved in High-strength Ammonia Wastewater Treatment: Effects of Influent Characteristics<br>S. Wu, M. Zheng, Y. C. Liu ( <i>China</i> )  |
| P.40  | Phosphorus Recovery from Waste Activated Sludge: Microwave Treatment and Ozonation with Acid & Alkaline Pre-treatments<br>S.Cosgun, N.Semerici ( <i>Turkey</i> )  |
| P.44  | Respirometric Evaluation of Toxicity of 2,4 Dichlorophenol towards Activated Sludge and the Ability of Biomass Acclimation<br>K. P. Van Aken, N. Lambert, R. Van den Broeck, J. Degève, R. Dewil ( <i>Belgium</i> )   |
| P.47  | Some Trends and Features of MBR Implementation in Russia and CIS countries<br>A.Ya. Vanyushina, M. A. Iesin, D.A. Tsarenko ( <i>Russia, Ukraine</i> )   |
| P.49  | Influence of Temperature On The Start-up of Membrane Bioreactor: Kinetic Study<br>J. C. Leyva-Díaz, J. Martín-Pascual, G. Calero-Díaz, J. C. Torres, J. M. Poyatos ( <i>Spain</i> )   |
| P.69  | Performance investigation of the primary clarifier- Case study of Castiglione Torinese<br>S. Borzooei, M. C. Zanetti, E. Lorenzi, G. Scibilia ( <i>Italy</i> )  |
| P.73  | The impact of immigration on the diversity in biofilms<br>M. J. Wade, R. González-Cabaleiro, I. D. Ofițeru, T. P. Curtis ( <i>UK</i> )  |
| P.74  | Wastewater treatment plant (WWTP): benchmarking analysis and aeration optimization<br>V.A. Riggio, D. Panepinto, M.C. Zanetti, E. Lorenzi ( <i>Italy</i> )  |
| P.208 | Facultative Waste Stabilization Pond Design, Construction and Operation Experiences: A Case Study<br>K. Gunes, K. Haktanir, O. Saygin, S. Ayaz ( <i>Turkey</i> )  |
| P.78  | Effect of sludge retention time on the efficiency of excess sludge reduction by ultrasonic disintegration<br>N. Lambert, P. Van Aken, I. Smets, R. Dewil ( <i>Belgium</i> )   |
| P.85  | Reaction extents: A divide-and-conquer approach for kinetic model identification<br>A. Masic, J. Billeter, D. Bonvin, K. Villez ( <i>Switzerland</i> )  |
| P.92  | Brewery Wastewater Treatment using MBR Coupled with Nanofiltration or Electrodialysis: Biomass Acclimatization and Treatment Efficiency<br>B. Sawadogo, Y. Konaté, G. Lesage, F. Zaviska, M. Monnot, M. Heran, H. Karambiri ( <i>Burkina Faso, France</i> ) |

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| P.95  | Combining anammox with struvite precipitation: A possibility for simultaneous recovery of nitrogen, phosphorus and potassium<br>S. Johansson, M. Rusalleda, J. Colprim ( <i>Spain</i> )  |
| P.104 | Sodium hypochlorite oxidative stress characterization in full scale MBRs: is any improvement possible?<br>A. Fenu, A. Verliefde, M. Weemaes ( <i>Belgium</i> )   |
| P.131 | On-line monitoring of NDMA precursors in MBR-NF pilot plant by using fluorescence EEM<br>R. Finocchiaro, M. J. Farré, J. Mamo, P. Roccaro ( <i>Italy, Spain</i> )  |
| P.132 | Linking the microbial community composition to the bioprocess performances of the via-nitrite selection of PHA storing biomass<br>N. Frison, A. Botturi, E. Righetti, M. Andreolli, S. Lampis, F. Fatone ( <i>Italy</i> )  |
| P.134 | Thermodynamic modelling is needed to describe the effect of high temperature on microbial nitrogen removal processes<br>K. A. Ismail, M. Patón, J. Rodríguez ( <i>United Arab Emirates</i> )   |
| P.135 | Application of DHS-USB system and ozone in a recirculating freshwater aquaria towards zero water exchange aquaria<br>N. A. A. Bakar, M. Hatamoto, Y. Hirakata, T. Watari, N. Matsuura, T. Yamaguchi ( <i>Japan</i> )   |
| P.143 | Autotrophic nitrogen removal from mainstream wastewater, during winter<br>M. Hoekstra, S.P. Geilvoet, C.S. Van Erp Taalman Kip, T.L.G. Hendrickx, R. Kleerebezem, M.C.M. van Loosdrecht ( <i>The Netherlands</i> )   |
| P.144 | Potential and challenges of osmotic membrane bioreactor (OMBR) for (potable) water reuse: a pilot scale study<br>G. Blandin, J. Comas, I. Rodriguez-Roda ( <i>Spain</i> )  |
| P.147 | Low-cost ceramic membranes manufacture for MBR. Comparison of pilot and industrial scale<br>E. Zuriaga, I. Pastor, B. Hernández, M-M. Lorente-Ayza, M.C. Bordes, E. Sanchez, M. Abellán ( <i>Spain</i> )   |
| P.156 | Short and long term effect of decreasing temperature on anammox activity and enrichment in mainstream granular sludge process - P. De Cocker, Y. Bessiere, G. Hernandez-Raquet, S. Dubos, M. Mercade, Sun, X.Y., I. Mozo, B. Barillon, G. Gaval, M. Caligaris, S. Martin Ruel, S.E. Vlaeminck, M. Sperandio ( <i>France, Belgium</i> ) |
| P.158 | Self-Forming Dynamic Membrane As A Sustainable Alternative To Synthetic Membranes For MBR<br>P. Vergine, C. Salerno, G. Berardi, A. Pollice ( <i>Italy</i> )   |
| P.163 | Nitrous oxide Production in Membrane-aerated Nitrifying Biofilms: Experimentation and Modelling<br>Y. Ma, C. Domingo-Félez, B. F. Smets ( <i>Denmark</i> )   |
| P.176 | Differential Expression Of Genes Involved In Utilization Of Benzo(a)Pyrene In Burkholderia vietnamiensis G4 Strain<br>G.P. Cauduro, T. Falcon, A. L. Leal, V. H. Valiati ( <i>Brazil</i> )   |
| P.178 | Optimization of the Short-Cut Enhanced Nutrient Abatement (SCENA) system using fermented cellulosic primary sludge as carbon source<br>N. Frison, V. Conca, G. Acleo, A. L. Eusebi, F. Fatone ( <i>Italy</i> )   |
| P.180 | Cost analysis of HRAP as an Alternative to Traditional Denitrification Phase in Small to Medium Wastewater Reuse Systems<br>G. Mancini, D. Fino, A. Luciano, A. Brucato ( <i>Italy</i> )   |
| P.183 | A control strategy based on pH and DO sensors for improved N-removal: validation in different WWTP configurations<br>M.V. Ruano, A. Robles, A. Seco, J. Ferrer, J. Ribes ( <i>Spain</i> )  |
| P.188 | Landfill leachates treatment in pilot scale MBR system –case study<br>S. Fudala-Ksiazek, W. Szpakowski, A. Remiszewska-Skwarek, A. Luczkiewicz ( <i>Poland</i> )   |
| P.194 | Respirometry for the assessment of biomass activity in Membrane Bioreactors<br>D. Di Trapani, G. Mannina, G. Viviani ( <i>Italy</i> )  |
| P.195 | The sludge dewaterability in advanced wastewater treatment: a survey of four different Membrane BioReactor pilot plants<br>G. Mannina, M. Capodici, G. Viviani ( <i>Italy</i> )  |
| P.196 | Biokinetic Behavior of Autochthonous Halophilic Biomass at Different Salinity: Comparison between Activated Sludge and Granular Sludge Systems<br>S.F. Corsino, M. Capodici, M. Torregrossa, G. Viviani ( <i>Italy</i> )   |
| P.204 | Application of the Oxidic-Settling-Anaerobic Process in a Membrane Bioreactor for Excess Sludge Reduction<br>T. Silva de Oliveira, S.F. Corsino, D. Di Trapani, M. Torregrossa ( <i>Italy</i> )  |
| P.205 | Simulating a novel process for the integrated removal of nitrogen via nitrite from sludge reject water and the selection of PHA-storing biomass<br>V. Gkoutzioupa, C. Noutsopoulos, N. Frison, E. Katsou, F. Fatone, S. Malamis ( <i>Greece, Italy</i> )   |
| P.213 | Membrane Electro-bioreactor for Small Wastewater Treatment Systems<br>M. Elektorowicz, S. Ibeid, A. Belanger, J.A. Oleszkiewicz ( <i>Canada</i> )  |

