

AIRMON10

The 10th International Symposium on Modern Principles of Air Monitoring and Biomonitoring.

This symposium is the leading international forum at which recent progress in workplace, residential and environmental exposure assessment strategies and associated analytical air sampling and biomonitoring methodologies can be discussed. The symposium is supported by a consortium of European and International Institutes of Occupational and Environmental Health and Safety. AIRMON was first held in Geilo in 1993 followed by six further symposia held in Norway and Sweden before decanting to Marseille in 2014 and Dresden in 2017.

Now following a hiatus due to the pandemic AIRMON is coming to the historical city of Bristol where it will be hosted on behalf of this consortium by BOHS on 7th – 10th November 2022.

International Scientific Committee

Bálazs Berlinger	University of Veterinary Medicine, Hungary
Dietmar Breuer	Institut für Arbeitsschutz der DGU, Germany
Owen Butler	Health and Safety Executive, United Kingdom
Mariella Carrieri	University of Padova, Italy
Martin Harper	University of Florida, USA
Xavier Simon	Institut National de Recherche et de Sécurité, France
Nils Petter Skaugset	National Institute of Occupational Health, Norway
Yngvar Thomassen	National Institute of Occupational Health, Norway

Local Organising Committee

Owen Butler	Health and Safety Executive, United Kingdom
Kate Jones	Health and Safety Executive, United Kingdom
Marie Townshend	British Occupational Hygiene Society, United Kingdom

Building upon previous successful conferences, an exciting programme is planned which combines thought-provoking keynote presentations with accompanying oral presentation sessions. Presentations from students or early-career researchers are warmly encouraged. Workshops and short training courses, delivered by experts in their field, are an integral component of this event. There will be ample opportunities for viewing posters during break-out sessions so facilitating discourse between researchers. As in previous symposia, no parallel lectures sessions are planned, as it is a long-standing opinion that this single stream event promotes a better awareness, connectivity and understanding between the various scientific disciplines in attendance. The language of the symposium will be English.

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Conference Programme Day 1 - Monday 7th November

09:00 - 10:45 Registration/ Poster Setup

10:45 - 11:00 Welcome

11:00 - 11:30 **Keynote**
Jim Vincent Memorial Lecture. John Cherrie

Session 1 - Air Sampling

11:30 - 11:50 Development of high volume personal aerosol samplers. Carsten Möhlmann

11:50 - 12:10 Validation of diffusive sampling methods for accurate low-dose benzene exposure assessment, inhalation monitoring Laura Zaratin

12:10 - 12:30 Application of CFD simulation for development cyclone samplers. Dzmitry Misiulia

12:30 - 12:50 Laboratory performances of the CIP 10 personal aerosol sampler for the collection of submicron particles. Xavier Simon

12:50 - 13:00 Exhibitor Slots.

13:00 - 14:00 Buffet Lunch, Exhibition and Poster Viewing

Session 2 - Air Sampling /Isocyanates

14:00 - 14:20 High-sensitivity monitoring for airborne asbestos fibres. Adrian Watson

14:20 - 14:40 Application of End-of-Shift Respirable Crystalline Silica Monitoring to Construction. Martin Harper

14:40 - 15:00 Isocyanates aerosols sampling for occupational exposures assessment. Marianne Guillemot

15:00 - 15:20 Total Reactive Isocyanate Group (TRIG) Measurement – a Commentary. Paul Johnson

15:20 - 16:00 Afternoon Break, Exhibition and Poster Viewing

16:00 - 17:30 International Sampler Intercomparison Workshop .

17:30 - 19:00 Drinks Reception and Poster Viewing

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Conference Programme Day 2.- Tuesday 8th November

08:30 - 09:00 Registration

09:00
- 10:30

Session 3 - Exposure Modelling

09:30 - 09:50

Novel Stoffenmanager® algorithms for quantitative estimation of exposure to respirable dust and quartz in construction, formulating and metal manufacturing industry.

Hicham
Zilaout

Martin
Harper

PDC

09:50 - 10:10

Systematic review of validation studies of the ECETOC Targeted Risk Assessment v3 tool for worker exposure estimation under REACH.

Jan
Urbanus

PART 1
Aerosol
Sampling
Methods
Update

10:10 - 10:30

Local Scale Exposure and Fate of Engineered Nanomaterials.

