



# DMUG 2018

19th April 2018

Crowne Plaza- The City, London

**IAQM**

Institute of  
Air Quality  
Management

The IAQM acts as the voice of air quality in the UK by producing useful and timely guidance on matters affecting air quality professionals and by responding to government consultations.

We have a busy CPD calendar each year, with attendance at the majority of events being free or heavily discounted for members. We also publish reports and journals concentrating on the science, modelling, policy and legal issues surrounding air quality.

The IAQM is the largest membership organisation for air quality professionals in the UK. If you are not already a member, apply today by speaking to a member of staff.

**09:00 – 09:30 Registration & refreshments**

**09:30 – 09:35 Roger Barrowcliffe, Vice Chair of the IAQM**  
*Introduction from Conference Chair*

**09:35 – 10:00 Dr Jesse Thé, President at Lakes Environmental**  
*The New SCIPUFF Air Dispersion Model, with Comparison Against CALPUFF*

**10:00 – 10:25 Arun Kanchan, Director at Trinity Consultants**  
*Prognostic Meteorological Models and Their Use in Dispersion Modelling*

**10:25 – 10:50 Dr Ji Ping Shi, Senior Technical Specialist at Natural Resources Wales**  
*Use of the German Weather Services KLAM Model to Investigate the Cold Air Drainage Flow in Valley Area for Regulatory Assessment*

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**10:50 – 11:30 Refreshments**

**11:30 – 11:55 Sofia Girnary, Senior Advisor - Air Quality Modelling & Assessment Unit at Environment Agency**  
*Air Quality Assessments for Environmental Permit Applications*

**11:55 – 12:20 Professor David Fowler, Centre for Ecology & Hydrology**  
*Modelling the Deposition of Pollutants on Habitats*

**12:20 – 12:45 Dr Ben Marner, Technical Director at Air Quality Consultants**  
*Modelling Development-Related Changes in Concentrations and Deposition to Habitats*

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**12:45 – 13:45 Lunch**

**13:45 – 13:50 Roger Barrowcliffe, Vice Chair of the IAQM**  
*Welcome Back*

**13:50 – 14:15 Professor Alison Tomlin, Professor at University of Leeds**  
*The Treatment of Uncertainty in Models*

**14:15 – 14:40 Dr Catheryn Price, Senior Consultant at CERC**  
*Source Terms and Model Sensitivity*

**14:40 – 15:05 Dr Scott Hamilton, Principal Consultant & Technical Lead - Air Pollution at Ricardo**  
*Air Quality Modelling of New and Emerging Vehicle Technologies- What Can They Deliver in Central Scotland?*

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**15:05 – 15:30 Refreshments**

**15:30 – 15:55 Dr Austin Cogan, Senior Consultant at Air Quality Consultants**  
*Modelling Street Canyons: Comparison of ADMS-Roads and CFD Modelling*

**15:55 – 16:20 Ruth Shilston, Senior Engineer & Project Manager at RWDI**  
*Comparison of Wind Tunnel and CFD Modelling for Nearfield Dispersion from an Exhaust Stack*

**16:20 – 16:45 Rosie Davies, Environmental Consultant and Anusan Sugumaar, Senior Engineer at Arup**  
*Advanced Gaussian Model or CFD?*

**16:45 – 16:50 Roger Barrowcliffe, Vice Chair of the IAQM**  
*Closing Remarks*

## Speakers



**Dr Jesse Thé**

President at Lakes Environmental

Professor Jesse Thé, PhD, P.Eng, has over 25 years' experience in Computational Fluid Dynamics (CFD) and environmental simulations. Jesse is the main author of AERMOD View, CALPUFF View, SCIPUFF View, IRAP View, and Emissions View, among others. He consults for regulatory agencies in Canada, the USA, and abroad on topics related to complex air modeling projects. He is a Professor at the University of Waterloo, and has authored commercial software, co-authored technical environmental books. He is also an Executive Editor of the Elsevier Journal of ENERGY, and the Editor-in-Chief of ENN.Com.



**Arun Kanchan**

Director at Trinity Consultants

Arun has 28 years' experience in the air quality consulting field. He ran his first dispersion model (ISCST3) in 1990 and has progressively gained experience in stationary source models such as AERMOD and CALPUFF, and mobile source models such as CAL3QHC, MOBILE4, and IVE. Working closely with Trinity's BREEZE group, Arun has used meteorological models such as MM5 and WRF on several complex projects. He currently serves as Director of International Operations for Trinity Consultants. Previously, he was Regional Director for Trinity's operations in the Middle-East. His work includes air quality permitting, air quality modelling, agency negotiations, due-diligence audits, GHG emissions inventories, regulatory compliance analyses, evaluation and specification of air pollution control equipment, continuous emission monitoring, and the development of custom application software for environmental compliance tracking.