**09:00-11:00 Session D - Anaerobic digestion (Chairs: P. Lens, J. Oleszkiewicz)**

09:00-09:30 Keynote - Anaerobic Digestion in the context of plant wide modelling of wastewater processes  
*prof. D.J. Batstone (D.J. Batstone, X. Flores-Alsina - Australia, Denmark)*

09:30-09:45 Discussion

**09:45-10:30 Platform - Session D**

09:45-10:00 Activity corrections are needed for the correct physicochemical modelling of key anaerobic digestion variables

M. Patón, R. González-Cabaleiro, J. Rodríguez (*United Arab Emirates; UK*)

10:00-10:15 ZVI addition in continuous anaerobic digestion systems dramatically decreases P recovery potential: dynamic modeling

D. Puyol, X. Flores-Alsina, Y. Segura, R. Molina, S. Jerez, K. V. Gernaey, J. A. Melero, F. Martinez (*Spain, Denmark*)

10:15-10:30 Eukaryotic community in UASB reactor treating domestic sewage based on 18S rRNA gene sequencing

Y. Hirakata, M. Hatamoto, M. Oshiki, N. Araki, T. Yamaguchi (*Japan*)

**10:30-11:00 Flash poster - Session D**

10:30-10:33 Properties of wastewater microbial communities uncovered by single cell analysis and bioinformatics tools  
S. Günther, Z. Liu, N. Cichocki, F. Schattenberg, F. Centler, T. Hübschmann, S. Müller (*Germany*)

10:33-10:36 Performance and Kinetic Analysis of a Static Granular Bed Reactor Treating Poultry Slaughterhouse Wastewater

M. Basitere, M. Njoya, M.S. Sheldon, S.K.O Ntwampe (*South Africa*)

10:36-10:39 Thermophilic Hydrolysis and Fermentation to Produce Short-chain Fatty Acids from Waste Sludge  
Z.Q. Zuo, M. Zheng, H. L. Xiong, Y.C. Liu, H.C. Shi (*China*)

10:39-10:42 How does the mass transfer restriction change the reaction's kinetic order for acid mine drainage treatment in an anaerobic bioreactor?

P.T. Couto, R.P. Rodriguez, R. Ribeiro, G.A. Valdivieso (*Brazil*)

10:42-10:45 Optimal scheduling and fouling control in membrane bioreactor

N. Kalboussi, J. Harmand, F. Ellouze, N. Ben Amar (*Tunisia*)

10:45-10:48 Fault Diagnosis Of Anaerobic Digester System Using Nonlinear State Estimator: Application To India's Largest Dairy Unit

M.D. Rani, L. Das, B. Srinivasan (*India*)

10:48-10:51 Process Performance and Microbial Community Structure of an Anaerobic Baffled Reactor for Natural Rubber Processing Wastewater Treatment

T. Watari, P. T. Thao, Y. Hirakata, M. Hatamoto, D. Tanikawa, K. Syutsubo, N. L. Huong, N. M. Tan, M. Fukuda, T. Yamaguchi (*Japan, Vietnam, The Netherlands*)

10:51-10:54 Contribution of modeling in the understanding of the Anaerobic Digestion: Application to the digestion of protein-rich substrates

Z. Khedim, B. Benyahia, J. Harmand (*Algérie, France*)

10:54-10:57 Dynamic thermodynamic simulation of ADM1 validates the hydrogen inhibition approach and suggests an unfeasible butyrate degradation pathway

M. Patón, J. Rodríguez (*United Arab Emirates*)

10:57-11:00 Energy recovery From Immobilized Cells of *Scenedesmus Obliquus* After Wastewater Treatment

M. Gomes San Juan, F. Ometto, R. Whitton, M. Pidou, B. Jefferson, R. Villa (*UK, Sweden*)

**11:00-11:30 Coffee break**
**11:30-13:30 Session E - New frontiers in wastewater treatment (Chairs: G.A. Ekama, K. Kimura)**

11:30-12:00 Keynote - Making water operations smarter  
*prof. G. Olsson (Sweden)*

