

EUROPEAN WASTE WATER MANAGEMENT CONFERENCE

3 - 4 OCTOBER, THE ROYAL ARMOURIES, LEEDS, UK



TUESDAY 3rd OCTOBER

BURY THEATRE

NUTRIENT REMOVAL AND RECOVERY

Chair – Rowland Minall, Operations Director, Aqua Enviro

- 9.30 – 10.00** **FilterClear - achieving ultra low phosphorus consent**
Huo, C., Biddle, J., and Harnett, R, Bluewater Bio, UK
- 10.00 – 10.30** **Providing phosphorus removal for rural treatment works**
Bowman, B. and Aboobakar, A., United Utilities, UK
- 10.30 – 11.00** **Sustainable phosphorus removal with BOF steel slag and apatite: removal mechanisms and challenges**
Fonseca, N.¹, Germain-Cripps, E.¹ and Jefferson, B.², ¹Thames Water Utilities, UK, ²Cranfield University, UK
- 11.00 – 11.30** **Coffee Break**
- 11.30 – 12.00** **Tertiary DAF combined with i-DOSE for maximum removal of phosphorus from municipal wastewater effluent**
Menkveld, H.W.H.¹, Broeders, E.¹, Mansell, L.², Fox, E.² and Tolman, M.¹, ¹Nijhuis Industries UK and Ireland, UK, ²United Utilities, UK
- 12.00 – 12.30** **GPS-X modelling to optimise nitrification and risk assess design proposals - case study of Brockhampton sewage treatment works**
Ruswa, E.¹, Chadha, M.¹ and Copp, J.², ¹Severn Trent Water, UK, ²Primodal, UK
- 12.30 – 13.00** **Struvia – a cost effective technology for phosphorus removal**
Bigot, B.¹, Bundagrad, E.² and Paillard, H.³, ¹Veolia Water Technologies, UK, ²KRÜGER A/S, ³Veolia
- 13.00 – 14.00** **Lunch**

Chair – Amber Bullen, Treatment Policy Manager, Yorkshire Water

- 14.00 – 14.30** **Harnessing the power in nitrifying sand filters**
Chan, T. F. and Koodie, T., Black & Veatch, UK
- 14.30 – 15.00** **Advanced biocatalyst technology for tertiary nitrification: case study**
Bobbio, J.¹, Martin, B.¹, Germain-Cripps, E.¹ and Nair, A.², ¹Thames Water Utilities, UK, ²Microvi Biotechnologies Inc., USA

- 15.00 – 15.30** **Anammox for the treatment of liquors derived from thermal hydrolysis**
 Martin, B.¹, Germain- Cripps, E.¹ and Ochs, P.², ¹Thames Water Utilities, UK,
²Cranfield Water Science Institute, UK
- 15.30 – 16.00** **Coffee Break**
- 16.00 – 16.30** **Nutrient removal with microalgae - reduction of the effluent concentration from wastewater treatment plant**
 Wawilow, T.¹, Hasport, N.¹, Theilen, U.¹ and Thomsen, C.², ¹THM - University of Applied Sciences, Germany, ²Phytolutions GmbH, Germany
- 16.30 – 17.00** **BIOCOS and inDENSE – Compact BNR with minimal electro-mechanical equipment**
 Wim de Mooij, H. and Buunen van Bergan, A. Sweco, The Netherlands
- 17.00 – 17.30** **1-STEP® filter: the solution for cost-effectively removal of P and other priority chemicals from WWTP effluent**
 Kramer J.F.¹, Menkveld H.W.H.², Cunliffe, T.², Merks, C.¹, ¹Witteveen+Bos, the Netherlands, ² Nijhuis Industries UK and Ireland, UK

ROYAL ARMOURIES HALL

INNOVATION

Chair – Dr Tony Koodie, Associate Vice President, Regional European Process Director, Water Division, Black & Veatch