**Dr Ji Ping Shi**

Senior Technical Specialist at Natural Resources Wales

Ji Ping has worked in the field of air quality for over twenty years. He received his PhD degree in Environmental Health at the University of Birmingham in 1996, and since then has worked as a Research Fellow at Birmingham University, a Technical Specialist at Environment Agency and currently he heads an Air Quality Modelling and Risk Assessment team in Natural Resources Wales. Ji Ping has interest in ultrafine particles in diesel emissions in the atmosphere, regulatory modelling and risk assessment. Ji Ping is a Fellow of the Institution of Environmental Sciences.



**Sofia Girnary**

Senior Advisor at Environment Agency

Sofia is a Senior Advisor within the Environment Agency's Air Quality Modelling and Assessment Unit (AQMAU), where she has worked since 2013. AQMAU is the Environment Agency's national focus of expertise on predictive modelling and assessment for air quality and noise, providing both leadership and operational support to internal and external stakeholders. The team helps to ensure that air quality modelling and assessments for permit applications, compliance, enforcement and incident investigations are consistent, of a high standard, and based on sound science.

Sofia graduated from the University of Reading with an MRes in Earth and Atmospheric Science in 2000. Prior to joining the Environment Agency, Sofia spent 4 years at CERC and 7 years delivering air quality, energy and environment projects at sustainable transport consultancy Transport Travel Research Ltd (TTR). She is a member of the IAQM Committee.



**Professor David Fowler**

Centre for Ecology and Hydrology

David has a first degree from the University of Nottingham in Environmental Physics. Following this he moved to the Atomic Energy Research Establishment at Harwell for his PhD research on the dry deposition of sulphur dioxide. In 1975, he joined the NERC Institute of Terrestrial Ecology in Edinburgh. The research at ITE began with Acid rain, investigating the sources, fate and effects of acidic pollutants in Europe and building a research group and has grown into related subjects including ozone, atmospheric aerosols and the effects of pollutants on ecosystems. The Research group has grown to 40 scientists and works extensively in the Global pollution hotspots of China, India and also works on the issues of climate change. David is an Honorary Professor of Environmental Physics at the University of Nottingham and was elected to the Royal Society of Edinburgh in 1999, the Royal Society of London in 2002 and was awarded a CBE for his research in Atmospheric Science in 2005.



**Dr Ben Marner**

Technical Director at Air Quality Consultants

Ben is the Technical Director at Air Quality Consultants Ltd. His PhD was in atmospheric chemistry, and he has 20 years' experience in the field of air quality. He has been responsible for air quality and greenhouse gas assessments of road schemes, rail schemes, airports, power stations, waste incinerators, commercial developments and residential developments in the UK and abroad. He has specific experience in the application of dispersion models and has contributed to the development of modelling best practices. He has provided public inquiry expert witness services, as well as support and advice to Defra, the Highways Agency, the Environment Agency, Transport Scotland, Transport for London, the Airports Commission, and numerous local authorities. Ben is currently a member of Defra's Network of Evidence Experts and of its Air Quality Expert Group.

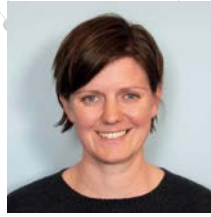


## Speakers



**Professor Alison Tomlin**  
Professor at University of Leeds

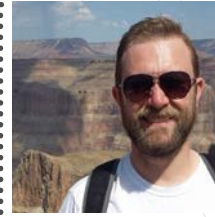
Alison is Professor of Environmental Modelling in the School of Chemical and Process Engineering at the University of Leeds. She has a BSc in Mathematics and the History and Philosophy of Science from the University of Leeds and a PhD from the School of Chemistry. She pursued post-doctoral research at Leeds and Princeton Universities before joining the engineering faculty at Leeds. Alison has a particular interest in the development of methods for tracking uncertainties within model predictions. She led the development of methods for the global sensitivity analysis of models as well as freely available software tools for the general application of such methods. She studied the sources of predictive uncertainty in models of alternative fuel oxidation, the reactive dispersion of pollutants such as NO<sub>2</sub> and wind energy resource predictions.



**Dr Catheryn Price**  
Senior Consultants at CERC

Catheryn is a Senior Consultant at CERC, where she has twelve years of experience, covering a diverse range of dispersion modelling projects, including industrial, transport and emergency release applications. As well as carrying out consultancy, she's involved in research projects, provides technical support as part of CERC's helpdesk for their range of dispersion models, and is an experienced trainer.

Catheryn has an MSc in Chemistry and Environmental Science and a PhD in Urban Tracer Dispersion.