12:00-12:15 Discussion

|  |   |
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| <b>12:15-13:00 Platform - Session E</b>  |   |
| 12:15-12:30  | Rheological characterization of biomaterial recovered from anammox granular sludge<br>T. Lotti, E. Carretti, D. Berti, C. Lubello, F. Malpei ( <i>Italy</i> )   |
| 12:30-12:45  | Removal of Pharmaceuticals from WWTP Secondary Effluent with Biofilters<br>L. Sbardella, A. Fenu, J. Comas, I. Rodriguez Roda, M. Weemaes ( <i>Spain, Belgium</i> )   |
| 12:45-13:00  | Study of the competition between complete nitrification by a single organism and ammonia and nitrite oxidizing bacteria<br>R. González-Cabaleiro, T. P. Curtis, I. D. Ofițeru ( <i>UK</i> )   |
| <b>13:00-13:30 Flash poster - Session E</b>  |   |
| 13:00-13:03  | Maximising Energy Harvest from Constructed Wetland-Microbial Fuel Cell using Capacitor Engaged Duty Cycling Strategy<br>L. Xu, Y.Q. Zhao, C. Fan, Z.R. Fan, F.C. Zhao ( <i>Ireland, China</i> )   |
| 13:03-13:06  | Properties of Mixed Liquor and Steady-state Modelling of Sludge Reduction in Sonobioreactor<br>M. Zheng, S. Wu, Y. C. Liu, Q. Dong ( <i>China</i> )   |
| 13:06-13:09  | Microbial Fuel Cell Bioreactors for Treatment of Waters Contaminated by Naphthenic Acids<br>G. Valdes Labrada, M. Nematì ( <i>Canada</i> )  |
| 13:09-13:12  | Studies on treatment of bitumen effluents by means of Advanced Oxidation Processes (AOPs) in basic pH conditions<br>G. Boczkaj, A. Fernandes, M. Gągól ( <i>Poland</i> )  |
| 13:12-13:15  | Pharmaceuticals in Wastewater Treatment Plants of Tuscany: Occurrence and Toxicity<br>L. Palli, F. Spina, C. Varese, A. Romagnolo, A. Bonari, C. Bossi, I. Pompilio, S. Dugheri, S. Tilli, A. Scozzafava, D. Santianni, S. Caffaz, R. Gori ( <i>Italy</i> )                 |
| 13:15-13:18  | Removal of conventional water quality parameters, emerging contaminants and fluorescing organic matter in a hybrid constructed wetland system<br>M. Sgroi, C. Pelissari, C. Ávila, P.H. Sezerino, F.G.A. Vagliasindi, J. García, P. Roccaro ( <i>Italy, Brazil, Spain</i> ) |
| 13:18-13:21  | REWAQUA: an advanced technology for water purification in sustainable aquaculture based on photocatalytic ozonation<br>F. Parrino, G. Camera Roda, V. Loddò, L. Palmisano ( <i>Italy</i> )  |
| 13:21-13:24  | Bio-augmenting municipal MBRs to achieve micro-pollutants degradation: a possible way through the many obstacles<br>A. Fenu, M. Weemaes ( <i>Belgium</i> )  |
| 13:24-13:27  | Efficient treatment of synthetic wastewater contaminated with emerging pollutants by anaerobic purple phototrophic bacteria<br>I. de las Heras, B. Padrino, R. Molina, Y. Segura, J. A. Melero, A. F. Mohedano, F. Martínez, D. Puyol ( <i>Spain</i> )                      |
| 13:27-13:30  | Fate and sources of phthalates and bisphenol A in municipal wastewater and the mitigation of their further dissemination<br>S. Fudala-Ksiazek, M. Pierpaoli, M. Sobaszek, A. Luczkiewicz ( <i>Poland, Italy</i> )   |
| <b>13:30-14:30 Lunch</b>   |   |
| <b>14:30-16:30 Session F - Greenhouse gases from WWT &amp; LCA (Chairs: J. Boltz, G. Olsson)</b> |   |
| 14:30-15:00  | Keynote - Greenhouse gas emissions from membrane bioreactors<br><i>prof. M.C.M. van Loosdrecht (G. Mannina, M. Capodici, A. Cosenza, D. Di Trapani, M.C.M. van Loosdrecht - Italy, The Netherlands)</i>   |
| 15:00-15:15  | Discussion  |
| <b>15:15-16:00 Platform - Session F</b>  |   |
| 15:15-15:30  | Environmental assessment of Anammox process in Mainstream with WWTP modeling coupled to Life Cycle Assessment<br>M. Besson, L. Tiruta-Barna, M. Spérandio ( <i>France</i> )   |
| 15:30-15:45  | Balancing Energy Inputs/Outputs and GHG Emissions for Sustainable Wastewater Treatment – a Case Study<br>E. Zaborowska, K. Czerwionka, A. Wojtowicz, J. Makinia ( <i>Poland</i> )   |
| 15:45-16:00  | N <sub>2</sub> O emissions from a full-scale partial nitritation reactor<br>K.E. Mampaey, M.K. De Kreuk, L.G.J.M. van Dongen, M.C.M. van Loosdrecht, E.I.P. Volcke ( <i>Belgium, The Netherlands</i> )  |

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| <b>16:00-16:30</b> | <b>Flash poster - Session F</b>   |
| 16:00-16:03        | Low nitrous oxide production in intermittent-feed high performance nitrifying reactors<br>Q. Su, M.M. Jensen, B.F. Smets ( <i>Denmark</i> )   |
| 16:03-16:06        | Multi-point monitoring of nitrous oxide emissions and aeration efficiency in a full-scale conventional activated sludge tank<br>G. Bellandi, C. Caretti, S. Caffaz, I. Nopens, R. Gori ( <i>Italy, Belgium</i> )  |
| 16:06-16:09        | Calibration of the NDHA N <sub>2</sub> O model via respirometric assays<br>C. Domingo-Félez, M. Calderó-Pascual, G. Sin, B. G. Plósz, B.F. Smets ( <i>Denmark</i> )   |
| 16:09-16:12        | Measuring energy demand and efficiency at WWTPs: an econometric approach<br>S. Longo, J. M. Lema, M. Mauricio-Iglesias, A. Hospido ( <i>Spain</i> )   |
| 16:12-16:15        | Modelling nitrous oxide emissions in a tertiary nitrifying biofilter<br>J. Fiat, A. Filali, S. Gillot, M. Spérandio ( <i>France</i> )   |
| 16:15-16:18        | Assessing N <sub>2</sub> O and CO <sub>2</sub> emissions from secondary settlers: experimental results on full- and pilot scale plants<br>M. Caivano, R. Pascale, G. Mazzone, A. Buchicchio, S. Masi, G. Bianco, D. Caniani ( <i>Italy</i> )                                  |
| 16:18-16:21        | Effect of Temperature on N <sub>2</sub> O and NO Emission in a Partial Nitrification SBR Treating Reject Wastewater<br>Z. Bao, S. Midulla, A. Ribera-Guarida, G. Mannina, D.Sun, M. Pijuan ( <i>Spain, China, Italy</i> )   |
| 16:21-16:24        | Production of greenhouse gases from biological activated sludge processes: N <sub>2</sub> O emission factors and influences of the sampling methodology<br>A.L. Eusebi, D. Cingolani, M. Spinelli, F. Fatone ( <i>Italy</i> )   |
| 16:24-16:27        | Analysis and optimization of energy consumption in relation to GHG management: The Case Study of Medio Sarno Wastewater Treatment Plant<br>A. Falcone, L. Pucci, S. Guadagnuolo, R. De Rosa, A. Giuliani, G. Lofrano, G. Libralato, F. Fatone, M. Carotenuto ( <i>Italy</i> ) |
| 16:27-16:30        | Application of Event-based Real-Time Analysis for Long-term N <sub>2</sub> O Monitoring in Full-scale WWTPs<br>V. Vasilaki, M. Danishvar, Z. Huang, A. Mousavi, E. Katsou ( <i>UK</i> )   |
| <b>16:30-17:00</b> | <b>Coffee break</b>   |
| <b>17:00-17:30</b> | <b>Poster Session</b>   |
| <b>18:30-23:00</b> | <b>Gala dinner</b>  |



