

Air Quality: Responding to New Challenges

**Conference with
Posters and Exhibition**

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

Tuesday 10th & Wednesday 11th December 2019

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

**Email: conference@aamg-rsc.org.uk
Website: <http://www.rsc.org>
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Air Quality

Responding to New Challenges

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The Royal Society of Chemistry, Burlington House, London

Introduction

2019 has seen air quality remain high on the public and political agendas. The UK Government launched its new Air Quality Strategy, tackling a broad range of sources including traffic, wood burning and agriculture. Increasing numbers of countries and cities are making long-term commitments to phasing out petrol and diesel cars, increasing the focus on non-exhaust vehicle emissions, as well as current real-world exhaust emissions. As evidence of the health impacts of air pollution increase, cities are investigating and introducing new measures to meet EU Limit Values and protect their citizens. The demonstrators who are taking to the streets and demanding urgent action to tackle our climate crisis are also demanding clean air.

Building on the success of this long-running annual event, the 2019 conference will present an update on a range of relevant topics. The presenters will include internationally recognised experts, and there will also be a range of contributed talks and posters, providing a broad and up-to-date survey of the measurement, regulatory and scientific issues affecting air quality.

The conference will again be held in collaboration with Defra's Air Quality Expert Group (AQEG), with sessions based on the group's recently-published reports, including those on non-exhaust particle emissions and assessing the effectiveness of interventions intended to improve air quality. Presentations will also be made on topics that AQEG are currently investigating, including developments in vehicle exhaust emissions and non-methane volatile organic compounds. There will also be a session devoted to recent advances in airborne particle measurements, linked to the European AEROMET project.

Tuesday 10th December

09:30 Registration

10:25 Welcome and Introductory Remarks

Session 1: Recently published AQEG reports

Chair: **Ally Lewis** - AQEG, UK

10:30 Presentation of the AQEG non-exhaust emission report
Mathew Heal, AQEG, UK

11:00 Discussion of report conclusions

11:20 Presentation of the AQEG interventions report
Gary Fuller, King's College London/AQEG, UK

11:50 Discussion of report conclusions

12:10 Presentations by the exhibitors

12:40 **Lunch - exhibition & posters**

Session 2: Follow-up, vehicle emissions and non-methane volatile organic compounds

Chair: **Ally Lewis** - AQEG, UK

- 13:40 Air quality modelling on the contribution of brake wear emissions to particulate matter concentrations using a high-resolution brake use inventory
Dan Wakeling, *Ricardo, UK*
- 14:05 Multi-disciplinary sensing in the city of the future: simultaneous noise and air pollution monitoring to quantify the impact of traffic interventions on personal exposure
Luc Dekoninck, *University of Ghent, Belgium*
- 14:30 AQEG Report scope - vehicle exhaust emissions
Jon Andersson, *Ricardo/AQEG, UK*
- 15:00 An experimental comparison of diesel passenger car “switch off vs idle” NO_x emissions
Mark Peckham, *Cambustion Ltd, UK*
- 15:25 Tea / Coffee - Exhibition & Posters**
- 15:55 Aircraft, regulation and new sensor development: an overview of the H2020 AVIATOR project
Paul Williams, *University of Manchester, UK*
- 16:20 Air quality in the London underground
David Green, *King's College London, UK*
- 16:45 AQEG report scope- non methane volatile organic compounds
Ally Lewis, *AQEG, UK*
- 17:15 Close of Day One**

Wednesday 11th December

09:30 Coffee and Exhibition

Session 3: Developing Measurement Techniques

Chair: **Gary Fuller** - King's College London, UK

- 10:00 Long-term intercomparison of ambient particulate (PM_{2.5} and PM₁₀) sampling methods
Thomas Smith, *National Physical Laboratory, UK*

- 10:20 Towards the generation of synthetic ambient aerosols in the laboratory for calibration of PM monitors and low cost sensors
Konstantina Vasilatou, METAS, Switzerland
- 10:40 Determination of antimony and barium in UK air quality samples as indicators of non-exhaust traffic emissions
Sharon Goddard, National Physical Laboratory, UK
- 11:00 Output analysis of a sharp GP2Y low-cost aerosol PM sensor
Klemen Buchar, Jozef Stefan Institute, Slovenia
- 11:20 Tea / Coffee - Exhibition & Posters**
- 11:50 Developments in NO₂ measurements
Dave Worton, National Physical Laboratory, UK
- 12:10 Developments in black carbon calibration
Paul Quincey, National Physical Laboratory, UK
- 12:30 High time resolution measurement of TC, BC, EC, OC and OM in PM₁ and PM_{2.5}
Martin Rigler, Aerosol d.o.o, Ljubljana
- 12:50 Lunch - Exhibition & Posters**

Session 4: Sensors and air pollution in microenvironments

Chair: **Paul Quincey** - National Physical Laboratory, UK

- 14:00 Sources of submicron particle number concentration near London Gatwick airport
Anja Tremper, King's College London, UK
- 14:25 Air quality in two enclosed railway stations: evaluating the impact of emissions from diesel trains in the United Kingdom
Anna Font, King's College London, UK
- 14:50 Sensor technologies and recent sensor developments and applications
Krishna Persaud, University of Manchester, UK
- 15:15 Developments in sensor networks in the Breathe London project
Rod Jones, University of Cambridge, UK
- 15:40 Closing remarks
- 15:45 Tea / Coffee - Close of Conference**

How To Register

Please visit our website at: www.rsc.org for easy on-line registration. Early registration is advised due to the limited number of delegate places and catering requirements.

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|---------------------------|------------------|------|
| Registration Fees: | Non Members | £315 |
| | Member RSC | £250 |
| | Students/Retired | £100 |

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

Payment of registration fees:

- By Debit/Credit Card when you make your on-line registration via Eventbrite
- Offline payment by invoice/BACS

Venue

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

Map and directions are available on the on-line registration page of our website.

Registration Contact

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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.