

# Sensors for Micropollutants and Pathogens: New Developments

Workshop Sponsored by:



Date 7th December 2011

The University of Edinburgh (Teaching Studio 3217, JCMB, King's Buildings, EH9 3JF)

Location map: <http://www.ed.ac.uk/maps/buildings/james-clerk-maxwell-building>

At present, methods for the detection of micropollutants and pathogens in water are time-consuming and often insufficient; for some micropollutants, reaching the regulatory limits is beyond the detection limit of the technologies or systems are slow and expensive, and in the case of pathogens, information is often not obtained regarding species or viability, which is essential for public health decisions. The aim of this workshop is to review the recent developments in sensor technology focussed upon the detection of micropollutants and pathogens in water. The first session will give an overview of the challenges and requirements in monitoring in different waters (drinking and bathing waters) as well as a perspective from the drinking water regulator. The speakers will identify key contaminants and the relevant timescales. The second and third sessions will focus on sensors for micropollutant and pathogen detection, respectively, describing novel technologies and potential applications.

The workshop will include a poster display covering relevant novel sensor technologies (contact [H.Bridle@ed.ac.uk](mailto:H.Bridle@ed.ac.uk)).

**Early Bird Discount: 10% discount for bookings received by 17 November 2011**

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**Chairman: Dr Helen Bridle, RAEng/EPSCRC Research Fellow, School of Engineering, University of Edinburgh**

09.30 Coffee & registration

10.00 Introduction and overview

**Dr Helen Bridle, University of Edinburgh**

10.05 Challenges in monitoring/sensing micropollutants

**Professor Andrea Schäfer, University of Edinburgh**

10.15 Challenges in monitoring/sensing of pathogens

**James Green, Team Manager Microbiology, Scottish Water**

10.25 Perspective of the regulator on new sensor technologies

**Matt Bower, Drinking Water Quality Regulator for Scotland**

10.35 Pathogen and micro-pollutant monitoring – A water supplier's perspective

**David Metcalf, Water Quality Scientist, South West Water**

11.00 Tea / coffee

11.30 Luminescent bacteria for online detection of toxic compounds in drinking water and its sources

**Dr Minne Heringa, KWR Watercycle Research Institute**

11.55 Detection of trace contamination in water with Field Asymmetric Ion Mobility Spectrometry (FAIMS)

**Billy Boyle, Co-founder, Owlstone**

12.20 Tracking antibiotics and resistance determinants in water and waste

**Dr Beate Christgen, Researcher in Environmental Engineering, School of Civil Engineering & Geosciences, Newcastle University**

12.45 Lunch including poster display and table top browsing

14.00 Plasmonics, MIPs and other sensors and detection systems for prevention of pathogen spreading

**Dr Linda Olofsson, Imego AB**

14.25 A new generation of carbon nanotube-based biosensors for the real-time detection of living bacteria

**Professor Jordi Riu, Universitat Rovira Virgili**

14.50 Impedance-based detection for waterborne protozoa

**Dr Vincent Senez, CNRS, Lille, France**

15.15 New filtration materials and microfluidics for *Cryptosporidium* monitoring

**Dr Helen Bridle**

15.40 Close

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## REGISTRATION

The cost of attending the Workshop is £75.00 inc VAT for SWIG members and academic delegates. £135 inc VAT for non-members. Literature may be distributed for a fee of £55 and a limited number of table top displays are available at £105 each. Registrations can be made by Tel: 01925 855741, email: [linda.smith@swig.org.uk](mailto:linda.smith@swig.org.uk), web: [www.swig.org.uk](http://www.swig.org.uk) using the on-line booking form. **Please advise if you have special dietary needs.** Cancellation policy: Refunds can only be made if cancellations are notified at least 5 days in advance of the Workshop date.