| Code  | Poster Session  |
|-------|---|
| P.2   | Emerging Contaminants Mineralization by a Photo-Electrochemical Method Based on WO <sub>3</sub><br>A. Molinari, G. Longobucco, L. Pasti, V. Cristino, S. Caramori, C.A. Bignozzi ( <i>Italy</i> )   |
| P.13  | Renewable Energy Sources for Wastewater Treatment Plants<br>E. Tzen ( <i>Greece</i> )   |
| P.14  | Fault Diagnosis Of Anaerobic Digester System Using Nonlinear State Estimator: Application To India's Largest Dairy Unit<br>M.D. Rani, L. Das, B. Srinivasan ( <i>India</i> )  |
| P.12  | Properties of wastewater microbial communities uncovered by single cell analysis and bioinformatics tools<br>S. Günther, Z. Liu, N. Cichocki, F. Schattenberg, F. Centler, T. Hübschmann, S. Müller ( <i>Germany</i> )  |
| P.28  | Effect of Increasing the Surface Area of the Graphite Electrodes on Electricity Production in a Microbial Fuel Cell (MFC) Fed with Domestic Wastewater<br>D. Villarreal- Martínez, G. Arzate- Martínez, L. Revnoso- Cuevas, A. Salinas- Martínez ( <i>Mexico</i> )          |
| P.30  | Maximising Energy Harvest from Constructed Wetland-Microbial Fuel Cell using Capacitor Engaged Duty Cycling Strategy<br>L. Xu, Y.Q. Zhao, C. Fan, Z.R. Fan, F.C. Zhao ( <i>Ireland, China</i> )   |
| P.34  | Properties of Mixed Liquor and Steady-state Modelling of Sludge Reduction in Sonobioreactor<br>M. Zheng, S. Wu, Y. C. Liu, Q. Dong ( <i>China</i> )   |
| P.41  | Performance and Kinetic Analysis of a Static Granular Bed Reactor Treating Poultry Slaughterhouse Wastewater<br>M. Basitere, M. Njoya, M.S. Sheldon, S.K.O Ntwampe ( <i>South Africa</i> )  |
| P.43  | Thermophilic Hydrolysis and Fermentation to Produce Short-chain Fatty Acids from Waste Sludge<br>Z.Q. Zuo, M. Zheng, H. L. Xiong, Y.C. Liu, H.C. Shi ( <i>China</i> )   |
| P.51  | Microbial Fuel Cell Bioreactors for Treatment of Waters Contaminated by Naphthenic Acids<br>G. Valdes Labrada, M. Nemati ( <i>Canada</i> )  |
| P.60  | Low nitrous oxide production in intermittent-feed high performance nitritating reactors<br>Qingxian Su, M.M. Jensen, B.F. Smets ( <i>Denmark</i> )  |
| P.61  | Multi-point monitoring of nitrous oxide emissions and aeration efficiency in a full-scale conventional activated sludge tank<br>G. Bellandi, C. Caretti, S. Caffaz, I. Nopens, R. Gori ( <i>Italy, Belgium</i> )  |
| P.67  | How does the mass transfer restriction change the reaction's kinetic order for acid mine drainage treatment in an anaerobic bioreactor?<br>P.T. Couto, R.P. Rodriguez, R. Ribeiro, G.A. Valdivieso ( <i>Brazil</i> )  |
| P.68  | Optimal scheduling and fouling control in membrane bioreactor<br>N. Kalboussi, J. Harmand, F. Ellouze, N. Ben Amar ( <i>Tunisia</i> )   |
| P.77  | Calibration of the NDHA N <sub>2</sub> O model via respirometric assays<br>C. Domingo-Félez, M. Calderó-Pascual, G. Sin, B. G. Plósz, B.F. Smets ( <i>Denmark</i> )   |
| P.84  | Pharmaceuticals in Wastewater Treatment Plants of Tuscany: Occurrence and Toxicity<br>L. Palli, F. Spina, C. Varese, A. Romagnolo, A. Bonari, C. Bossi, I. Pompilio, S. Dugheri, S. Tilli, A. Scozzafava, D. Santianni, S. Caffaz, R. Gori ( <i>Italy</i> )                 |
| P.89  | Measuring energy demand and efficiency at WWTPs: an econometric approach<br>S. Longo, J. M. Lema, M. Mauricio-Iglesias, A. Hospido ( <i>Spain</i> )   |
| P.97  | Modelling nitrous oxide emissions in a tertiary nitrifying biofilter<br>J. Fiat, A. Filali, S. Gillot, M. Spérandio ( <i>France</i> )   |
| P.101 | Removal of conventional water quality parameters, emerging contaminants and fluorescing organic matter in a hybrid constructed wetland system<br>M. Sgroi, C. Pelissari, C. Ávila, P.H. Sezerino, F.G.A. Vagliasindi, J. García, P. Roccaro ( <i>Italy, Brazil, Spain</i> ) |
| P.102 | REWAQUA: an advanced technology for water purification in sustainable aquaculture based on photocatalytic ozonation<br>F. Parrino, G. Camera Roda, V. Loddò, L. Palmisano ( <i>Italy</i> )  |
| P.103 | Catalytic Wet Air Oxidation (CWAO) of Industrial Wastewaters: Mechanistic Evidences, Catalyst Development and Kinetic Modeling<br>F. Arena, R. Di Chio, C. Espro, A. Palella, L. Spadaro ( <i>Italy</i> )   |
| P.105 | Maintaining optimal performances of one stage Anammox reactors: regular flushing at short contact time with high free ammonia concentration<br>A. Fenu, A. P. Ten Berge, M. Weemaes ( <i>Belgium</i> )  |

