AquaEnviro

CIWEM Chartered Institution of Water and Environmental Management
Accredited Course

EUROPEAN WASTE WATER MANAGEMENT CONFERENCE & EXHIBITION

16 - 17th July 2019

The Hilton Birmingham Metropole

Invitation to Register

Tuesday 16th July

Plenary: Hugo Tagholm, CEO, Surfers Against Sewage

Nitrogen & Phosphorus Removal

Emerging Contaminants

AMP 7 Challenges

Process Modelling & Design

Process Control & Optimisation

Panel Discussion: Microplastics in Wastewater: Responsibilities & Challenges

Wednesday 17th July

Plenary: Steve Kaye, CEO, UKWIR

Biological Phosphorus Removal Innovation

Panel Discussion: AMP 7 Challenges

Posters

CWA CONSTRUCTED WETLAND ASSOCIATION

Constructed Wetland Association Annual Conference: Wastewater Management and Beyond...

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Future Water Association
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European Sustainable Phosphorus Platform

SWIG SENSORS FOR WATER INTEREST GROUP

www.ewwmconference.com **#ewwmconference**

EUROPE'S LEADING **WASTEWATER CONFERENCE** SHARING OPERATIONAL EXPERIENCE AND PRACTICAL SOLUTIONS.

This year the European Waste Water Management conference is being held at the Hilton Birmingham Metropole on the 16 - 17th July.

The programme showcases the latest innovations, best practice, cutting-edge technology and research in the wastewater sector.

WHY ATTEND?

- Network with over **200 wastewater professionals** from around the world
- Get insights from industry experts with **50+ technical presentations** delivered over 2 days
- Discuss some of the **emerging challenges** facing the water industry
- Learn about the **latest innovations** and **novel technologies**
- Discuss approaches to meeting **AMP7 commitments**
- Access the **exhibition of 30 companies** showcasing their key products and services

EXHIBITION - 70% ALREADY SOLD

Exhibition spaces are 3m by 2m and cost just £995 +VAT for 2 days (this includes 1 person to man the stand).

- Exhibitors receive a 20% reduction for any delegates wishing to attend the conference
- 200-250 delegates attending over 2 days
- Meet representatives from the UK water companies, consultancies, technical associations, universities, research establishments, process suppliers, government departments and agencies
- All delegate refreshments served in the exhibition area allowing plenty of time to network informally

SPONSORSHIP

We have developed a range of cost-effective sponsorship packages to help organisations raise their profile in the water industry. The packages are just a guide to what is on offer and we welcome your input to tailor the sponsorship to meet your specific aims.

For more details on sponsorship and exhibiting, please visit **www.ewwmconference.com**. If you would like to discuss a tailored package or just require further information, please get in touch with Sarah:
e. sarah.brown@aquaenviro.co.uk
t. +44 (0) 1924 257891

CURRENT EXHIBITORS

AquaEnviro, ALS, atac Solutions Ltd, BAKERCORP, BASF We create chemistry, Bluewater Bio, Eliquo Hydrok, Evergreen water solutions, evoqua water technologies, FLI water, Fosse Liquitrol, HACH Be Right, nijhuis industries, Metrohm U.K. Ltd, SIBELCO, Siltbuster, suez, TRANT, VEOLIA, VERDER passion for pumps, Warden Biomedia

BOOKING

You can register online or download a printable booking form at www.aquaenviro.co.uk

Please direct any registration queries to Clare Hunter: clare.hunter@aquaenviro.co.uk | +44 (0)1924 257891

	BOTH DAYS + VAT
Full Delegate	£550
Water Company / Early Career Professional	£450
Authors/Speakers	£450
Students, Academics and Charities	£220
Company Pass	£590
Conference Dinner	£60

Day 1 Tuesday 16th July

PLENARY

Surfers Against Sewage – the Canaries in the Coalmine
Hugo Tagholm, CEO, Surfers Against Sewage

NITROGEN AND PHOSPHORUS REMOVAL

Sponsored by FLI water

Chemical P Removal - Where has all the P gone?
Bungay, S., Helix ECL, UK

Achieving UK's lowest phosphorus levels in Southern Water
Jarvis, S.[1], Lea, G.[1], Sandalls, C.[1], Cooper, P.[2], [1]Southern Water, UK, [2]Veolia Water Technologies, UK

Blended high performance coagulant for phosphorus removal at primary stage
Gerardo, M., Gaskin, L. and Sullivan, M., Dwr Cymru Welsh Water, UK

