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# Biosensors: Applications in Industrial Biotechnology

Tuesday 21 October 2014

SCI, London, UK

Organised by SCI's Separation Science & Technology Group



**09:00** Registration and refreshments

**10:00** Welcome and introduction

## **Session 1 - Microfluidics**

**10:10 Drop at a time: recent developments in segmented-flow microfluidics**

Prof Andrew De Mello, ETH Zurich, Switzerland

**Optical-microfluidic approaches for bioanalysis applications**

Dr Tracey Melvin, University of Southampton, UK

**Application of bionanotechnology in biosensors**

Prof Tony Cass, Imperial College London, UK

Speakers panel Q&A

**12:00** Lunch and networking

## **Session 2 - Sensor technology**

**13:00 Robust sensors based on molecularly imprinted polymers for industrial applications**

Prof Sergey Pilesky, University of Leicester, UK

**Supramolecular protein complexes immobilised on graphene as a potential sensor platform**

Dr Stefan Bagby and Dr Adelina Ilie, University of Bath, UK

**Optical waveguide biosensors for in-situ bioprocess control**

Prof Jeremy Ramsden, University of Buckingham, UK

Speakers panel Q&A

**14:50** Refreshment break

## **Session 3 - Biotechnology applications**

**15:10 Engineering reporter phages for detection of C. Difficile**

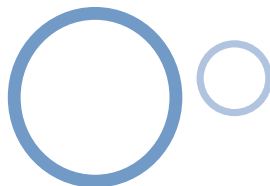
Dr Martha Clokie, University of Leicester, UK

**Rapid protein quantitation and kinetic measurements using Bio-layer Interferometry (BLI) technology**

Dr Krista Witte, Pall Corporation - Menlo Park, USA

Speakers panel Q&A

**16:20** Closing remarks



This one day event will focus on the application of sensor technology in the industrial biotechnology sector.

Chemical sensors and biosensors are becoming increasingly indispensable tools in the life science, medical and biotechnology sectors, particularly where accurate and reproducible monitoring and control of processes are required. Within the biotechnology sector, intense pressure to: a) comply with regulatory requirements for process reproducibility; b) achieve consistency in the quality of the end product; and c) manage overall costs has meant that innovative solutions to complement existing approaches are required.

This need has, in part, been answered through the development and application of sensor technology to solve industrial problems. Although, there are a wide variety of different sensors, they are all designed to perform two key tasks; molecular recognition and signal transduction. And, it is the latter task that is typically used to characterise them as either electrochemical, optical, spectroscopic, piezo-electrical or thermal devices. The many reported applications range from the rapid, unequivocal diagnosis of medical conditions like heart attacks used in hospitals to wireless, field-based devices used to monitor environmental samples.

In this conference, the Separation Science and Technology Group (SSTG) has assembled a panel of world renowned experts in sensor technology to present on the latest developments in this new and exciting area of science. The panel will discuss their own work covering such areas as development of innovative nanotechnology methods, fabrication of sensors using state-of-the-art materials, applications of optical, micro-fluidic chemical and biological sensors to monitor and control industrial processes.

## Attendees

This conference should benefit process technologists, novice scientists and experts alike who are keen to hear the latest developments from leading authorities in the development and application of sensors technology.

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