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| P.106 | Bio-augmenting municipal MBRs to achieve micro-pollutants degradation: a possible way through the many obstacles<br>A. Fenu, M. Weemaes ( <i>Belgium</i> )   |
| P.107 | Efficient treatment of synthetic wastewater contaminated with emerging pollutants by anaerobic purple phototrophic bacteria<br>I. de las Heras, B. Padrino, R. Molina, Y. Segura, J. A. Melero, A. F. Mohedano, F. Martínez, D. Puvol ( <i>Spain</i> )   |
| P.109 | Disinfection Unit of Water Resource Recovery Facilities: critical issue for N <sub>2</sub> O Emission<br>M. Caivano, R. Pascale, G. Mazzone, S. Masi, S. Panariello, D. Caniani ( <i>Italy</i> )   |
| P.110 | Treatment of Industrial Wastewater Containing Amides Using Novel Bacterium in Semi-Continuous Reactor<br>M. Sogani, A. Dongre, K. Sonu ( <i>India</i> )  |
| P.113 | CO <sub>2</sub> Removal from Biogas as Product of Waste-Water-Treatments<br>M. Oliva, C. Costa, R. Di Felice ( <i>Italy</i> )  |
| P.116 | CO <sub>2</sub> and N <sub>2</sub> O emissions from aerobic digesters: validation and calibration of the Activated Sludge Model for aerobic digestion (AeDM1)<br>M. Caivano, S. Masi, G. Mazzone, I.M. Mancini, D. Caniani ( <i>Italy</i> )  |
| P.118 | Assessing N <sub>2</sub> O and CO <sub>2</sub> emissions from secondary settlers: experimental results on full- and pilot scale plants<br>M. Caivano, R. Pascale, G. Mazzone, A. Buchicchio, S. Masi, G. Bianco, D. Caniani ( <i>Italy</i> )   |
| P.121 | Effect of Temperature on N <sub>2</sub> O and NO Emission in a Partial Nitrification SBR Treating Reject Wastewater<br>Z. Bao, S. Midulla, A. Ribera-Guarida, G. Mannina, D.Sun, M. Pijuan ( <i>Spain, China, Italy</i> )  |
| P.123 | Process Performance and Microbial Community Structure of an Anaerobic Baffled Reactor for Natural Rubber Processing Wastewater Treatment - T. Watari, P. T. Thao, Y. Hirakata, M. Hatamoto, D. Tanikawa, K. Syutsubo, N. L. Huong, N. M. Tan, M. Fukuda, T. Yamaguchi ( <i>Japan, Vietnam, The Netherlands</i> ) |
| P.130 | Contribution of modeling in the understanding of the Anaerobic Digestion: Application to the digestion of protein-rich substrates<br>Z. Khedim, B. Benyahia, J. Harmand ( <i>Algerie, France</i> )   |
| P.138 | Dynamic thermodynamic simulation of ADM1 validates the hydrogen inhibition approach and suggests an unfeasible butyrate degradation pathway<br>M. Patón, J. Rodríguez ( <i>United Arab Emirates</i> )  |
| P.141 | Seasonal and Diurnal Variations of GHG Emissions Measured Continuously at the Viikinmäki Underground WWTP<br>A. Kuokkanen, A. Mikola, M. Heinonen ( <i>Finland</i> )   |
| P.145 | Molecular and Electrostatic Interactions of Anatase TiO <sub>2</sub> Nanowires during the Removal of Residual Contaminants from Treated Wastewater Effluent<br>A. Giwa, S. M. Jung, W. Fang, M. Ahmed, J. Kong, S.W. Hasan ( <i>United Arab Emirates, USA</i> )  |
| P.146 | The Relationship between Gene Activity and Nitrous Oxide Production during Nitrification in Activated Sludge Systems<br>P. Kowal, J. Małania ( <i>Poland</i> )   |
| P.153 | Performance Evaluation of Graphene coated Polyethylene Membranes for the treatment of Reverse Osmosis Brine Reject Waste Stream using Membrane Distillation<br>S.M. Mansour, H.A. Arafat, S.W. Hasan ( <i>United Arab Emirates</i> )   |
| P.157 | Production of greenhouse gases from biological activated sludge processes: N <sub>2</sub> O emission factors and influences of the sampling methodology<br>A. I. Eusebi, D. Cingolani, M. Spinelli, F. Fatone ( <i>Italy</i> )   |
| P.168 | Development of Fungal-Bacterial Granular Sludge as Secondary Treatment for Simultaneous Biodegradation of Organic Loading and Carbamazepine in Domestic Wastewater<br>M.C. Soto, S. Revah, F.Y. García Becerra ( <i>Mexico</i> )   |
| P.182 | A Graphical User Interface as a DSS tool for GHG emission estimation from water resource recovery facilities<br>L. Frunzo, G. Esposito, R. Gori, D. Caniani, M. Caivano, A. Cosenza, G. Mannina ( <i>Italy</i> )   |
| P.187 | Energy recovery From Immobilized Cells of <i>Scenedesmus Obliquus</i> After Wastewater Treatment<br>M. Gomes San Juan, F. Ometto, R. Whitton, M. Pidou, B. Jefferson, R. Villa ( <i>UK, Sweden</i> )   |
| P.189 | Fate and sources of phthalates and bisphenol A in municipal wastewater and the mitigation of their further dissemination<br>S. Fudala-Ksiazek, M. Pierpaoli, M. Sobaszek, A. Luczkiewicz ( <i>Poland, Italy</i> )  |
| P.190 | A novel Comprehensive Procedure For Estimating Greenhouse Gas Emissions From Water Resource Recovery Facilities - R. Gori, G. Bellandi, C. Caretti, S. Dugheri, A. Cosenza, V.A. Laudicina, G. Esposito, L. Pontoni, D. Caniani, M. Caivano, D. Rosso, G. Mannina ( <i>Italy, USA</i> )                          |
| P.193 | Analysis and optimization of energy consumption in relation to GHG management: The Case Study of Medio Sarno Wastewater Treatment Plant - A. Falcone, L. Pucci, S. Guadagnuolo, R. De Rosa, A. Giuliani, G. Lofrano, G. Libralato, F. Fatone, M. Carotenuto ( <i>Italy</i> )                                     |
| P.198 | Removal of Cr(VI) by Pleurotus Mutilus Biomass in Torus Reactor: equilibrium and sorption mechanism<br>A. Alouache, A. Selatnia, F. Halet, B.Nadjemi ( <i>Algeria</i> )  |

- P.201 A new plant wide modelling approach for the reduction of greenhouse gas emission from wastewater treatment plants  
D. Caniani, A. Cosenza, G. Esposito, L. Frunzo, R. Gori, G. Bellandi, M. Caivano, G. Mannina (*Italy*)
- P.202 Simultaneous treatment of wastewater and Direct Blue 2 azo dye in a biological aerated filter under different oxygen concentrations  
E. González-Gutiérrez-de-Lara, S. González-Martínez (*Mexico*)
- P.207 Application of Event-based Real-Time Analysis for Long-term N<sub>2</sub>O Monitoring in Full-scale WWTPs  
V. Vasilaki, M. Danishvar, Z. Huang, A. Mousavi, E. Katsou (*UK*)
- P.211 Studies on treatment of bitumen effluents by means of Advanced Oxidation Processes (AOPs) in basic pH conditions  
G. Boczkaj, A. Fernandes, M. Gagol (*Poland*)

**09:00 -11:00 Session G - MBBR & Hybrid systems (Chairs: C. Brepols, I. Rodriguez-Roda Layret)**

09:00-09:30 Keynote - New applications for MBBR and IFAS systems  
*prof. H. Ødegaard (Norway)*

09:30-09:45 Discussion

**09:45-10:30 Platform - Session G**

09:45-10:00 Applications of Mobile Carrier Biofilm Modelling for Wastewater Treatment Processes  
F. Sabba, J. Calhoun, B. R. Johnson, G. T. Daigger, R. Kovács, I. Takács, J. Boltz (*USA , Hungary, France*)

10:00-10:15 Application of the MBBR Technology to Achieve Nitrification below 1°C: Biofilm and Microbiome Analysis  
R. Delatolla, B. Young, A. Stintzi (*Canada*)

