

## Biosensors

20 July 2016

Room 4B027, University of the West of England, Coldharbour Ln,  
Bristol BS16 1QY

The definition of bio-sensing can be two-fold. On one hand it is the application of technologies that integrate biological molecules with electronics for the rapid detection of biological interactions on a sensor surface. The other commonly held view is that bio-sensing is the application of more traditional measurement technologies to detect biological entities within the sample or the environment being studied. A large number of these bio-sensing technologies rely on optical or electrochemical systems in a variety of configurations from simple dip-stick type devices that measure colour or electric current to more sophisticated and complex measurement systems that may use microfluidic channels and nanostructured transducers. Notwithstanding the complexity of the device, an important feature of a bio-sensor is that it provides rapid results often using portable instruments and can be operated with minimal of training.

This workshop will focus on the latest insights into bio-sensing technologies that have been developed by companies and universities with a view that they will be deployed in the water industry. These biosensors may be used to detect and or quantify a wide range of chemicals or biologics found in water such as heavy metals, viruses, bacteria, algal toxins, pesticides, pathogens. The talks will cover some of the latest thinking around principles of biosensor instrumentation to talks focused on the application of biosensors to measuring targets in water and issues associated with the use of biosensors for these applications.

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**Chair: Prof Richard Luxton, IBST, UWE**

09:30 Coffee & registration

10:00 Introduction, **Prof Richard Luxton, IBST, UWE**

10:10 Keynote presentation: Waterborne diseases. **Prof Nigel Silman, Public Health England**

10:40 The application of electrochemical biosensors for water testing. **Dr Adrian Crew, UWE**

**11:20 Tea, Coffee and Networking**

11:40 The application of bacterial fuel cells for biosensing in water. **Prof John Greenman, UWE**

12:10 Community sewage sensors for monitoring public health.

**Dr Pedro Estrela, University of Bath**

**12:40 Discussion & Lunch**

13:30 Application and challenges for the use of biosensors in aquatic monitoring.

**Dr David Walker, CEFAS**

14.00 Speedy Breedy: A versatile portable culture system for rapid microbial contamination.

**Derek Price, Bactest**

14.30 Detection of algae by fluorescence. **Dr John Attridge, Chelsea Technologies**

**15.00 Discussion & close**

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**SWIG REGISTRATION:** The cost of attending the Workshop is £86.00 inc VAT for SWIG members. £156 inc VAT for non-members. £43 for students. Literature may be distributed for a fee of £65 and a limited number of table top displays are available at £124 each. Registrations can be made by Tel 01934 830658 or by email to [rosa.richards@swig.org.uk](mailto:rosa.richards@swig.org.uk) or using the on-line booking form. **Please advise of any special dietary requirements at time of booking.** Cancellation policy: Refunds can only be made if cancellations are notified at least 5 days in advance of the Workshop date.