- 9.30 – 10.00** **A holistic review of innovative technology in wastewater treatment**
 Sunner, N.¹, Hardman, A.² and Germain-Cripps, E.², ¹eight2o, UK, ²Thames Water Utilities, UK
- 10.00 – 10.30** **A holistic approach to delivering environmental and social benefits from innovation in the delivery of mine water treatment schemes**
 Crooks, J., and Moorhouse, A., The Coal Authority, UK
- 10.30 – 11.00** **Practical application of modular off-site build: a commissioning perspective**
 Baird, A., WPL Ltd, UK
- 11.00 – 11.30** **Coffee break**
- 11.30 – 12.00** **In at Deephams: combining technologies the key to high quality effluents**
 O'Brien, L., and Cooper-Smith, G., Eliquo Hydrok, UK
- 12.00 – 12.30** **Chromium removal from municipal wastewater via chemical precipitation**
 Asghar, Q., Martin, B., Germain-Cripps, E., and Jarvis, S., Thames Water Utilities, UK
- 12.30 – 13.00** **MABR pilot at Thames Water demonstrates complete nitrification at short SRTs and elevated aeration efficiencies**
 Long, Z.¹, Houweling, D.¹, Monti, A.¹, Germain-Cripps, E.² and Sunner, N.³, ¹GE Water and Process Technologies, ²Thames Water Utilities, UK, ³MWH, UK

13.00 – 14.00 Lunch

CONTROL

Chair - Eve Germain-Cripps, Wastewater Process Manager, Thames Water

14.00 – 14.30 Translating environmental data into operational value – systems for rapid response and preventative management
Kolominskas, C., EnviroSuite, UK

NEW TECHNOLOGIES

Chair – Eve Germain-Cripps, Wastewater Process Manager, Thames Water

14.30 – 15.00 Algae for sustainable, chemical free waste water treatment – an industrial approach
Murray, D., and Novoveska, L., Industrial Phycology, UK

15.00 – 15.30 Development of graphene enhanced polyvinylidene fluoride (PVDF) membranes for contaminated water and wastewater treatment
Khayrullina, R.¹, Tizaoui, C.¹, Williams, P.¹ and King, M.², ¹Swansea University, UK, ²Haydale Ltd, UK

15.30 – 16.00 Coffee Break

16.00 – 16.30 Smell the sea air – how marine tank cleaning technology is reducing odour pollution from dirty storm tanks
Zytnynski, I., The Spray Nozzle People, UK

16.30 – 17.00 AnoxyMem® (AnMBR) as a novel approach to the effective treatment of slurries and high COD wastewater. A case study of a full-scale food industry plant
Dziewota-Jablonska, J., Pietraszek M.J., Pietraszek W. J., SYMBIONA S.A. and SYMBIONA UK

WEDNESDAY 4TH OCTOBER

BURY THEATRE

LOW-TOTEX SOLUTIONS TO MEET FUTURE GROWTH AND QUALITY DRIVERS

Chair – Geoff Cooper-Smith, Senior Process Engineer, Eliquo Hydro

9.30 – 10.00 Assessment of energy savings from using rotating belt filters for the primary treatment of wastewater
Jarman, D., Barter, P., and Bokenkroger, M., Hydro International, UK

10.00 – 10.30 TOTEX modelling for optimising investment planning
Lewington, M.¹, Jones, S.², Olagoke, O.² and Gunaratnam, M.², ¹Thames Water Utilities, UK, MWH, UK

10.30 – 11.00 Energy and carbon saving via optimisation of activated sludge plants
Sloper, M.¹, Jolly M.², Davies, S.², ¹Black & Veatch, UK, ²Aqua Enviro, UK

- 11.00 – 11.20** Coffee Break
- 11.20 – 11.50** **Low energy syphon dosing to improve trickling filters performance**
Alvarez Moreta, E., Thames Water Utilities, UK
- 11.50 – 12.20** **Liverpool WwTW SBR carbonaceous trial**
Akinola, O., Black, J., Sherwood, A., and Hornsby, J., United Utilities, UK
- 12.20 – 12.50** **Modular upgrade of an ASP to meet rapid population upsurge, new waste streams and tougher consents in the UK**
Bassey, B.O.¹, Njunbemere, N.¹ and Ogarekpe, N.², ¹Coventry University, UK, ²Cross River University of Technology, Nigeria
- 12.50 – 13.45** **Lunch**

Chair – Martin Jolly, Business Development Director, Aqua Enviro

- 13.45 – 14.15** **Innovations in constructed wetlands; meeting the needs of the water industry**
Murphy, C., Hawes, P., and Cooper, D., ARM Ltd, UK
- 14.15 – 14.45** **Delivering low nutrient effluents with constructed wetlands**
Dotro, G., Butterworth, E., Jenkins, N., Barak, J. and Jefferson, B., Cranfield University, UK