10:15-10:30 Robust NOB control in hybrid biofilm systems operated for mainstream partial nitrification and anammox: an experimental and modelling study  
M. Laurenzi, D. G. Weissbrodt, K. Villez, O. Robin, N. de Jonge, A. Rosenthal, G. Wells, J. L. Nielsen, E. Morgenroth, A. Joss (*Switzerland, The Netherlands, Denmark, USA*)

**10:30-11:00 Flash poster - Session G**

10:30-10:33 Proof of Concept of Removal of Carbon and Nitrogen from Wastewater through a Novel Process of Biofilm SND  
M. I. Hossain, L. Cheng, R. M. G. Flavigny, R. Cord-Ruwisch (*Australia, Singapore*)

10:33-10:36 Effect of salinity variation on the autotrophic kinetics of the start-up of membrane bioreactor and hybrid moving bed biofilm reactor-membrane bioreactor at low hydraulic retention time  
J. C. Leyva-Díaz, A. Rodríguez-Sánchez, J. González-López, J. M. Poyatos (*Spain*)

10:36-10:39 Biofilms in the Water Environment: Trends and Challenges  
J.P. Boltz, B. Smets, B.E. Rittmann, M.C.M. van Loosdrecht, E. Morgenroth, G.T. Daigger (*Denmark, USA, The Netherlands, Switzerland*)

10:39-10:42 UCT-MBR vs IFAS-UCT-MBR for wastewater treatment: a comprehensive comparison including N<sub>2</sub>O emission  
G. Mannina, M. Capodici, A. Cosenza, D. Di Trapani, G. A. Ekama, H. Ødegaard (*Italy, South Africa, Norway*)

10:42-10:45 Impact of hydraulic retention time on MBR and hybrid MBBR-MBR systems through microbiological approach: TGGE and enzyme activities  
A. Rodríguez-Sánchez, J. C. Leyva-Díaz, K. Calderon, J.M. Poyatos, J. González-López (*Spain, Mexico*)

10:45-10:48 Fish-canning wastewater treatment by means of aerobic granular sludge for C, N and P removal  
R. Campo, P. Carrera-Fernández, G. Di Bella, A. Mosquera-Corral, A. Val del Río (*Italy, Spain*)

10:48-10:51 Preliminary evaluation of Sharon-Anammox Process Feasibility to treat Ammonium-Rich Effluents produced by Double-Stage Anaerobic Digestion of Food Waste  
S. Milia, G. Tocco, G. Erby, G. De Gioannis, A. Carucci (*Italy*)

10:51-10:54 Shipboard slop treatment by means of aerobic granular sludge: strategy proposal for granulation and hydrocarbons removal  
R. Campo, G. Di Bella (*Italy*)

10:54-10:57 The symbiotic relationship of microalgae and bacteria studied through the analysis of the O<sub>2</sub> exchange  
S. Barreiro, I. de Godos, C. González, M. Ballesteros (*Spain*)

10:57-11:00 Bacterial community structure of an IFAS-MBRs wastewater treatment plant  
P. Cinà, G. Bacci, G. Gallo, M. Capodici, A. Cosenza, D. Di Trapani, R. Fani, G. Mannina, A.M. Puglia (*Italy*)

11:00-11:30 Coffee break

**11:30-13:30 Session H - Anaerobic digestion & Modelling (Chairs: D. Batstone, I. Nopens)**

11:30-12:00 Keynote - Process control of sulfate reducing reactors  
*prof. P. Lens (The Netherlands)*

12:00-12:15 Discussion

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| <b>12:15-13:00 Platform - Session H</b>  |  |
| 12:15-12:30  | Exploring the Feasibility of a Novel Municipal Wastewater Treatment System via Dynamic Plant-Wide Simulation<br>E. Bozileva, R. Khiewwijit, H. Temmink, H. H. Rijnaarts, K. J. Keesman ( <i>The Netherlands</i> )  |
| 12:30-12:45  | Model-based identification of chemicals transformation pathways combined with reaction kinetics models – the case of heroin biomarkers in wastewater<br>P. Ramin, B. Valverde-Pérez, F. Polesel, L. Locatelli, K.V. Gernaey, B. Gy. Plósz ( <i>Denmark, UK</i> ) |
| 12:45-13:00  | Reshaping the activated sludge model ASM2d for better manageability and higher integration potential<br>H. H. Pham, Y. Wouters, M. Dalmau, J. Comas, I. Smets ( <i>Belgium, Spain</i> )  |
| <b>13:00-13:30 Flash poster - Session H</b>  |  |
| 13:00-13:03  | Improved Biological Nutrient Removal and Reduced Energy Consumption at a Retrofitted Wastewater Treatment Plant<br>C. Brepols, T. Engels, H. Schäfer ( <i>Germany</i> )  |
| 13:03-13:06  | Influence of the Sludge Concentration on Oxygen Transfer and Energy Consumption in Activated Sludge Systems<br>S.L. dos Santos, Y.C. Catunda, A.C. van Haandel ( <i>Brazil</i> )   |
| 13:06-13:09  | Model-based Analysis of Microbial Consortia and Microbial Products in an Anammox Biofilm Reactor<br>M. Azari, A. V. Le, U. Walter, V. Rekers, M. Lübken, M. Denecke ( <i>Germany</i> )   |
| 13:09-13:12  | A model for Continuous Sedimentation with Reactions for Wastewater Treatment<br>R. Bürger, S. Diehl, C. Mejías ( <i>Chile, Sweden</i> )  |
| 13:12-13:15  | A Dynamic Model for Microalgae-Bacteria Aggregates used for Wastewater Treatment<br>A. Vargas, S. Escobar Alonso, J.S. Arcila, G. Buitrón ( <i>Mexico</i> )  |
| 13:15-13:18  | Developing Process Models to Accurately Assess Global and Energy Performances of a WWTP Sludge Line: a Case Study in France<br>G. Baquerizo, R. Samsó, J. Fiat, J.-P. Canler, S. Gillot ( <i>France</i> )  |
| 13:18-13:21  | Sensitivity Analysis and Calibration with Bayesian Inference of a Mass-based Discretized Population Balance Model for Struvite Precipitation<br>B. Elduayen-Echave, A. Ochoa de Eribe, I. Lizarralde, G. Sánchez, E. Ayesa, P. Grau ( <i>Spain</i> )             |
| 13:21-13:24  | New Individual-Based Model links Microbial Growth to the Energy Available in the Environment<br>R. González-Cabaleiro, T.P. Curtis, I.D. Ofițeru ( <i>UK</i> )   |
| 13:24-13:27  | Assessment of upgraded full-scale wastewater treatment plant performance through a plant-wide modelling approach<br>N. Hvala, D. Vrečko, C. Bordon ( <i>Slovenia</i> )   |
| 13:27-13:30  | Mathematical modeling of interactions of trace metals in Biofilms<br>L. Frunzo, G. Esposito, M.R. Mattei, V. Luongo, B. D'Acunto ( <i>Italy</i> )  |
| <b>13:30-14:30 Lunch</b>   |  |
| <b>14:30-16:30 Session I - CFD in wastewater treatment (Chairs: U. Jeppsson, M. Sperandio)</b> |  |
| 14:30-15:00  | Keynote - To mix, or not to mix, that is the question<br><i>prof. I. Nopens (I. Nopens, R. Samstag, J. Wicks, J. Laurent, U. Rehman, O. Potier - Belgium, USA, UK, France)</i>   |
| 15:00-15:15  | Discussion   |
| <b>15:15-16:00 Platform - Session I</b>  |  |
| 15:15-15:30  | CFD Modelling of Hydrodynamic Characteristics in Gas-mixed Anaerobic Digester<br>P. Wei, H. Spanjers, W. Uijttewaal, J. B. van Lier, M. de Kreuk ( <i>The Netherlands</i> )  |
| 15:30-15:45  | CFD Simulations of Fluid Dynamics Inside a Fixed-Bed Bioreactor for Sugarcane Vinasse Treatment<br>D.C.G. Okiyama, J.A. Rabi, R. Ribeiro, A.D.N. Ferraz Jr, M. Zaiat ( <i>Brazil</i> )   |

