

# **Advances in Sensor Technologies and Applications for Monitoring**

**Conference with Posters and Exhibition**

## **Programme**

**Organised by the Automation and Analytical Management Group  
Royal Society of Chemistry**

**A one day meeting on  
Wednesday 19th June 2013**

**At The Royal Society of Chemistry,  
Burlington House,  
Piccadilly, London W1J 0BA**

**Email: [conference@aamg-rsc.org](mailto:conference@aamg-rsc.org)  
Website: <http://www.aamg-rsc.org>**

# Advances in Sensor Technologies and Applications for Monitoring

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Management Group of the Royal Society of Chemistry

**Wednesday 19th June 2013**

The Royal Society of Chemistry, Burlington House,  
Piccadilly, London W1J 0BQ

## Introduction

This is the fifth annual AAMG Conference concerning monitoring and analysis using sensor technologies. The conference will cover recent advances in the development of sensor technologies and materials with applications related to air and water quality; and biological monitoring. The conference will follow the similar format as in preceding years with presentations by invited speakers; however, the majority of papers and posters will be presented by young researchers. The conference will also include an exhibition and poster presentations.

The conference will examine the design and application of recent research and development of potential commercial sensors for monitoring (bio)medical, industrial and environmental processes. Sessions will feature invited presentations on the topics selected from the response to the call for papers. This Conference offers a good opportunity to bring together scientists involved in this field to exchange experiences and thoughts about the new applications and novel types of sensors.

### Scientific Committee

Dr R.Narayanaswamy, Professor Krishna Persaud, Dr Chris Walton, Dr Alan Braithwaite,  
Dr Craig Roxburgh and Dr Mark Baron

## Programme

09:00 – 09.30 Registration and coffee

### Session 1 Aquatic Monitoring and Special Techniques

Chair: **To be Confirmed**

09:30 Water Quality Monitoring Using Sensors for Volatile Chemicals:

Henry's Law Rules

**Krishna Persaud**

*The University of Manchester, UK*

09:55 Fit for Purpose Robust Water Sensors for use in Emergency Incident  
Detection: - Is this an impossible dream?

**Clive Thompson,**

*ALcontrol Laboratories, UK*

10:20 Nanostructured Electrode Arrays for Electrochemical Analyses

**Neville Freeman**

*Nanoflex, UK*

10:45 New Advances in Screen Printed Sensor Design for Electrochemical  
Applications

**Jonathan P. Metters and Craig E. Banks,**

*Manchester Metropolitan University, UK*

## **11:05 Tea / Coffee**

- 11:30 Impedimetric Microsensors for the Determination of Nitrate in Aqueous Matrices

**Craig Alexander**

*The University of Manchester, UK*

- 11:50 Using Sensor Technology to Understand the Dynamics of Fluvial Dissolved Organic Carbon Export

**Martin Coleman, Susan Waldron, E Marian Scott, Jonathan Cooper**

*University of Glasgow, UK*

- 12:10 Multi-species Sensing using Multi-Mode Absorption Spectroscopy (MUMAS)

**Paul Ewart, J.H. Northern, A.W.J. Thompson, S.O'Hagan,**

**B.A.O. Williams**

*University of Oxford, UK*

- 12:30 PODS: A New Diffusive Sampler Concept

**Emile De Saeger, Pascual Perez Ballesta, Annette Borowiak**

*JRC-EC, Italy*

## **12:50 Lunch - Exhibiton & Poster Session**

## **Session 2 Biological and Environmental Monitoring**

Chair: **To be Confirmed**

- 14:00 Towards Smartphone Connected Diagnostics for Infectious Diseases

**Rachel McKendry**

*University College, London, UK*

- 14:25 Leaky Waveguide (LW) Imaging for Biosensing

**Ruchi Gupta, Nick J. Goddard**

*University of Manchester, UK*

- 14:45 Isothermal Nucleic Acid Sequence-based Amplification Integrated Sensor for Biological Environmental Monitoring

**Maria-Nefeli Tsaloglou, Hywel Morgan,**

*University of Southampton, UK*

- 15:05 The Development and Validation of a Potentiometric Biosensor Assay for the Rapid Detection of 10 Antimicrobial Growth Promoters in Feeding Stuffs