The implementation of the CoMag process to lower the Phosphate discharge at Severn Trent (Finham WWTW)
Goodwin, J.[1], Zsirai, R.[1], Green, R.[2], [1]Evoqua Water Technologies, UK, [2]Costain, UK

Introducing Bluewater Bio's FilterClear Process to Severn Trent Water's phosphorus removal strategy delivered by MMB
Huo, C.[1], Vale, S.[2] and Wohling, A.[3], [1]Bluewater Bio, UK, [2]Severn Trent Water, UK, [3]Mott MacDonald Bentley, UK

Initial commissioning experiences of meeting lower ammonia and total phosphorus permits
Longhurst, C.[1], Baloch, I.[2] and Jarvis, S.[2], [1]Costain, UK, [2]Southern Water, UK

Tertiary treatment of municipal wastewater at low temperature: comparing biocatalyst and nitrifying sand filters
Bobbio, J.[1], Martin, B. [1], Germain-Cripps, E[1]. and Nair, A.[2], [1]Thames Water Utilities, UK, [2]Microvi Biotech Inc., USA

Optimisation of Total Nitrogen removal sites in Southern Water
Baloch, I.[1], Till, D.[1], Jarvis, S.[1] and Liang, S.[2],[1] Southern Water, UK, [2]Stantec, UK

The challenges of Total Nitrogen removal
Banfield, P.[1], and Butterfield, M.[2], [1]Veolia Water Technologies, UK, [2]Hach, UK

Validating the design and performance of the 4,500 m²/m³ HiSA MBBR solution to meet regulatory consents on ammonia < 1 mg/l
Bass, K., and Dand, P. FLI Water, UK

Going for the one! Upgrading an ASP to achieve low ammonia concentrations
O'Brien, L.[1], Cooper-Smith, G.[1], Hughes, P.[2] and Wohling, A.[2], [1]Eliquo-Hydrok, UK, [2]Mott MacDonald Bentley, UK

EMERGING CONTAMINANTS

Targeted treatment of antibiotics and other pharmaceutical residues with Arvia's Nyex™ treatment process, to support the prevention of Antimicrobial Resistance (AMR)
Brown, N. and Carson, E., Arvia Technology Ltd, UK

The removal of pharmaceuticals from hospital wastewater and municipal wastewater effluent using ozonation
Van den Eijnde, T.[1], Boelee, N.C.[1], Bates, P.[2], Gray, J.[2], [1]Nijhuis Water Technology, The Netherlands, [2]Nijhuis Industries UK & Ireland, UK

eXeno™: new operational strategy of MBBR to remove pharmaceuticals in municipal WWTP effluents
Torresi, E.[1], Jeal, W.[2], Sund, C.[3], Anderson, H.R.[4], Tang, K.[4], Nussbaum, B.[1], Gade Anderson, H.[3] and Christensson, M.[1], [1]Veolia Water Technologies, Sweden, [2]Veolia Water Technologies, UK, [3]Krüger A / S, Denmark, [4]Technical University of Denmark

Novel study on performance evaluation of hybrid treatment process used for remediation of organophosphate pesticides containing wastewater
Srivastava, H., Nizam, B., Tagde, A., Samal, K. and Rameshrao Geed, S., Madhav Institute of Technology and Science, India

C-ION non-thermal plasma oxidative degradation of pharmaceuticals as fourth treatment step of wastewater treatment plants
Rupprich, M.[1], Obholzer, T.[2], Winkler, K.[2], Jabornig, S.[2] and Hazard, B.[3], [1]MCI Management Center Innsbruck, Austria, [2]SFC Umwelttechnik GmbH, Austria, [3]Trant Engineering Ltd, UK

AMP 7 CHALLENGES

The requirements and challenges associated with the AMP7 Pass Forward Flow Compliance Drivers
Gallagher, M., United Utilities

AMP7 capital delivery challenges for the water industry
Sunner, N., Stantec (UK) Ltd, UK

The role of the water industry in supporting sustainable economic growth for an advanced economy and the need for the water sector to maximise circular economy measures to minimise cost increases
Palmer, S., Stantec (UK) Ltd, UK

PROCESS CONTROL AND OPTIMISATION

Utilizing integrated software, proven algorithms and decades of chemical applications experience to continuously optimize chemical usage and meet effluent Phosphorus permit compliance levels for major Utilities in the UK
Albinet, R., Kemira Chemicals Germany, GmBH, Germany

