

THURSDAY 8TH APRIL 2010

10.00- 10.30 Registration and Coffee

Session 1: Applications of aerosol manipulation

10.30 – 11.30 **Biological aerosols: Cell engineering for tomorrow's healthcare**

Suwan Jayasinghe
University College London

11.30 – 11.50 **Using Aerosol Droplets as Probes**

J.B. Wills, J.R. Butler, K.O. Knox, R.E.H. Miles, J. Walker and J.P. Reid
School of Chemistry, University of Bristol, Cantocks Close, Bristol, BS8 1TS.

11.50 – 12.10 **Novel techniques for the optical control of microscopic aerosol particles over macroscopic length scales**

A.E. Carruthers, J. B. Wills and J.P. Reid
University of Bristol, School of Chemistry, Aerosol Dynamics Research Group

12.10 – 12.30 **High Concentration Ratio Aerosol Collection Using Electrowetting and Electrostatic Precipitation**

T Foat¹, S Parry¹, F Lapierre², M Jönsson-Niedziółka², V Thomy², F. Zoueshtiagh²,
Y. Coffinier³, R. Boukherroub³
1. Dstl, Porton Down, Salisbury, Wilts, SP4 0JQ, UK
2. Institute of Electronics, Microelectronics and Nanotechnology, Cite Scientifique,
Avenue Poincaré - B.P. 60069, 59652 Villeneuve d'Ascq, France
3. Interdisciplinary Research Institute, Cite Scientifique, Avenue Poincaré - B.P. 60069,
59652 Villeneuve d'Ascq, France

12.30 – 13.50 Lunch

Session 2 Modelling transport, deposition and resuspension

13.50 – 14.10 **The effects of different mechanisms and porosity on deposition on fibrous filters.**

Sarah J. Dunnett¹, Charles F. Clement²
¹Department of Aeronautical and Automotive Engineering, Loughborough University,
Loughborough, Leics. LE11 3TU, U.K.
²15 Witan Way, Wantage, Oxon, OX12 9EU, U.K.

14.10 – 14.30 **Particle Resuspension Modeling in Turbulent Flows**

F. Zhang^{*,†}, M. Reeks^{*} and M. Kissane[†]
^{*} School of Mechanical and Systems Engineering, Newcastle University, Newcastle
upon Tyne, NE1 7RU, UK
[†] Institut de Radioprotection et de Sûreté Nucléaire, CE Cadarache – bât 702, 13115
St-Paul-Lez-Durance, France

14.30 – 14.50 **Stochastic Lagrangian Tracking and Deposition of Inertial Particles with an Unstructured Navier-Stokes Solver**

C. JIN I. Potts & M. W. Reeks
School of Mechanical and Systems Engineering, University of Newcastle upon-Tyne,
UK, NE1 7RU

14.50 – 15.10 **Computational Fluid Dynamic (CFD) Dispersion Modelling, of Particles Released From Point Sources Upwind of Bluff Bodies**

Mr. Cian Bregazzi-Nevin¹, Dr. Kenneth Moloney¹, Prof. Denis Henshaw²

¹ *Department. of Mechanical Engineering, Institute of Technology Tallaght, Dublin 24, Ireland.*

² *Department. Of Physics, University of Bristol, Bristol, United Kingdom*

15.10 – 16.00 **Posters and Coffee**

Session 3 Instrumentation and sensors

16.00 – 16.20 **Evaluation of A Simple System for the Measurement of Smoke Deposition in Volunteers**

C Dickens, P Biggs, J Perkins, C McGrath & R Cabot
British American Tobacco, Group R&D, Southampton SO15 8TL, UK

16.20 – 16.40 **Development of a System for Online Sampling of Exhaled Aerosols**

C McGrath, J Perkins, C Dickens, P Biggs and P Warrington
British American Tobacco, Group R&D Centre, Southampton SO15 8TL, UK

16.40 – 17.00 **A New Sensor for Long Term Monitoring of Ultrafine Particles in a Number of Applications**

I Bennett¹, J Tikkanen², L Ntziachristos³

¹TBD Presentations, St Just in Roseland, TRURO TR2 5 JN,

²Pegasor Oy, Tampere, Finland

³LAT, Aristotle University, Thessaloniki, Greece

17.00 – 18.00 **The Aerosol Society AGM**

19.00 **Meet in Bar - Hartley Suite, Staff Social Centre, Highfield Campus**

19.30 **Conference Dinner - Hartley Suite, Staff Social Centre, Highfield Campus**

FRIDAY 9TH APRIL

8.30 – 9.00 **Registration and Coffee**

Session 4 Atmospheric monitoring

9.00 – 9.50 **Biomagnetic monitoring of traffic-derived particulate pollution**

Barbara Maher
University of Lancaster

9.50 – 10.10 **The Spatial and Temporal Variation of PNC around an urban traffic junction**

N.Z.Yahaya, J.E. Tate, M.R.Tight

Institute for Transport Studies, University of Leeds, LS2 9JT, Leeds.