**Dr Scott Hamilton**  
Principal Consultants at Ricardo

Scott has a PhD in environmental engineering and is currently the air pollution specialist and technical lead in Ricardo's team of air quality modelling scientists. He is currently writing python code to control urban air quality models.

Scott is a keen programmer and data scientist, writing programs that automate emissions, meteorological and dispersion modelling. He has written several GUI driven python programs to calculate vehicle emissions, automate met data gathering and processing in AERMET, run models in AERMOD and process their outputs. Scott is currently the lead developer of Ricardo's RapidAIR platform. He was co-nominated with Trudi Hannah for the Kantar Information Is Beautiful Award 2016- for a physical dispersion model of Glasgow with concentration isopleths made from wood and acrylic.



**Dr Austin Cogan**  
Senior Consultant at Air Quality Consultants

Austin has over nine years' experience in environmental sciences, is a Senior Consultant with AQC, and has over five years' experience in the fields of air quality modelling, monitoring and assessment. He studied at the University of Leicester, gaining two years' experience of scientific instrument design and spent four years pioneering research in satellite observations of carbon dioxide, including data validation, model comparisons, bias correction and software development. Ben has since been involved in air quality, odour and climate change assessments of residential and commercial developments, road schemes, airports, power stations, waste management processes, and industrial processes. He has also been involved in the analysis and interpretation of air quality data and the preparation of review and assessment reports for local authorities. He has undertaken a number of large-scale modelling projects for local authorities investigating the impacts of action plan measures and Local Plan development.



**Ruth Shilston**  
Senior Engineer and Project Manager at RWDI

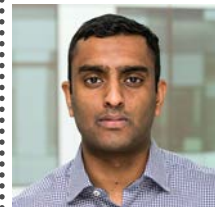
Ruth is a member of RWDI's Building Science team. She specialises in both computational and physical modelling of climatic flows around buildings. She regularly undertakes wind and exhaust re-entrainment assessments to develop the design of buildings and spaces so that they are suitable for their climate and comfortable for people. In addition, she ensures that projects comply with UK and global planning regulations. Recently, Ruth along with others at RWDI undertook a project looking at the comparative use of wind tunnel testing and computational modelling to assess pedestrian wind comfort and safety within the UK planning context. The output from this work will be a series of guidelines published by the City of London. Ruth joined RWDI in 2014, having spent 8 years working in Arup's Building Physics Team. She has a First Class MEng degree in Engineering Design from Bristol University and is a Chartered Engineer.



**Rosie Davies**  
Environmental Consultant at Arup

Rosie is a consultant with the air quality team at Arup. She is involved in air quality monitoring and modelling, specialising in atmospheric dispersion modelling for major infrastructure projects such as airports. She was a contributing author to the recently accepted paper "Assessing fugitive emissions of CH<sub>4</sub> from high-pressure gas pipelines in the UK" from her MSc in Geoscience.

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**Anusan Sugumaar**  
Senior Engineer at Arup

Anusan is a Chartered Engineer with over 7 years' industry experience. In 2015, he joined the Advanced Technology and Research group at Arup, having previously worked in the Aerospace sector with Rolls-Royce Plc. His experience is primarily in thermal and fluid modelling with the use of advanced numerical modelling, in particular Computational Fluid Dynamics. He has worked on a diverse range of projects, including internal building physics, external micro-climate and hydrodynamics.

## Exhibitors



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ACCELERATED

TSI Instruments has been a world leading manufacturer of precision measuring instruments for more than 50 years. We have been setting the standards for measurements related to environmental monitoring, offering a full suite of instruments for real-time and air quality sampling.

Researchers trust the TSI SMPs and CPCs for sub-micrometre particle research and monitoring. For environmental and process monitoring, thousands of people use TSI's trusted DustTrak™ products and IAQ probes every day.

Developed using the DustTrak technology, TSI's MCERTS certified Environmental DustTrak monitor offers a reliable and rugged solution for short-term or long-term outdoor surveys and remote monitoring applications. It measures particle mass concentrations corresponding to PM1, PM2.5, PM10 and Total size fractions.

For measurements below PM2.5 TSI also offers real-time mass size distribution measurements with its new Quartz Crystal Microbalance Impactor (QCM MOUDI™).

Our European service department based in High Wycombe (Bucks) ensures that our customers' instruments are calibrated and serviced according to manufacturer's standards in the shortest turnaround time.

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With over 100 man years of experience in Air Quality, and a comprehensive product portfolio, our Sales Team offers sound practical advice on measurement principles and applications.

New for 2018 is a direct reading Nitrogen Dioxide analyser, a real time metals analyser and an open path Ammonia monitor. These products have been sourced as a result of the growing interest in these areas of research.