Experiences with an improved PID-controller for nitrogen removal
Charatjan, M.[1], Binder, R.[1] and Cakir, C.[2], [1]Binder GmbH, Germany, [2]Centri-Force Thermal Dryers Ltd, UK

A systems thinking approach to asset optimization – Improving the real-time operation of sewage systems and wastewater treatment plants to improve and stabilize performance, reduce OPEX and deliver low-build solutions
Önnerth, T.[1], Stentoft, P.A.[1], Jeal, W.[2], [1]Krüger-Veolia Water Technologies, Denmark, [2]Veolia Water Technologies, UK

Site optimisation using Real Time Controlled (RTC) chemical dosing for low phosphorus consents
Sarvananthan, T., Martin, B. and Germain-Cripps, E., Thames Water, UK

PROCESS MODELLING AND DESIGN

Development of a novel effluent aeration project at Mogden STW based on a water quality model for the Upper Thames Tideway
Lodge, B., and Spooner, S., Atkins, UK

Model-based assessment of the plant: using control to optimize existing aeration capacity to meet future effluent limits
Dold, P.[1], Brian, K.[1], Conidi, D.[1], Jarvis, S.[2] and Nikolova-Kuscu, R.[2], [1]EnviroSim Associates, USA, [2]Thames Water, UK

Successful delivery of innovative design solutions through optimisation and process modelling
Lewin, I., Stantec (UK) Ltd

Enhanced process models for final settlement tanks
Burt, D.[1], Wimshurst, A.[1], Jarvis, S.[2], [1]Frazer-Nash Consultancy Ltd, [2]Thames Water, UK

Novel and efficient design of hydraulic drop structures for large sewers and flood relief schemes
Jarman, D. and Barter, P., Hydro International, UK

Computer modelling of the Nereda® Aerobic Granular Sludge process using commercially available models
Thompson, A.[1], Robertson, S.[1], van Bentem, A.[2], van Opijnen, J.[2], [1]Royal HaskoningDHV, UK, [2]Royal HaskoningDHV, Netherlands

PANEL DISCUSSION Microplastics in Wastewater: Responsibilities and Challenges

Day 2 Wednesday 17th July

PLENARY

Steve Kaye, CEO, UKWIR

BIOLOGICAL PHOSPHORUS REMOVAL

Evolving world of biological phosphorus removal for treating wastewater: science and application
Umble, A., Stantec, USA

Enhanced biological phosphorous removal with C-TECH technology applying an optimised anaerobic plug-flow selector
Jabornig, S.[1], Wutscher, K.[1], Brandstätter, R.[1] and Hazard, B.[2], [1] SFC Umwelttechnik GmbH, Austria, [2]Trant Engineering Ltd, UK

A more rigorous aeration design of biological nutrient removal plants
Plano, S., Alford, H. and Giuffre, G, Stantec (UK) Ltd, UK

25 years of enhanced biological phosphorus removal - The Severn Trent story
Barker, R., Vale, P., Wickens, D., Luck, R. and Richards, A., Severn Trent Water, UK

Flexible configuration Bio-P: The road to Uttoxeter
Wickens, D., Jordan, T., Wilson, M. and Richard, A., Severn Trent Water, UK

Practical laboratory tests & sampling studies to calibrate process models: achieving Biological Phosphorus Removal
Kabir, M., Smyth, M. and Wallis, J., Aqua Enviro, UK

New generation of MBBR for biological treatment of carbon, nitrogen and phosphorus
Humbert, H.,[1] Lemaire, R.[1], Germain, T.[2], Scherpereel, G.[2], Bigot, B.[3], [1]Veolia Technical & Performance Department, France [2]Veolia Research & Innovation, France, [3]Veolia Water & Technologies UK

The potential for Bio-P Removal; how low can you go?
Alford, H.[1], Jeavons, J.[1], Plano, S.[1] and Blanco, I.[2], Stantec (UK) Ltd, Severn Trent Water, UK

INNOVATION

Spidflow™ for wastewater treatment: high rate clarification without chemicals
Vigneron-Larosa, N.[1], Pizzagalli, S.[1] and Gaid, K.[1] and Bigot, B.[3] [1]Veolia, France, [2]Veolia Water Technologies, Italy, [3]Veolia Water Technologies, UK

Diverse examples of HYBACS upgrades
Biddle, J., Bluewater Bio, UK

High efficiency MBBR and the unique media clarifier
McAteer, J., Aqwise, UK

Enzymatic hydrolysis of fine sieved materials from wastewater for the production of carbon source at Amsterdam Schiphol Airport wwtp – towards CO2 neutral operations
van den Brink, P., Scherrenberg, S.M., Al-Zuhairy, S. and Whelan, D., Evides Industriewater, The Netherlands