Mikko
Poikkimäki

10:30 - 11:00 Coffee Break, Exhibition and Poster Viewing

Session 4 - Biological Monitoring

11:00 - 11:30

Keynote - Should we rely on air monitoring? What can biomonitoring bring to the party?

Ovnair
Sepai

11:00 -
13:00

11:30 - 11:50

Effects of Rome Lockdown during Covid-19 pandemic on urinary exposure biomarkers of urban pollutants.

Ottavia
Giampaoli

Martin
Harper

11:50 - 12:10

Occupational exposure to metals among battery recyclers in France: biomonitoring and external dose measurements.

Ogier
Hanzer

PDC

12:10 - 12:30

S-phenyl mercapturic acid as urinary biomarker of indoor exposure in children.

Radu -
Corneliu
Duca

12:30 - 12:50

Monoclonal antibodies for 1-Hydroxypyrene Glucuronide (1-OHPyrG), Lateral Flow (LF) tests and the development of on-site Polycyclic Aromatic Hydrocarbon (PAH) biomonitoring

Lathan
Ball

PART 2
Aerosol
Sampling
Methods
Update

12:50 - 13:00 Exhibitor Slots

13:00 - 14:00 Buffet Lunch, Exhibition and Poster Viewing

Session 5 - Application of Sensors

14:00 - 14:30	Keynote - Creative use of sensors: Modern art for the industrial hygienist.	Tom Peters
14:30 - 14:50	'Remote Workplaces' – how wirelessly connected wearable monitoring devices provide insight and context to the occupational hygienist on potential workplace exposures.	Aleks Todorovic
14:50 - 15:10	Can low-cost sensor networks help occupational hygiene?	Mikko Poikkimäki
15:10 - 15:30	Applying low-cost particulate matter sensors for characterizing occupational exposure; findings from field studies in different industries	Sander Ruiter
15:30 - 16:00	Break, Exhibition and Poster Viewing	
16:00 - 17:30	<i>Workshop</i> Low cost particulate matter sensors in the workplace	<i>Workshop</i> Measurement Uncertainty for Air Monitoring Methods.
17:30	Conclude for the day	

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Conference Programme Day 3 - Wednesday 9th November

08:30 - 09:00 Registration

Session 6 - New Instrumental Measurement Approaches

09:00 - 09:30	Keynote - A new aerosol mass spectrometer for the simultaneous detection of polyaromatic hydrocarbons and inorganic components from individual airborne particles.	Ralf Zimmermann
09:30 - 09:50	Comparison of Ni Speciation using Methods of Sequential Leaching and Quantitative Mineralogy for Workplace aerosol at a Stainless Steel Plant.	Steven Verpaele
09:50 - 10:10	Single particle inductively coupled mass spectrometry: Exploring the possibilities for exposure science.	Jackie Morton
10:10 - 10:30	Development of a new XRD method to evaluate exposure to respirable TiO ₂ in workplace air.	Pieter Bertier
10:30 - 10:50	A new Raman Spectroscopy approach for the measurement of respirable crystalline silica aerosols collected onto filters: Practical considerations and advantages.	Peter Stacey

10:50 - 11:20 Coffee Break, Exhibition and Poster Viewing

Session 7 - Particle Exposure and Control

11:20 - 11:40	Trends in variability of respirable dust and quartz concentrations in the European industrial minerals sector over a 17-year period (2002-2018).	Hans Kromhout
11:40 - 12:00	Evaluation of work-related exposures to the inhalable and respirable dust fraction and to respirable quartz	Dorothea Koppisch
12:00 - 12:20	Workers' exposure to respirable and inhalable particles during filling of containers with bulk material and efficacy of protective measures.	Ralph Hebisch
12:20 - 12:40	A performance testing protocol for closed system transfer devices used during pharmacy compounding and administration of hazardous drugs.	Ian Pengelly
12:40 - 12:50	Exhibitor Slots	

12:50 - 14:00 Buffet Lunch, Exhibition and Poster Viewing

Session 8 - Metals/Reference Materials

14:00 - 14:20	Optimization of the preparation of cascade impactors collection media for airborne metallic ultrafine particles sampling.	Virginie Matera
14:20 - 14:40	Platinum Speciation in Air Samples.	Raquel Garcia Sanchez
14:40 - 15:00	Influence of storage conditions on the evaluation of metal bioaccessibility and oxidative potential of welding fumes	Virginie Matera
15:00 - 15:20	Reference Materials for the Measurement of Metals in Workplace Air.	Cornelia Wippich
15:20 - 15:40	Constant emitting reference material for material emissions test procedures.	Christoph Grimmer
15:40 - 16:00	Break, Exhibition and Poster Viewing	

