



With several new attractions, WWEM 2014, the international Water, Wastewater and Environmental Monitoring conference and exhibition, will be bigger and busier than ever before. The five previous WWEM events, which stretch back to 2005, have included conferences addressing testing and monitoring themes within the Process and Laboratory sectors, in addition to an international exhibition and scores of workshops. However, this year's event will also include:

1. Flow Forum: "The Do's and Don'ts of Installation and Measurement"
2. 'SMART' Water Forum: "What does the future hold for water monitoring?"
3. Instrumentation Demonstration Area
4. British Water Innovation Exchange
5. BMSS Seminar: 'The application of chromatography-mass spectrometry to environmental water analysis'

The event ([www.wwem.uk.com](http://www.wwem.uk.com)) will take place at the Telford International Centre on 5th and 6th November and has been designed to offer everyone with a professional interest in water, and environmental testing and monitoring with an opportunity to hear about the latest developments in techniques, technologies, methods, standards and regulatory requirements that relate to the monitoring which takes place both on-site and in the laboratory, covering sampling, field analysis, gas detection and continuous water and wastewater monitoring applications.

Visitors to WWEM 2014 will be able to claim Continuing Professional Development (CPD) time for the event's Conferences, Forums and Workshops. WWEM organiser Marcus Pattison says: "This is great news for the event because it provides formal recognition of the value of the many learning experiences at WWEM 2014 and provides delegates with reassurance that their visit will be worthwhile."

### Conference: 'Regulation Updates for Process Operators'

The first day's Conference will focus on the monitoring aspects of industrial and municipal monitoring, beginning with the Environment Agency's Rick Gould, who will provide a training presentation on the Agency's Operator Monitoring Assessment (OMA) tool. A further EA presentation by Andy Chappell will provide an update on the development of 3 CEN standards for the assessment of water quality monitoring equipment (auto-samplers, continuous monitors and portable monitors). An update will also be provided for a similar project looking at CEN standards for flow monitoring devices.

Emily Jarvis from CSA-Sira will explain how schemes such as MCERTS have shown that independent approval of instrument manufacturers' specifications is still required, and she will demonstrate this with case studies and examples. To complement this, Andy Godley from WRC will describe the process for independent instrument testing under MCERTS from the agreement of the test programme, to delivery of the report.

Over the past 10 years thousands of municipal and industrial sites have had MCERTS flow inspections, and Nick Richardson from Siris Environmental will finish the first day by sharing his experiences with the scheme, outlining 'the good, the bad and the ugly' of flow monitoring.

### Conference: 'Laboratory Techniques and Quality Procedures'

Addressing a laboratory analysis theme, the second day's Conference will commence with a presentation on proficiency testing by Fran Bilby from UKAS, in which she will discuss key aspects of the UKAS document TPS 47. Hazel Davidson from Derwentside Environmental Testing Services will then describe how lower limits of detection can be achieved by improved instrumentation or by using larger volumes of sample. Hazel's presentation will also include an examination of good sampling protocols.

Intriguingly, Professor Clive Thompson from ALcontrol will deliver a presentation entitled: 'Sampling and analysis in relation to Priority Substances Directive 2012/39/EU' for which he says he will provide "a devil's advocate response".

South West Water, in collaboration with the University of Portsmouth and Natural Resources Wales, have developed methods using the Chemcatcher™ passive sampler to monitor for a range of acid herbicides including Mecoprop and MCPA, and the molluscicide Metaldehyde in surface waters. This subject will be addressed by Ian Townsend, Head of South West Water's Organics Laboratory, who will outline the development of a Chemcatcher-based sampling method for the monitoring of polar pesticides in water.

Kyle Morris from CSols will outline the advantages of a mobile data capture system that is designed specifically for the UK and European Water Industries, and Bob Poole from Thermofisher Scientific will discuss the key features of Laboratory Information Management Systems (LIMS) to deliver a fully automated, efficient and intelligent approach to sample receipt and scheduling, resource management, collecting, processing and acting upon results, and securely managing data.