The fundamental biophysical relationships prevalent in municipal wastewater treatment biotreatment systems and how to use the knowledge to optimise treatment operations
Palmer, S.[1], Noone, G.[2] and Hoyland, G.[3], [1]Stantec (UK) Ltd, [2]Newcastle University, UK, [3]Bluewater Bio, UK

Microalgae-based wastewater treatment: valorisation of accumulated microalgal biomass
Novoveska, L., Winter, J., Ho, F. and Murray, D., Industrial Phycology

MABR as a low-energy compact solution for nutrient removal upgrades – results from a demonstration in the UK
Sunner, N.[1], Peeters, J.[2], Long, Z.[2], Houweling, D.[2] and Martin, I.[2], [1] Stantec, UK, [2]SUEZ Water Technologies & Solutions

Full scale membrane aerated biofilm reactor plant performs nutrients removal without internal circulation
Laderman, R. and Schechter, R., Fluence Corporation, Israel

Phosphorus and ammonia removal and recovery through ion exchange (IEX) process at demonstration scale
Guida, S.[1], Rubertelli, G.[2], Jefferson, B.[1] and Soares, A.[1], [1]Cranfield University, UK, [2]University of Bologna, Italy

Analysis of the performance of the pre-treatments of the WWTP systems in Canton Cuenca-Ecuador
Rodas, V.[1], Larriva, J.[1,2] and Alvarado, A.[3,4], [1]ETAPA, Empresa Pública Municipal de Telecomunicaciones, Ecuador, [2]Universidad del Azuay, Ecuador, [3]Universidad de Cuenca, Ecuador, [4]Universidad de Cuenca, Ecuador

PANEL DISCUSSION AMP 7 Challenges

POSTERS

Osmotically assisted reverse osmosis technology for enhanced desalination recovery and brine concentration
Erbil, E., Bozkurt, E. and Abusharkkh, Hyrec, Turkey

Hidden biological phosphorus removal
Gerardo, M. and Sullivan, M., Dwr Cymru Welsh Water, UK

Decision support tool for the selection of technologies: resource recovery from wastewater
Sucu, S.[1], Ouelhadj, D.[1], Martinson, M.[1], Williams, J.[1] and van Schnaik, M.[2], [1]University of Plymouth, UK, [2]HZ University of Applied Science, Netherlands

EWWM STUDENTS AND EARLY CAREER PROFESSIONALS POSTER AWARD

We are still accepting poster submissions so if you would like to showcase your work to over 200 industry professionals and be in with a chance of winning a monetary prize, email sarah.brown@aquaenviro.co.uk with a 150-word abstract. The award will be judged by conference attendees and the winner will be announced on the second day of the conference.

STEERING COMMITTEE

David Tompkins
Head of Knowledge & Innovation, Aqua Enviro

Steve Bungay
Owner and Director, Helix Environmental Consultancy Ltd

Pete Vale
Technical Lead - Innovation, Severn Trent Water

Jennifer Hughes
Chemical Investigation Analyst, Thames Water

Amber Bullen
Treatment Policy Manager, Yorkshire Water

Arthur Thornton
Associate Director, Atkins

Constructed Wetland Association Annual Conference: Wastewater Management and Beyond...

TUESDAY 16TH JULY

Keynote Speaker: Dr. Fabio Masi, Iridia
Dr Masi will give an Illustrated overview of the multiple benefits of constructed wetland projects around the world, including some historical perspectives

Two stage vertical flow constructed wetlands' performance and maturing in temperate climate
Khomenko, O.[1], Blanco, I.[2], Cook, A.[2], Cunliffe, D.[2], Dotro, G. [1], Jefferson, B.[1], Coulon F. [1], Jordan, T.[2], Shepherd, R.[2], Smith, R.[2], and Bajón Fernández, Y[1*]. [1]Cranfield University, UK, [2]Severn Trent Water, Coventry, UK

Workshop & Site Visit

The workshop will be an introduction to constructed wetland technologies, and then an interactive session relating to the site visits of the afternoon.

Site visits will include a visit to Severn Trent Water's Hulland Ward Wastewater Treatment works. This is an innovative constructed Wetland that treats raw wastewater (including sludge) in a two- stage vertical flow constructed wetland treatment system. We propose to visit another of Severn Trent Water's wastewater treatment works with a constructed wetland as a tertiary treatment unit.