Session 9 - Sensor/Sampler Evaluation Systems

16:00 - 16:30	Keynote Air Sensor Performance Testing in the AQ-SPEC Program (Virtual Presentation)	Vasileios Papapostolou
16:30 - 16:50	A novel controlled test atmosphere generation system for the exposure assessment method setup and validation	Eddy Langlois
16:50 - 17:10	Development and characterization of a generation system for airborne diisocyanates	Simon Aubin
17:10 - 17:30	Low-Cost PM Sensor Performance Testing.	Chih-Chieh Chen
17:30	Conclude for the day	

19:00	Reception/Dinner
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Conference Programme Day 4 - Thursday 10th November

Session 10 - Biological Agents

09:30 - 09:50	Fungi and mycotoxins occupational exposure – Unveiling the contamination in different settings from Portugal.	Carla Viegas
09:50 - 10:10	Standardization of Devices, Methods and Units of Measurement of Infectious and Non-infectious Bioaerosols in the Workplace: Literature Review.	Stephen Larson
10:10 - 10:30	Abundance and diversity of microbial community in bioaerosol samples taken from a French cheese dairy.	Lise Alonso
10:30 - 10:50	Morning Break, Exhibition and Poster Viewing	
10:50 - 11:10	Workplace air standardisation projects related to biological agents at European level : recent history and perspectives.	Philippe Duquenne
11:10 - 11:30	Occupational exposure to different microbial species and endotoxin and serum levels of markers of inflammation – across working environments.	Anne Mette Madsen
11:30 - 12:00	Keynote - Bioaerosols associated with waste and recycling – balancing the circular economy with occupational health and safety	Brian Crook
12:00 - 12:30	Best Poster Award. Conference Summation. Next AIRMON Acknowledgments. Goodbyes	
12:30	Lunch	

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Poster Presentations

Title	Presenter	Country
Correlation of measured gas concentrations in four-gas alarm equipment data in wastewater related work.	Åse Dalseth Austigard	Norway
Improved evaluation of Hydrogen Sulphide (H ₂ S) exposure by use of index compared to Time Weighted Average (TWA).	Åse Dalseth Austigard	Norway
Reducing exposure to Respirable Crystalline Silica in the construction and minerals industry by using wearable real time respirable dust monitors.	Linda Furnell.	UK
The development and characterisation of novel monoclonal antibodies (Mabs) for 1-Hydroxypyrene Glucuronide (1-OHPyrG) determination and Polycyclic Aromatic Hydrocarbon (PAH) biomonitoring.	Lathan Ball	UK
Laboratory evaluation of Low-Cost Optical Particle Counters for occupational respirable exposure measurements.	Delphine Bard	UK
Characterisation and modification of the porous metal foams used for the EN 15051-2 dustiness rotating drum test.	Delphine Bard	UK
Evaluation of the performance of a robotic system for spiking thermal desorption sorbent tubes with defined masses of organic compounds.	Veronica Brown	UK
What's in the air we breathe? Chemical fingerprinting of organic species in PM _{2.5} by TD-GC×GC-TOF MS.	Hannah Calder	UK
Advanced solutions for comprehensive ambient air monitoring.	Hannah Calder	UK
The Role of Passive Sampling in Environmental Monitoring – Theory & Recent Advancements.	Josh Marshall	UK
Microbial contaminants and pro-inflammatory properties of organic dust from different occupational settings.	Marcin Cyprowski	Poland