**James A. Donarski, K. Wolodko-Cierniak, K. Chapman, M. Sharman,**

**P. Swarbrick, S. Painter, P. R. Brown, S. J. Fenwick**

*Food & Environment Research Agency, UK*

- 15:50 A Novel Approach to Chemical Sensing Using Fibre-optic Sensors Anchored with a Functionalised Mesoporous Thin Film  
**Sergiy Korposh**, *F. Davis, S.W.James, S.W.Lee, S.Higson, R.P.Tatam,*  
*Cranfield University, UK*
- 16:10 Stand-off Spectroscopy for the Detection of Chemical Warfare Agents  
**Rhea J. Clewes**, *Chris R. Howlea, David J. M. Stothard, Malcolm H. Dunn, Gordon Robertson, William Miller, Graeme Malcolm, Gareth Maker,*  
*DSTL, UK*
- 16:30 Highly Sensitive Hydrocarbon and Biogenic Odour Sensors  
**Hadi AlQahtani** and *Martin Grell*  
*University of Sheffield, UK*
- 16:50 Exhibitors Presentations**
- 17:15 Concluding Remarks and End of Conference**

## Poster Abstract Submission

Abstracts for poster sessions only will be accepted until **31st May 2013**. Since space is limited, you are advised to submit abstracts as soon as possible. Abstracts submitted later than the above deadline may not be included in the conference booklet. Abstracts will be considered for the conference only if they are accompanied by your registration form.

## Exhibition

A limited number of Exhibition places are available. Interested persons are requested to contact the conference secretary at [conference@aamg-rsc.org](mailto:conference@aamg-rsc.org) as soon as possible.

## How To Register

Early registration is requested due to limited number of delegate places and catering requirements. Please complete and return the registration form as soon as possible.

<b>Registration Fees:</b>	Non Members	£150
	Members	£100
	Students/Retired	£ 50

The registration fee includes attendance at the meeting together with coffee, lunch and afternoon tea/coffee.

### Payment of registration fees:

- By Cheque made payable to: **AAMG-RSC**
- By Credit Card (note that AMEX and DINERS cards are not accepted)

### Venue

The Royal Society of Chemistry  
Burlington House,  
Piccadilly  
London W1J 0BA

Maps and details will be provided upon registration

### Registration Contact

Conference Secretary, AAMG-RSC, PO Box 174, Manchester M24 4XZ, UK  
Email: [conference@aamg-rsc.org](mailto:conference@aamg-rsc.org) Fax: +44 (0) 161 610 3939

### AAMG Treasurer

Dr R Narayanaswamy, Address as above  
Tel +44 (0) 7974 515265 Fax: +44 (0) 161 610 3939

### Notes

- 1) Fees are not normally refundable but are transferable. If for any reason the organisers should cancel the conference then fees will be refunded.
- 2) The registration fee includes attendance at the meeting together with coffee, lunch and afternoon tea/coffee, as appropriate.
- 3) The organisers reserve the right to alter the programme.

*Data Protection Act.* The information on this form will be retained (1) for the purpose of administering this meeting, in particular for producing a list of participants for distribution at the meeting, and (2) in order that information on future meetings can be sent to you. Please write to the meeting contact if you object.

## Registration Form

Please complete this form after referring to the registration information and return by post, fax or email (scanned attachment) to:

**AAMG-RSC, PO Box 174, Manchester. M24 4XZ, UK**  
**Email: [conference@aamg-rsc.org](mailto:conference@aamg-rsc.org) Fax No: +44 (0) 161 610 3939**

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Wednesday, 19th June 2013

The Royal Society of Chemistry, Burlington House, Piccadilly, London W1J 0BQ

Delegate Name & Title

Position

Organization

Address

Post Code

Telephone No:

Fax No:

Email

Special Requirements

Signature

<b>Registration Fees:</b>	Non-Member	£150
	Members	£100
	Student/Retired	£ 50

Payment:

(Please tick payment method)

By Cheque

Please make cheque payable to: **AAMG-RSC**

Credit/Debit Card

Please complete details below

**Credit Card Details** (Please note that AMEX or DINERS cards cannot be accepted)

Card Type:    Visa                      Mastercard                      Maestro

Card Number:

Valid from

Expiry Date

Card Issue No: (Maestro only)

Cardholder Name

Statement Address

Post Code

Contact Tel No (not mobile)

Signature of Cardholder

Date