WEDNESDAY 17TH JULY

Treatment of rural Agri-food production process water using low energy aerated wetland
Freeman, A.[1], Hawes, P.[1], Mathews, M.[2], Cooper, D.[1], [1]ARM Group Ltd, UK, [2]Peak Associates Environmental Consultants Ltd, UK

Mires on the Wyre; Wetlands and the Catchment Based Approach. *How collaboration between the NGO's, Local Authorities, Regulators and Landowners can lead to effective delivery in both urban and rural environments*
Myerscough, T.[1] and Sweaney, G.[2], [1]Wyre Rivers Trust, UK, [2]Wetland Engineering, UK

Constructed wetlands in the urban landscape / achieving wetland ecosystems services where space is limited
Fulford, G., Biomatrix Water Solutions, UK

Combatting the limitations of artificial wetlands through modular design for a UK test project
Bassey, B., Coventry University

Willow constructed wetlands for wastewater treatment and bio-mass generation
Avery, L.M.[1], Beeseley, L.[1], Stockan, J.[1], Abel, C.[1], Tamburini, M.[1], Randerson, P.[2] and Hough, R.[1] , [1]James Hutton Institute, UK, [2] Cardiff School of Biosciences, UK

Rural Sustainable Drainage Systems : Experience on Ayrshire Farms so Far
Moir, S,E., Moir Environmental Ltd, UK

The Ingoldisthorpe Wetland one year on; nature, community and waste-water treatment
Tosney, J., Norfolk Rivers Trust, UK

The health and wellbeing benefits of access to GI
Naismith, D., WWT Consulting, UK

Sprinkle sprinkle here and there? Designing feeding systems for vertical flow constructed wetlands through modelling
Urte, P. and Karpf, C., wasserWerkstat, Germany

Mechanistic understanding of ammonia removal kinetics in floating treatment wetlands
Al Lami, M.[1,2], Whelan, M.J.[1], Boom, A.[1], Harper, D.[1], [1]University of Leicester, UK, [2]The Higher Committee for Education Development in Iraq

Understanding the impact of vertical flow constructed wetlands sludge layer properties on its permeability
Khomenko, O., Dotro, G. , Jefferson, B., Coulon F. , and Bajón Fernández, Y., Cranfield University, UK

POSTERS

Evaluation of performance of experimental scale sub-surface horizontal flow constructed wetland bed vegetated with water hyacinth in the treatment of domestic sewage
Abiola, A.O.[1], Adeniran, A.E.[1], Ajimo A.O.[2], Lamilisa, A.B. , Aina, A.T.[1] , Olanrewaju, O.O.[4], [1]University of Lagos, Nigeria, [2]Yaba College of Technology, Nigeria

Role of design and operational factors in the removal of pharmaceuticals by constructed wetlands
Ilyas, H.[1*], Masih, I.[1,2,] van Hullebusch, E.D.[3], [1]Water Treatment and Management Consultancy, The Netherlands, [2]IHE Delft, Institute for Water Education, The Netherlands, [3]Institut de Physique du Globe de Paris, Sorbonne Paris Cité, Université Paris Diderot, France

Register online at www.aquaenviro.co.uk
For further details about the CWA please visit www.constructedwetland.co.uk

CONFERENCE DINNER
Tuesday 16th July

The conference dinner will take place in the beautiful surroundings of Hampton Manor, home to Peel's restaurant where our food is inspired by the Victorian walled garden. Located just 10 minutes from the Hilton Metropole Birmingham delegates will have the opportunity to escape and enjoy a relaxed dinner set in the courtyard.

Attending the dinner is a fantastic opportunity to network and socialise with fellow delegates and enjoy an evening of fine food and wine. Why not impress your VIP clients and reserve a corporate table?

Dinner tickets are £60 (+VAT) per person, and include: drinks on arrival, a 3-course meal and half a bottle of wine. Transport is also provided from the conference venue.

We are also offering exclusive sponsorship of the dinner – for more details please contact Sarah:
e. sarah.brown@aquaenviro.co.uk
t. 01924 257891

Water and Wastewater Networks: Delivering Cost-Effective Resilience

20 June, Stoller Hall, Manchester

This conference provides a forum for experts in water and wastewater networks to share practical experiences, technical expertise and best practice.

Key themes:

- Climate change
- Increasing population and pressures on water supply
- Ofwat demands to decrease bills and leakage
- New infrastructure and resilience

Register online at www.aquaenviro.co.uk

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19 - 20 Nov. 2019, Emirates Old Trafford, Manchester, UK

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