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| 15:45-16:00        | Startup of aerobic granulation technology: troubleshooting scale-up issue<br>R. Pishgar, A. Kanda, G. Gress, H. Gong, J. H. Tay ( <i>Canada</i> )   |
| <b>16:00-16:30</b> | <b>Flash poster - Session I</b>   |
| 16:00-16:03        | Coupling multiphase hydrodynamic simulations and biological modelling of an Anammox reactor<br>A. Vilà-Rovira, M. Rusalleda, M.D. Balaguer, J. Colprim ( <i>Spain</i> )   |
| 16:03-16:06        | Understanding and Optimizing Peracetic Acid Disinfection Processes Using Computational Fluid Dynamics: The Case Study of Nocera (Italy) Wastewater Treatment Plant<br>R. Maffettone, F. Crapulli, S. Sarathy, L. Pucci, L. Rizzo, G. Lofrano, G. Raspa, S. Guadagnuolo, R. De Rosa, A. Giuliani, M. Carotenuto, S. Luise, D. Santoro ( <i>Canada, Italy</i> ) |
| 16:06-16:09        | Mathematical modelling in diagnosis of Wastewater Treatment<br>J. Drewnowski, M. Zmarzły ( <i>Poland</i> )  |
| 16:09-16:12        | HYDRODECA: CFD Modelling Platform for Full-Scale Secondary Clarifiers of WWTPs<br>L. Basiero, C. Peña-Monferrer, J. Climent, P. Carratalá, R. Martínez, J.G. Berlanga, S. Chiva ( <i>Spain</i> )  |
| 16:12-16:15        | Hydro-swapping: an innovative CFD approach applied to a real bioreactor<br>J. Climent, R. Martínez-Cuenca, L. Basiero, J.G. Berlanga, B. S. Chiva ( <i>Spain</i> )  |
| 16:15-16:18        | Removal of lead from wastewater by electronic waste derived material: equilibrium and kinetic studies<br>M. Xu, C.-W. Hui, G. McKay ( <i>China, Qatar</i> )   |
| 16:18-16:21        | Development of an OpenFOAM solver for secondary settling tanks modelling: incorporation of state-of-the-art hindered and compression settling velocity functions<br>E. Valle, J. Laurent, F. Locatelli, A. Wanko ( <i>France</i> )  |
| 16:21-16:24        | Modelling a Multiple Reference Frame Approach in an Oxidation Ditch of Activated Sludge Wastewater Treatment<br>H. Norouzi Firouz, M.-H. Sarrafzadeh, R. Zarghami ( <i>Iran</i> )   |
| 16:24-16:27        | Optimization Of Aeration Profiles In The Activated Sludge Plant Using Genetic Algorithm And Hybrid Pca-Fuzzy Neural Approach<br>R. Maachou, A. Lefkir, A. Bermad ( <i>Algeria</i> )   |
| 16:27-16:30        | Brief Discussion and wrap-up  |
| <b>16:30-17:00</b> | <b>Coffee break</b>   |
| <b>17:00-17:30</b> | <b>Closing Session</b>  |
| <b>18:30-23:00</b> | <b>Italian Art &amp; Culture Dinner</b>   |