### New: Flow Forum

Building on the event's monitoring theme, the Flow Forum will take place on Wednesday 5th November including presentations from Water Companies, MCERTS Inspectors and construction partners who will share their experiences in flow measurement. Flow meter manufacturers will also present some of the latest measurement techniques and an open forum session will provide attendees with an opportunity to challenge the panel with questions and problems.

An Apprentice Instrumentation Competition will also take place during the afternoon session of the Flow Forum. Contestants from the UK's water and sewerage companies will be required to perform a range of instrumentation related tasks in front of a live audience of industry professionals. Competition prizes are being provided by a number of industry sponsors, including Siemens & Partech. The prizes include training packages and complementary tickets to the WWEM 2014 Gala Dinner.



### New: SMART Water Forum

Taking place on the second day of WWEM (6th Nov) the SMART Water Forum will include a UKWIR dissemination workshop, featuring a study which has been ongoing for 18 months on Instrumentation, Process Automation & Control in wastewater. This will be followed by presentations on SMART technologies, including the 'Internet of Things', from some of the water sector's leading innovators, including Aquamatix, Syrinix, Nivus and Intellitect Water.

Both Forums will be hosted by Oliver Grievson, a Director of the Sensors for Water Interest Group (SWIG) and Manager of the LinkedIn Group Water Industry Process Automation & Control (WIPAC).

### New: BMSS Seminar - 'The application of chromatography-mass spectrometry to environmental water analysis'

The British Mass Spectrometry Society will run a seminar at WWEM 2014 on 5th November from 11am to 3.15pm. The applications of Chromatography – Mass spectrometry are extremely wide ranging; none more so than in the analysis of environmental water matrices. Depending on the sophistication of the mass spectrometry as an analysing tool, sample preparation is either of vital importance or may be largely unnecessary. The purpose of the analysis is to characterise the sample as fully as possible or to measure discrete components with high precision. This meeting is designed to draw attention to the methodology employed to analyse environmental water containing target compounds with a range of physico-chemical properties. The analysis may be intentionally non-targeted, for example, to screen for many classes of substance without chemical bias.

### British Water & WWEM 2014 Innovation Exchange

Running throughout the first day of WWEM 2014 (5th November), this event has been created to bring together Water Companies, their partners, and representatives from other water-using industries with British Water members and non-members to identify technology needs and explore available and potential solutions. The day will include concurrent workshops on Water Monitoring, Wastewater Monitoring, and Environmental Monitoring, led by British Water, Black & Veatch, and J. Murphy & Sons respectively. The participants will include Affinity Water, Bristol Water, United Utilities, Yorkshire Water, D r Cymru Welsh Water, Thames Water and many of the industry's key contractors. For anyone wishing to participate, a booking form is available from the Events page of [www.britishwater.co.uk](http://www.britishwater.co.uk).



### International Exhibition – what's new in Process Monitoring

Featuring over 130 stands representing more than 250 of the world's leading providers of test and monitoring equipment and related services, the WWEM 2014 Exhibition will be free to enter for pre-registered visitors. Many of the exhibitors will launch new products at the show, a few of which are featured below.

HACH LANGE's process monitoring team will unveil the latest MCERTS approved instruments in addition to a range of real-time control (RTC) solutions for wastewater treatment which has been receiving rave reviews by users. Experts will be available to discuss the efficiency and cost savings that are possible with RTC, which has dramatically reduced energy and chemical costs at plants that have already incorporated this technology.

For the first time anywhere, Aquamatic will be previewing a new cabinet for the S300 Series wastewater samplers, providing easy installation, improved access and easier maintenance. Pulsar will launch a new innovation that combines level/flow measurement, pump control and RTU into one economically sized controller, and whilst Krohne is well known as a manufacturer of flow monitors, the company recently launched a range of analytical sensors and WWEM 2014 will provide a good opportunity to publicise this new aspect of the Krohne product range.