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Poster Presentations

Title	Presenter	Country
Contribution of a multi-exposure measurement strategy on the documentation of cheese workers' exposures to biological and chemical agents.	Philippe Duquenne	France
Simultaneous analysis of acetone, methylethylketone, methylisobutylketone and cyclohexanone in urine by headspace coupled with gas chromatography and mass spectrometry.	Amandine Erb	France
Bioaerosol exposure in automated and traditional waste sorting plants.	Elke Eriksen	Norway
Occupational exposure to asbestos.	Torunn Ervik	Norway
Portable measurement of preservatives in air using new SPE-discs.	Anne Farbrot	Sweden
p-Cymene Formation by Oxidation of Cyclohexadiene Monoterpenes – A Pitfall in Air Sampling of Terpenes.	Jürgen Fauss	Germany
Gas phase polycyclic aromatic hydrocarbon exposure in Kenyan households.	Patricia Forbes	South Africa
Improvements to a method for the determination of hexavalent chromium in workplace air.	James Forder	UK
Strategy for assessing exposure of ship painters to a mixture of organic solvents.	Giovanna Tranfo	Italy
PAH exposure during construction of railroad swithes with creosote impregnated ties.	Pål Graff	Norway
Investigation of workplace silica exposures using novel samplers and methods.	Samantha Hall	UK
Effectiveness of protective measures - Diesel exhaust in garages of fire Engines vehicles and rescue services.	Ralph Hebisch	Germany

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Poster Presentations

Title	Presenter	Country
A laboratory procedure and a recording system for the maintenance of personal, hand-held and benchtop time-resolved aerosol instruments.	Graeme Hunwin	UK
Monitoring with a purpose: Using biological monitoring as evidence for reductions in exposure and risk.	Kate Jones	UK
Nanoparticle exposure assessment.	Rikke Bramming Jørgensen	Norway
Application of Quantitative Mineralogy to Determine Sources of Airborne Particles at a European Copper Smelter.	Michelle Kelvin	Canada
Nickel exposure during abrasive tasks – influence of the nickel content of the material.	Dorothea Koppisch	Germany
An alternative method for measuring the pulsation of personal sampling pumps.	Eddy Langlois	France
Optimization of the measurement method for airborne endotoxins in workplace atmospheres: a laboratory and field study.	Pauline Loison	France
Comparison of different methods for measuring elemental carbon as a marker of exposure to diesel fume.	Owen Butler	UK
Comparing various size fractions collected using DustTrak and gravimetric samples.	Therese Nitter Moazami	Norway
Performance of analytical laboratories undertaking silica on filter analysis: What Proficiency Testing Data Tells Us.	Darren Musgrove	UK
Elemental screening of welding fumes by ED-XRF using a standardless calibration algorithm.	Darren Musgrove	UK
Evaluation of high efficiency nebulisers to increase the sensitivity of the ICP-AES technique promulgated in ISO 15202.	Darren Musgrove	UK
An exposure assessment of dust- and respirable quartz levels during indoor renovations.	Johanne Østereng Halvorsen	Norway

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Poster Presentations

Title	Presenter	Country
A performance testing protocol for closed system transfer devices used during pharmacy compounding and administration of hazardous drugs.	Ian Pengelly	UK
Urinary biomarkers of benzene exposure and oxidative damage in residents of the oil extraction area of Muanda, DR Congo.	Radu - Corneliu Duca	Luxembourg
Fipronil in vitro metabolism revisited: microsomal incubations, electrochemistry, and their relevance to human biomonitoring.	Wojciech Rodzaj	Poland
Evaluation of the effectiveness of a new technical solution to reduce dust emission from road planers.	Virginie Matera	France
Evaluation of occupational exposure to Respirable Crystalline Silica in processing of Artificial Stone.	Fabiola Salamon	Italy
Quality assured uptake rates for passive sampling of indoor air VOCs.	Florian Schühle	Germany
Lightweight Air Sampling Badge for Material-Specific Monitoring of Workplace Aerosol Exposure.	Kevin Schweinar	Switzerland
Performances of low-cost sensors exposed to airborne NOAA powders.	Xavier Simon	France
A new dichotomic personal sampler for semi-volatile aerosols named "PPAS" for a better exposure assessment of the workers.	Xavier Simon	France

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Poster Presentations

Title	Presenter	Country
A review of factors influencing passive sampler performance in outdoor workplaces with a focus on benzene.	Jan Urbanus	Netherlands
Interpretation of occupational biomonitoring data of 1,3-butadiene exposure in the form of urinary markers and estimation of urinary half-lives.	Jan Urbanus	Belgium
Portuguese groceries: A potential indoor environment to be used as Public Health sentinel for fungal and mycotoxins contamination.	Carla Viegas	Portugal
Is the UK's air pollution monitoring network fit for purpose? An investigation into the variability of urban air pollution.	Jordan White	UK
Estimating respirable dust exposure from inhalable dust exposure.	Cornelia Wippich	Germany