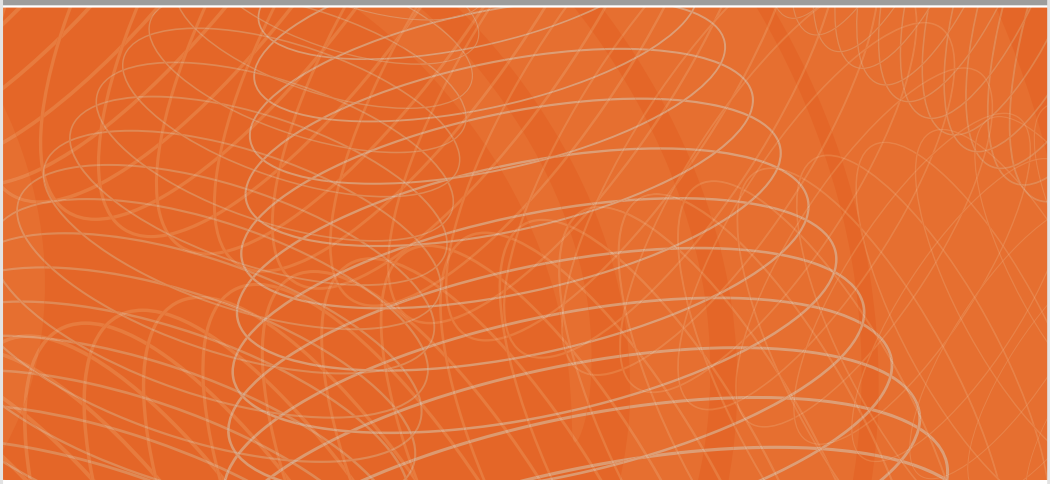
Karlsruhe Institute of Technology

European Federation of Clean Air and Environmental Protection Associations (EFCA) International Symposium

Ultrafine Particles – Air Quality and Climate

Brussels, Belgium
May 15 and 16, 2019

PROCEEDINGS



EFCA

Venue

Representation of the State of
Baden-Württemberg to the EU
Rue Belliard 60-62
B-1040 Brussels, Belgium

Baden-Württemberg
VERTRETUNG DES LANDES BEI DER EUROPÄISCHEN UNION

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PRESENTATIONS

Opening Plenary

Representative of the State of Baden-Württemberg | Bodo Lehmann
EFCA President | Andrzej Jagusiewicz
GUS President | Karl-Friedrich Ziegahn
Symposium Chairman | Thomas Leisner

Session A – Keynotes | Session Chair: Thomas Leisner

The role of black carbon in cloud formation and climate
Ulrike Lohmann, ETH Zürich, Switzerland

Session B – UFP Sources | Session Chair: Ulrike Lohmann

B.1 Aviation emissions transport and long-term characterization of ultrafine particles in and around airports. Introduction of the project AVIATOR.
Devora Hormigo, Turbojet Engine Test Centre – INTA, Spain

B.2 Ultrafine particles around a major airport–attempt to model total ultrafine particle number concentration around Frankfurt Airport
Ulf Janicke, Janicke Consulting, Germany

B.3 Ultrafine particles in the lower troposphere: major sources, invisible plumes and meteorological transport processes
Wolfgang Junkermann, Karlsruhe Institute of Technology, Germany

B.4 Exposure to nanomaterials in consumer spray products available in the UK
Rachel Smith, Public Health, United Kingdom

Session C – Keynotes | Session Chair: Karl-Friedrich Ziegahn

Aerosol 3D Profiling Using Compact Particle Measuring Instruments with Balloon and Drone System
Kang Ho AHN, Hanyang University, Korea

Session D – Ambient UFP Measurements | Session Chair: Harald Saathoff

D.1 Ambient UFP Measurements – Options & Limitations of current measurement techniques
Frederik Weis, Palas GmbH, Germany

D.2 Monitoring of ultrafine particles in French regional air quality network
Shouwen Zhang, Atmo Hauts-de-France, Lille, France

D.3 Pro-inflammatory responses to PM0.25 from airport and urban traffic emissions at submerged cell-culture conditions: A comparison with air-liquid interface (ALI) culture
Rui-Wen He, RIVM, The Netherlands

D.4 Persistent pollution with dangerous nanoparticles in Austrian hospitality venues
Manfred Neugerger, Medical University of Vienna, Austria

Session E – Urban UFP | Session Chair: Cordana Pehnec

E.1 Characterisation of light-absorbing atmospheric particles in the Brussels sub-urban atmosphere
Alexander Mangold, Royal Meteorological Institute of Belgium, Belgium

E.2 Ultrafine Particles in Mexico City Metropolitan Area: a review
Beatriz Cardenas, World Resources Institute, Mexico

1E.3 New tools for assessing personal exposure near urban air pollution hotspots
George N. Tsegas, Aristotle University of Thessaloniki, Greece

E.4 Unlinking summer new particle formation and high ozone episodes
Cristina Carnerero, IDAEA-CSIC, Barcelona, Spain

E.5 Assessment of Personal Exposure to Particulate Emissions in Urban Microenvironments
Rajasekhar Bala, National University of Singapore, Singapore

Session F – Posters & Buffet

F.1 MASS CONCENTRATIONS OF WATER–SOLUBLE IONS IN PM2.5 PARTICLE FRACTION MEASURED AT URBAN BACKGROUND SITE IN CROATIA
Mirjana Cackovic, Institute for Medical Research and Occupational Health, Zagreb, Croatia