Modern Water will display its market leading toxicity monitoring systems, including the new Continuous Toxicity Monitor that uses Microtox® technology. The company's trace metal range will also be on show in addition to the recently expanded environmental monitoring systems which now include strip tests and a range of fluorimeters.

Xylem Analytics will launch a new range of single and multiparameter WTW UV sensors for wastewater monitoring. The WTW family of spectral sensors offer highly reliable continuous, chemical-free measurements with no routine service required. To further reduce operational costs, integrated ultrasonic cleaning automatically removes any fouling from the measurement windows. Built with a non-corrosive titanium shaft, PEEK plastic components and non-scratch Sapphire glass windows, Xylem says these monitors are shock resistant and extremely rugged.

Xylem Analytics will also launch the new SonTek SL 3G for measuring water velocity and level in open channels. These 3rd Generation models employ SmartPulseHD® technology, which continuously tracks water velocity and profiling range, depth, turbulence factors and signal-to-noise ratio, and automatically selects the optimum processing configuration.

OTT Hydrometry will use WWEM 2014 for two major product launches. The new Hydrolab HL4 is the next generation of multiparameter water quality sondes; OTT says the key features will be reliability, ease-of-use and metadata to produce water quality data you can trust. OTT will also launch the new OTT PLS-C water level and conductivity probe, again built for accuracy and reliability, and compatible with any SDI-12 logger.

For many of us, when we need something we buy it, but Ashtead Technology will challenge that assumption. The instrumentation specialist will display the latest technologies in environmental monitoring and inspection, and the company's staff will be on hand to explain why Ashtead Technology has invested in an instrumentation fleet so that its customers don't have to.

### International Exhibition – what's new in Laboratory Analysis

Since the last WWEM in 2012, Shimadzu have launched a laboratory TOC analyser, the TOC-L, with a number of accessories including a Solid Sample Module and Liquid Autosampler, and this is becoming popular for biomass analysis which is a new application for the use of TOC. The ability to have a quick tool to analyse the potential amount of microscopic algae in biomass is extremely important.

ESSLAB believes that whilst the development of instruments has greatly increased analytical sensitivity, the means by which samples and standards are prepared in many laboratories has changed little in over 100 years. They will therefore review how laboratories currently prepare samples for analysis and materials for quality control, presenting new innovative liquid handling methods which greatly enhance efficiency, accuracy and precision.

The Hanna stand will feature the new 'EDGE' meters for pH, Conductivity and Dissolved Oxygen. Hanna says this sophisticated benchtop or wall-mounted technology offers high precision with a versatile, slimline design.

Skalar (UK) Ltd will be displaying the new range of SP2000 Robotic Analysers, along with the new Primacs SNC100 Carbon and Nitrogen analyser. The Skalar stand will also feature live demonstrations of the test kit version of the modular SP2000 robotic analyser, for chemistries such as COD, Total Nitrogen, Total Phosphorous and Ammonium. The UK unveiling of the Primacs SNC100 marks the next generation of combustion analysers, for the analysis of solids and liquids for Total Carbon, Organic Carbon, Inorganic Carbon, Elemental Carbon and Total Nitrogen / Protein.

SEAL Analytical will provide visitors with an opportunity to see the latest technologies in both automated discrete analysers and segmented flow analysers. The company's expert staff will be on hand to help customers decide which method best suits their needs. WWEM 2014 will also be the first ever UK opportunity to view SEAL's new AQ400 automated discrete analyser. The AQ400 has been designed to provide even greater speed and capacity, with improved reproducibility and greater flexibility.

The HACH LANGE stand will also feature some of the company's latest innovations in laboratory analysis including pocket colorimeters, portable water quality meters and sophisticated UV-VIS/VIS Spectrophotometers for the field and in the lab, and Xylem Analytics will launch a new 'smart' YSI digital handheld meter using EXO technology.

Palintest has developed a new method for determining chlorine dioxide and chlorite which has now been US EPA approved for use in drinking water. The ChlordioX™ Plus utilises disposable sensors to revolutionise the testing of chlorine dioxide and its by-products making monitoring simpler than it's ever been before. Some Palintest photometers are now available with Bluetooth® SMART which enables much lower power consumption and more reliable pairing of devices.