| Code  | Poster Session   |
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| P.25  | Removal performance of organic matter of MBR and hybrid MBBR-MBR systems during start-up and stabilization phases treating variable salinity urban wastewater<br>A. Rodríguez-Sánchez, J. C. Levva-Díaz, J. González-López, J.M. Poyatos ( <i>Spain</i> )  |
| P.26  | Impact of hydraulic retention time on MBR and hybrid MBBR-MBR systems through microbiological approach: TGGE and enzyme activities<br>A. Rodríguez-Sánchez, J. C. Levva-Díaz, K. Calderon, J.M. Poyatos, J. González-López ( <i>Spain, Mexico</i> )  |
| P.33  | Proof of Concept of Removal of Carbon and Nitrogen from Wastewater through a Novel Process of Biofilm SND<br>M. I. Hossain, L. Cheng, R. M. G. Flavigny, R. Cord-Ruwisch ( <i>Australia, Singapore</i> )   |
| P.50  | Effect of salinity variation on the autotrophic kinetics of the start-up of membrane bioreactor and hybrid moving bed biofilm reactor-membrane bioreactor at low hydraulic retention time<br>J. C. Levva-Díaz, A. Rodríguez-Sánchez, J. González-López, J. M. Poyatos ( <i>Spain</i> )   |
| P.58  | Biofilms in the Water Environment: Trends and Challenges<br>J.P. Boltz, B. Smets, B.E. Rittmann, M.C.M. van Loosdrecht, E. Morgenroth, G.T. Daigger ( <i>Denmark, USA, The Netherlands, Switzerland</i> )  |
| P.81  | Purification and micro filtering of suspended particles and bacteria in drinking water<br>J. Salman, A. Kadhim ( <i>Iraq</i> )   |
| P.86  | Improved Biological Nutrient Removal and Reduced Energy Consumption at a Retrofitted Wastewater Treatment Plant<br>C. Brepols, T. Engels, H. Schäfer ( <i>Germany</i> )  |
| P.87  | Influence of the Sludge Concentration on Oxygen Transfer and Energy Consumption in Activated Sludge Systems<br>S.L. dos Santos, Y.C. Catunda, A.C. van Haandel ( <i>Brazil</i> )   |
| P.98  | Coupling multiphase hydrodynamic simulations and biological modelling of an Anammox reactor<br>A. Vilà-Rovira, M. Rusalleda, M.D. Balaguer, J. Colprim ( <i>Spain</i> )  |
| P.100 | Model-based Analysis of Microbial Consortia and Microbial Products in an Anammox Biofilm Reactor<br>M. Azari, A. V. Le, U. Walter, V. Rekers, M. Lübken, M. Denecke ( <i>Germany</i> )   |
| P.119 | A model for Continuous Sedimentation with Reactions for Wastewater Treatment<br>R. Bürger, S. Diehl, C. Mejías ( <i>Chile, Sweden</i> )  |
| P.120 | Fish-canning wastewater treatment by means of aerobic granular sludge for C, N and P removal<br>Campo R., Carrera-Fernández P., Di Bella G., Mosquera-Corral A., Val del Río A. ( <i>Italy, Spain</i> )  |
| P.124 | Modelling and Simulation of a Novel Pilot-Scale Microwave Assisted Catalytic Reactor for Continuous Flow Treatment of Wastewaters<br>K. Huddersman, A.V. Palitsin ( <i>UK</i> )  |
| P.125 | A Dynamic Model for Microalgae-Bacteria Aggregates used for Wastewater Treatment<br>A. Vargas, S. Escobar Alonso, J.S. Arcila, G. Buitrón ( <i>Mexico</i> )  |
| P.126 | Understanding and Optimizing Peracetic Acid Disinfection Processes Using Computational Fluid Dynamics: The Case Study of Nocera (Italy) Wastewater Treatment Plant - R. Maffettone, F. Crapulli, S. Sarathy, L. Pucci, L. Rizzo, G. Lofrano, G. Raspa, S. Guadagnuolo, R. De Rosa, A. Giuliani, M. Carotenuto, S. Luise, D. Santoro ( <i>Canada, Italy</i> ) |
| P.129 | Fouling Analysis for Different UF Membranes in Reactive Dyeing Wastewater Treatment<br>R.D. Zaf, B. Kocer Oruc, M. Erkanli, L. Yilmaz, U. Yetis, Z. Culfaz-Emecen ( <i>Turkey</i> )  |
| P.136 | Preliminary Study of Electrodialysis with Model Salt Solutions and Industrial Wastewater<br>K.V. Shestakov, R. Firpo, A. Bottino, A. Comite ( <i>Russia, Italy</i> )   |
| P.137 | Preliminary evaluation of Sharon-Anammox Process Feasibility to treat Ammonium-Rich Effluents produced by Double-Stage Anaerobic Digestion of Food Waste<br>S. Milia, G. Tocco, G. Erby, G. De Gioannis, A. Carucci ( <i>Italy</i> )   |
| P.139 | Modelling a Multiple Reference Frame Approach in an Oxidation Ditch of Activated Sludge Wastewater Treatment<br>H. Norouzi Firouz, M.-H. Sarrafzadeh, R. Zarghami ( <i>Iran</i> )  |
| P.149 | Developing Process Models to Accurately Assess Global and Energy Performances of a WWTP Sludge Line: a Case Study in France<br>G. Baquerizo, R. Samsó, J. Fiat, J.-P. Canler, S. Gillot ( <i>France</i> )  |
| P.150 | UCT-MBR vs IFAS-UCT-MBR for wastewater treatment: a comprehensive comparison including N <sub>2</sub> O emission<br>G. Mannina, M. Capodici, A. Cosenza, D. Di Trapani, G. A. Ekama, H. Ødegaard ( <i>Italy, South Africa, Norway</i> )  |

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| P.151 | Sensitivity Analysis and Calibration with Bayesian Inference of a Mass-based Discretized Population Balance Model for Struvite Precipitation<br>B. Elduayen-Echave, A. Ochoa de Eribe, I. Lizarralde, G. Sánchez, E. Ayesa, P. Grau ( <i>Spain</i> ) |
| P.152 | Recovery of magnesium from High Salinity Water<br>M. H. El-Naas, A. F. Mohammad, M. I. Suleiman, M. Al Musharfy, A. H. Al-Marzouqi ( <i>Qatar, United Arab Emirates</i> )  |
| P.154 | HYDRODECA: CFD Modelling Platform for Full-Scale Secondary Clarifiers of WWTPs<br>L. Basiero, C. Peña-Monferrer, J. Climent, P. Carratalá, R. Martínez, J.G. Berlanga, S. Chiva ( <i>Spain</i> )   |
| P.155 | Hydro-swapping: an innovative CFD approach applied to a real bioreactor<br>J. Climent, R. Martínez-Cuenca, L. Basiero, J.G. Berlanga, B. S. Chiva ( <i>Spain</i> )   |
| P.159 | Shipboard slop treatment by means of aerobic granular sludge: strategy proposal for granulation and hydrocarbons removal<br>R. Campo, G. Di Bella ( <i>Italy</i> )   |
| P.161 | New Individual-Based Model links Microbial Growth to the Energy Available in the Environment<br>R. González-Cabaleiro, T.P. Curtis, I.D. Ofițeru ( <i>UK</i> )   |
| P.165 | The symbiotic relationship of microalgae and bacteria studied through the analysis of the O <sub>2</sub> exchange<br>S. Barreiro, I. de Godos, C. González, M. Ballesteros ( <i>Spain</i> )  |
| P.167 | Comparison of two mathematical models for greenhouse gas emission from membrane bioreactors<br>G. Mannina, A. Cosenza ( <i>Italy</i> )   |
| P.170 | Removal of lead from wastewater by electronic waste derived material: equilibrium and kinetic studies<br>M. Xu, C.-W. Hui, G. McKay ( <i>China, Qatar</i> )  |
| P.172 | Optimization Of Aeration Profiles In The Activated Sludge Plant Using Genetic Algorithm And Hybrid Pca-Fuzzy Neural Approach<br>R. Maachou, A. Lefkir, A. Bermad ( <i>Algeria</i> )  |
| P.174 | A Different Approach for Steady-state Activated Sludge Modelling<br>A. Lahdhiri, M. Heran, A. Hannachi ( <i>Tunisia, France</i> )  |
| P.179 | Development of an OpenFOAM solver for secondary settling tanks modelling: incorporation of state-of-the-art hindered and compression settling velocity functions<br>E. Valle, J. Laurent, F. Locatelli, A. Wanko ( <i>France</i> )                   |
| P.181 | Assessment of upgraded full-scale wastewater treatment plant performance through a plant-wide modelling approach<br>N. Hvala, D. Vrečko, C. Bordon ( <i>Slovenia</i> )   |
| P.184 | Mathematical Modelling in Diagnosis of Wastewater Treatment<br>J. Drewnowski, M. Zmarzły ( <i>Poland</i> )   |
| P.197 | Bacterial community structure of an IFAS-MBRs wastewater treatment plant<br>P. Cinà, G. Bacci, G. Gallo, M. Capodici, A. Cosenza, D. Di Trapani, R. Fani, G. Mannina, A.M. Puglia ( <i>Italy</i> )   |
| P.203 | Determination of kinetic parameters in a biological aerated filter (BAF) for wastewater treatment<br>A. I. Higuera-Rivera, S. González-Martínez ( <i>Mexico</i> )  |
| P.206 | Mathematical modeling of interactions of trace metals in Biofilms<br>L. Frunzo, G. Esposito, M.R. Mattei, V. Luongo, B. D'Acunto ( <i>Italy</i> )  |