10.10 – 10.30 **Exposure to particulate matter in transport micro-environments: A comparison between Pakistan and the United Kingdom.**

Ian Colbeck and Zaheer Ahmad Nasir
Department of Biological Sciences, Wivenhoe Park, University of Essex, Colchester, CO4 3SQ, United Kingdom

- 10.30 – 11.15 Posters & Coffee**
- 11.15 – 11.35 **Submicron particle size distribution and correlation with co-pollutants at a roadside site, Bristol**
- Matthew D. Wright
H. H. Wills Laboratory, Tyndall Avenue, Bristol, BS8 1TL, UK
- 11.35 – 11.55 **Atmospheric Aerosol Measurement Using a Wide Range Aerosol Spectrometer**
- Juergen Spielvogel, Xiaoi Guo, Markus Pesch, Lothar Keck
GRIMM Aerosol Technik GmbH & Co.KG, Dorfstrasse 9, D-83404 Ainring, Germany
- 11.55 – 12.15 **Balloon-borne charge measurements within a Saharan dust layer**
- K.A. Nicoll*, Z. Ulanowski*, R.G. Harrison*, P.H. Kaye*
*Department of Meteorology, University of Reading, P.O. Box 243, Earley Gate, Reading, Berkshire RG6 6BB, UK
*Science and Technology Research Institute, Univ. of Hertfordshire, Hatfield AL10 9AB, UK
- 12.15 – 12.35 **Ion-induced aerosol variations in the atmospheres of the outer planets**
- K.L. Aplin and R.G. Harrison*
Physics Department, University of Oxford, Denys Wilkinson Building, Keble Road, Oxford OX1 3RH
*Department of Meteorology, University of Reading, PO Box 243, Earley Gate, Reading RG6 6BB
- 12.35 – 14.00 Lunch**
- Session 5 Aerosol Toxicology**
- 14.00 – 14.20 **Aerosol Science for Nanotoxicology**
- A Buckley¹, R Gilham², C Howarth¹, A Hodgson¹, R Smith¹, M Bailey¹ and R Maynard¹
¹Health Protection Agency, Chilton, Didcot, Oxfordshire, OX11 0RQ, UK
² National Physical Laboratory, Hampton Road, Teddington, Middlesex, TW11 0LW, UK
- 14.20 – 14.40 **Intratracheal instillation of air pollution nanoparticles into rats is associated with system inflammation and damage to the vascular endothelium**
- R Adams¹, H Al-Bulushi¹, A Al-Mosawi¹, O Alabi¹, J Hawke¹, P Foley¹, S Hicks¹, S Potter¹, K BéruBé² T Jones³ and S-A Evans¹
¹ Cardiff School of Health Sciences, UWIC, Llandaff Campus, Western Avenue, CF5 2YB, UK
² School of Biosciences, Cardiff University, Museum Avenue, CF10 3US, UK
³ School of Earth and Ocean Sciences, Cardiff University, Park Place, CF10 3YE, UK
- 14.40 – 15.00 **From particle collection to toxicological testing; a case study from Swansea, UK**
- H Price¹, T Jones¹, K BéruBé²
¹School of Earth and Ocean Science, Cardiff University, Park Place, Cardiff, Wales, CF10 3YE
²School of Biosciences, Cardiff University, Museum Avenue, Cardiff, Wales, CF10 3US

15.00 – 15.20 **Measuring Aerosol Particle Behaviour due to Human Activity for Re-Exposure Evaluation**

A. McDonagh¹, R. G. Sextro² and M. A. Byrne¹

¹*School of Physics and C-CAPS, National University of Ireland Galway, Ireland.*

²*Lawrence Berkeley National Laboratory, Berkeley, CA 94720, USA*

15.20 – 16.00 **Posters and Coffee**

16.00 Conference Closes