At DMUG we will show AQMesh, the most talked about sensor based system of 2017 and demonstrate our universally compatible web based software solution. Compatible with all instrumentation used in the Air Quality sector it offers easy integration of data into external applications with the confidence that all date and time stamps are identical across all monitoring locations.

Not surprisingly, Air Monitors is the leading supplier of Air Quality monitoring instrumentation in the UK.

**+44 (0)1684 857530 | [enquire@airmonitors.co.uk](mailto:enquire@airmonitors.co.uk)**

# CAMBUSTION

Cambustion produce fast response emissions analyzers and with their millisecond response time, the accurate measurement of a vehicle's emissions can be identified with an accuracy of 14cm at 30mph via GPS. The data thus produced from a number of candidate vehicles show up the pollution "hot spots" within an urban environment with very good spatial resolution. For example, the spike of NOx produced from a vehicle travelling over a speed bump can be associated with a particulate house number. The data (from London and Cambridge) show road layouts which particularly exacerbate local pollution and vehicles which react badly to particular urban driving styles.

**+44 (0)1223 210250 | [cambustion@cambustion.com](mailto:cambustion@cambustion.com)**

## Delegates


A		H	
Peter Appelqvist	OP SIS AB	David Harvey	ADM
B		Katrina Hawkins	Smith Grant LLP
Kathryn Barker	RPS	Paul Hayward	BWB Consulting
Paul Beckett	Phlorum Ltd	Kiri Heal	Peter Brett Associates LLP
Robert Benney	Ricardo	Leon Hibbs	Reigate & Banstead Borough
Martin Broderick	Oxford Brookes University	Christina Higgins	RSK
Nick Brown	TSI	Simon Hill	South Oxfordshire District Council
John Bruce	DustScanAQ	Claire Holman	Brooks Cottage Consultants
Jack Buckley	Capita	K	
C		Robert Kennedy	Temple Group Ltd
Laurence Caird	Air Quality Consultants Ltd	L	
David Carruthers	CERC	Richard Lane	Temple Group Ltd
Stephen Carson	WSP	Guy Laister	Water Environment
Agnieszka Carvalho	TSI	Kieran Laxen	Air Quality Consultants Ltd
Ayan Chakravartty	DustScanAQ	Dewi Lloyd	Smith Grant LLP
Avril Challoner	AWN Consulting	Bengt Löfstedt	OP SIS AB
Angie Chan	WSP	M	
Mark Chapman	Cundall	Julian Mann	AECOM
Adam Clegg	Wood	Saba Manzoor	Jacobs
D		Carmen Martinez	South Oxfordshire District Council
Annie Danskin	ITP Energised	Josh McLaren	Atkins
E		Anna McMahon	RSK
Unam Ejaz	Peter Brett Associates LLP	Claire Meddings	BWB Consulting
Denise Evans	SRL Technical Services Ltd	David Monaghan	Create Consulting Engineers Ltd
F		Joanna Morgan	AECOM
James Ferguson-Moore	Transport Systems Catapult	Daniel Mullick	RSK
Rosie Flavell	Fichtner Consulting Engineers Ltd	N	
G		Noel Nelson	Met Office
Ioanna Gegisian	WSP	Steve Neville	City of London
Charlotte Goodman	Royal HaskoningDHV	Stuart Nock	Fichtner Consulting Engineers Ltd
Victoria Gouge	Ramboll UK	O	
David Green	Air Monitors	Laurence Opie	Aether

P	
Jack Pease	Air Quality Bulletin
Mark Peckham	Cambustion
R	
Elena Recio	Temple Group Ltd
Marko Ristic-Smith	Temple Group Ltd
Barry Roberts	WKC Group Ltd
S	
Xiangyu Sheng	Capita
Jennifer Simpson	SWECO
Srinivas Srimath	RSK
Piercarlo Smith	Jacobs
Chris Squires	WSP
Matthew Stooling	Isopleth Ltd
Victoria Sykes	Atkins
T	
Andy Talbot	WSP
Jesse Thé	Lakes Environmental
Cristiane Thé	Lakes Environmental
V	
Yves Verlinden	ERM
W	
Kathryn Woolley	SLR Consulting
David Wright	Capita
Thomas Wright	Arcadis

**Save the date**  
29th-30th October  
Birmingham Conference and Events Centre

**Routes to Clean Air**  
Air Quality Conference

 +44 (0)20 7601 1920

 [info@iaqm.co.uk](mailto:info@iaqm.co.uk)

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Institute of Air Quality Management  
c/o Institution of Environmental Sciences  
3rd Floor 140 London Wall  
London EC2Y 5DN