F.2 Metal bioaccessibility and oxidative potential of PM2.5 in Northern France
Lamia Moufarrej, UCEIV, Dunkerque, France

F.3 Light absorbing properties of particles extracted from snow samples
Claudia Linke, Karlsruhe Institute of Technology, Germany

F.4 Nanoparticle Release from Thermal Decomposition od Polymer Nanocomposites and the Biological Potential of the Emissions
Sonja Mühlhopt, Karlsruhe Institute of Technology, Germany

F.5 Novel Method to analyse Ultrafine Particles using an artificial Intelligence Approach
Noor Zaitun Yahaya, Malaysia University, Terengganu, Malaysia

F.6 Use of new measurement device to build a high-resolution network in Augsburg city – Smart Air Quality Network-Project
Josef Cyrys, Helmholtz Zentrum München, Institute of Epidemiology, Neuherberg, Germany

F.7 Personal exposure of urban traffic policeman in the Klang Valley to benzene. Health Risk Prediction and Chromosomal Damage
Juliana Jalaluddin, University Putra, Malaysia

Session G – Keynotes | Session Chair: Flemming Cassee

G.1 Keeping science in UFP policy making – lessons learned from "fake news" spread by (a few) German mass media
Nino Kuenzli, Swiss Tropical and Public Health Institute, Basel, Switzerland

Session H – Keynotes | Session Chair: Flemming Cassee

H.1 Thinking outside the box: how to use the existing science on ultrafine particles to protect against them?
Lidia Morawska, Queensland University of Technology, Brisbane, Australia

Session I – UFP toxicity and epidemiology | Session Chair: Lidia Morawska

I.1 Fine and ultrafine particles from indoor sources – Effects on healthy humans in a controlled exposure study and on lung epithelial cells in vitro
Roel Schins, Leibniz Research Institute for Environmental Medicine, Germany

I.2 Chemical characterization and in vitro toxicity on human bronchial epithelial cells BEAS-2B of PM2.5 from an urban site under industrial emission influence
Dominique Courcot, UCEIV, Dunkerque, France

I.3 Toxicity of quasi-ultrafine and fine particles: focus on the effects of PM2.5 organic extractable and non-extractable matter fractions
Ghidaa Badran, UCEIV, Dunkerque, France

I.4 TESTING OF AEROSOLS FOR LUNG TOXICITY BY IN-VITRO STUDIES AT THE AIR-LIQUID INTERFACE FOR UP TO 24 HOURS
Sonja Mülhopt, Karlsruhe Institute of Technology, Germany

I.5 Long-term exposure to ultrafine particles and incidence of cardiovascular and cerebrovascular disease in the EPIC-NL cohort
George Downward, Utrecht University, The Netherlands

Session J – Integrating actions and soot | Session Chair: Thomas Reichert

J.1 Investigation of UFP-Distributions with Stationary and Mobile Measurements at the Düsseldorf Airport
Konradin Weber, Hochschule Düsseldorf, Germany

J.2 New Periodical Technical Inspection (N-PTI) for LDV and HDV to guarantee emission quality
Andreas Mayer, VERT, Switzerland

J.3 Externalities and opportunities – impact of new transport & heating solutions on air quality in our cities
Marcin Lewenstein, EIT Inno Energy, Poland

J.4 UFP-Integrating action for cleaner air and climate protection
Andrzej Jagusiewicz, EFCA President, Poland

Panel Discussion – Policy Follow up on Ultrafine Particle Regulation
Session Chair: Flemming Cassee

Andrzej Jagusiewicz
EFCA President, Poland

Lidia Morawska
Queensland University of Technology, Brisbane, Australia

John Murlis
Environmental Protection UK and EFCA

Nino Künzli
Swiss Tropical and Public Health Institute, Basel, Switzerland

Conference Report

Dr. Harald Saathoff, KIT, on behalt of the Organising Committee

Organisations at Exhibition

ETS - European Tech Serv NV **www.etserv.be**
Envicontrol - environmental technologies **www.envicontrol.com**
Palas GmbH **www.palas.de**
Envilyse GmbH **www.envilyse.de**
Grimm Aerosol Technik Ainring GmbH & Co. KG **www.grimm-aerosol.com**
European Partnership for Cleaner Skies **www.cleansky.eu**

HOST ORGANIZATIONS

KIT | Karlsruhe Institute of Technology
Karlsruhe Institute of Technology (KIT) pools its three core tasks of research, higher education, and innovation in a mission. The KIT Climate and Environment Center develops strategies and technologies to secure the natural bases of life.
www.kit.edu

EFCA | The European Federation of Clean Air and Environmental Protection Associations aims at encouraging professional activity in Europe while working at the interface between science and (European) policy on environmental problems.
www.efca.net

GUS | Gesellschaft für Umweltsimulation e.V. (Society for Environmental Engineering). It is the organization of people, institutions and companies who work in environmental engineering and testing. Since 1969, GUS supports the development of environmental engineering on a non profit basis.

www.gus-ev.de

CEEES | The Confederation of European Environmental Engineering Societies
is the umbrella organisation of national technical societies for environmental engineering and testing. CEEES promotes technical advisory boards, seminars and conferences with the support of national member societies.
www.ceees.org