ROYAL ARMOURIES HALL

PRELIMINARY TREATMENT AND FOG

Chair – John Williams, Senior Partner, S'Investec

Session Sponsor



- 9.00 – 9.30** **A semi-quantitative survey of fat, oil and grease management in food service establishments**
Cermakova, A., Villa, R., Jeffrey, P., and Jefferson, B., Cranfield University, UK
- 9.30 – 10.00** **FOG for fuel**
Curran, J., Kingspan Environmental, UK
- 10.00 – 10.30** **Improvement of oil-contaminated wastewater treatment using enzymes**
Kawaguchi, N., Nishida, K., Yoshimura, K., Richards, G., and Foley, E., Ochanomizu University, Japan
- 10.30 – 11.00** **An innovative approach to reduce pumping station clogs and related maintenance**
Miller, C., and Hornabrook, A., Smith Loveless Ltd, USA

- 11.00 – 11.20 Coffee Break**
- 11.20 – 11.50 Escalator screen performance & optimisation**
Pavlov, V., United Utilities, UK
- 11.50 – 12.20 Quantifying the performance of grit removal and screens at sewage treatment works**
Sentance, P., Germain-Cripps, E., and Sowky, N., Thames Water Utilities, UK
- 12.20 – 12.50 A comparison of grit removal technologies from a performance perspective**
Hornabrook, A., and Miller, C., Smith and Loveless Ltd, USA
- 12.50 – 13.45 Lunch**

PRIORITY SUBSTANCES

Chair – Yolla McCoy, Group Technical Support Manager, Water Conditioning Services, Suez Water – UK

- 13.45 – 14.15 Technical and commercial considerations in the removal of priority substances as specified within the EU Water Framework Directive from treated domestic sewage: case study from a 16,000 PE non-rural WwTp**
Parocki, D., Nkrumah-Amoako, K., and Campen, A., Arvia Technology, UK
- 14.15 – 14.45 Priority water borne emerging contaminants: new technologies for treatment and removal**
Butera, G., and Walport, E., Arup, UK
- 14.45 – 15.15 Enhanced estrogens degradation in activated sludge processes through flow optimisation**
Garcia, T. C., Curtis, T.P., Mrozik, W., and Davenport, R.J., Newcastle University, UK
- 15.15 – 15.45 Advanced oxidation processes and non-thermal plasma for the removal of emerging contaminants in water**
Tizaoui, C., and Ni, Y., Swansea University, UK

YOUNG PROFESSIONALS AND STUDENT POSTERS

Sponsored by



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- 2 Priority water borne emerging contaminants: new technologies for treatment and removal**
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- 3 Liverpool WwTW SBR carbonaceous trial**
Akinola, O., Black, J., Sherwood, A. and Hornsby, J., United Utilities, UK

- 4 Modular upgrade of an ASP to meet rapid population upsurge, new waste streams and tougher consents in the UK**
Bassey, B.O.¹, Njunbemere, N.¹ and Ogarekpe, N.², ¹Coventry University, UK, ²Cross River University of Technology, Nigeria
- 5 Integrated constructed wetlands: performance and analysis**
Hall, L.¹, Woodward, D.¹, McDermott, R.¹, Strong, A.², McCurdy, D.² and Crabbe, D.², ¹Ulster University, ²Northern Ireland Water, Northern Ireland
- 6 Nutrient removal with microalgae – reduction of the effluent concentration from wastewater treatment plant**
Wawilow, T.¹, Hasport, N.¹, Theilen, U.¹ and Thomsen, C.², ¹THM – University of Applied Science, Germany, ²Phytolutions GmbH, Germany
- 7 Development of graphene enhanced polyvinylidene fluoride (PVDF) membranes for contaminated water and wastewater treatment.**
Khayrullina, R.¹, Tizaoui, C.¹, Williams, P.¹ and King, M.², ¹Swansea University, UK, ²Haydale Ltd, UKMABR
- 8 On site landfill leachate treatment: investigations into economical and environmental sustainable systems for Northern Ireland**
Devlin, Y.¹, Nicholl, G.¹, McRoberts, C.¹, Johnston, C.¹, Rosinqvist, D.², Svensson, B.M.³, Mårtensson, L.³, ¹Agri-Food and Biosciences Institute UK, ²Laqua Treatment AB Sweden, ³Kristianstad University, Sweden
- 9 UV-Advanced Oxidation Process for Enhanced Bleaching of Waste Water Using composite ZnO-Co₂O₃**
Al-Gubury, H.Y.¹ and A. Bennecer², ¹University of Babylon, Iraq, ²University of Northampton, UK