### Over 80 Workshops to Choose From

Yes, you did read that correctly; there are over 80 workshops available. Not 8, not 18, but 80 workshops representing 80 of the reasons why WWEM is known as a 'working event'. Careful planning is necessary if visitors wish to pick the subjects of greatest interest and make the most of their time at WWEM 2014. The Workshops run almost continuously throughout the 2 days and cover an enormous variety of subjects within the overall testing and monitoring theme. Most of the presenters are also exhibitors, all of whom are aware that the best attended workshops are those that are interesting and informative and not too promotional.

The full Workshop programme is published on [www.wvem.uk.com/work-shop](http://www.wvem.uk.com/work-shop). However, for those interested in process monitoring, there will be flow-related presentations covering technologies such as laser, ultrasonics, clamp-on, magnetic flow and integrated flow and pressure metering. Water quality workshops will cover the measurement of almost every parameter of interest including TOC, turbidity, dissolved oxygen, nitrate, trace metals, organic loading and toxicity. These presentations will include handheld instruments as well as continuous and remote monitors, and will also address data collection techniques and data management software.

Many of the process monitoring workshops will address common operational issues such as chemical precipitation in wastewater treatment, flood defence and asset monitoring, real-time sewer and CSO monitoring, and leakage monitoring and management.

Two of the eight Workshop rooms will be dedicated to gas detection and monitoring and these presentations will cover technologies such as PID, NDIR, electrochemical and pyroelectric sensors. Workplace exposure, instrument calibration and the creation and certification of calibration standards will be amongst the themes of these workshops.

A significant proportion of the workshops will address a diverse range of laboratory analysis themes. For example, there will be a presentation by CitySprint examining the challenges faced by a sample courier and another looking at AQC charting software. Laboratory accreditation will also be addressed in addition to specialist subjects such as the preparation of inorganic standards, complete ion analysis, TOC, COD, total cyanide and toxicity testing. There will be presentations on automated pH and turbidity testing in addition to seminars on lab robotics. One of the speakers will also provide a comparison between online and laboratory analysis of TOC, ammonia and BOD.

With US EPA for the ChlordioX™ Plus, Palintest will deliver a workshop entitled '10 things you need to know about the monitoring of total residual oxidants'.

### WWEM 2014 Gala Dinner

A black tie Gala Dinner will take place on the evening of the 5th November, providing an opportunity to relax and network with other environmental monitoring professionals. Following the dinner, MCERTS certificates will be awarded along with the SWIG 'Early career researcher prize' and the Instrument User Group (Water Companies) award for best service provider. The winner of the Apprentice Instrumentation Competition will be announced and guests will be treated to some 'entertainment' – the format for which is always a tightly protected secret...

#### Summary

With a heavy focus on water and environmental monitoring, the WWEM events attract delegates such as regulators, industrial process operators, water utilities, accreditation organisations, commercial laboratories, instrument manufacturers, consultants, analytical service providers, researchers and academics.

The day-delegate conference rate is £55. However, registration for the event is FREE of charge and pre-registered visitors ([www.wvem.uk.com](http://www.wvem.uk.com)) are provided with free access to the exhibition, the Forums and to the workshops, in addition to free on-site parking, and complimentary lunch and refreshments.

As preparations intensify for WWEM 2014, the organisers are urging visitors to register as soon as possible and to study the workshop and conference programme carefully, so that they can tailor their personal agenda to experience the topics of greatest interest, whilst allocating plenty of time to view the enormous quantity of new products that will be on show in the Exhibition.

Organiser Marcus Pattison says: "Whether it's wastewater flow and quality monitoring, drinking water testing, laboratory sampling and analysis, or gas detection in confined spaces, WWEM will have something for everyone. This year's event will be the busiest yet, so I cannot emphasise enough how important it is to plan your visit in advance – WWEM is a working event and visitors need to ensure that they make the most of everything available."