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Preface

Ladies and Gentlemen, Dear Participants,

Traffic emissions and air quality have been topics for several decades already. Many improvements were achieved by a better control of combustion and appropriate aftertreatment systems. These achievements however were beaten out to a certain extent by the growth of traffic and of vehicle size and weight, such that in many “hot spots” local air quality is not satisfactory and mostly these hot spots are close to urban areas, where people live and work.

In parallel the global warming became a central environmental problem and traffic as a major contributor of CO₂ and other greenhouse gases is in focus in this discussion. On the side of impact this means that air quality research today shows two dimensions, the global one dealing with global warming, and the local one of polluting humans, animals, plants and soil. On the side of technology the researchers and car manufacturers are challenged by a variety of technologies and fuels all promising reduced greenhouse gas potential, for which engines and aftertreatment systems need to be developed to improve or at least keep the low unit emissions of the actual models.

All these open questions ask for new tools in measurement and simulation for two aspects: to understand the mechanisms that are not well known yet, as well as to develop the necessary technology on time. Thus, this field of traffic related air pollution will keep its actuality for the future.

The Transport and Air Pollution symposium provides a forum for a broad interdisciplinary research community for knowledge exchange at a scientific level. The French National Institute for Transport and Safety Research (INRETS), the Institute of Internal Combustion Engines and Thermodynamics at the University of Technology of Graz and formerly the National Centre of Air Pollution (NCAR) jointly organized the TAP conferences. Newly from this year on also Empa the Swiss research institute for Material Science & Technology and the EU Joint Research Centre (JRC) of Ispra are in this team of organisers.

This conference is the 18th in this Transport and Air Pollution series and we hope you will enjoy your visit to Zurich and Dübendorf. We hope that the conference will meet your expectations in promoting the scientific exchange, extending and strengthening of contacts.

The work of all contributing authors and the scientific committee is gratefully acknowledged. We also want to express special thanks to the staff organising this conference.

Christian Bach

Martin Weilenmann

Dübendorf, May 2010

Content

SESSION 1: ROADSIDE AND TUNNEL STUDIES.....	5
Real-Time Vehicle Emission Monitoring Along Roadsides.....	5
U. Stelwagen, R. De Lange, N.E. Ligterink, G.A. Klunder, A. Bigazzi, J.H. Duyzer, J. Van Baalen, R.T. Van Katwijk, M.C. Kruithof, S. van Ratingen, J.H. Weststrate, I.R. Wilmink	
Speed Dependence of NO₂/NO_x Emission Ratio?	11
J. Thudium, R. Alvarez, M. Weilenmann	
Emission factors for paved and unpaved roads - validation by tunnel and field measurements	17
P. J. Sturm, M. Henn and G. Bachler	
Interaction between Road Pavement and Tyre Studs Cause Emission of Nanoparticles	26
M. Gustafsson, G. Blomqvist, A. Gudmundsson	
SESSION 1: NON ROAD TRAFFIC EMISSIONS	32
ALSTOM Hybrid shunter locomotive	32
R. Hesnard & J. Oostra	
Remote Measurements of Ship Emissions: The SIRENAS-R Campaign.....	38
J. M. Balzani Lööv, B. Alfody, F. Lagler, J. Hjorth and A. Borowiak	
PARALLEL MONITORING CAMPAINES IN AN INTERNATIONAL ROMANIAN AIRPORT.....	44
F. Popescu, I. Ionel, C. Talianu, I. Belegante	
Ship Emissions Estimates based on AIS data	51
M. Winther, M.S. Plejdrup, J. Christensen, H.R. Olesen, T. Ellermann	
SESSION 2: EMISSION MEASUREMENT	58
Real-time Analysis of Aromatic Compounds in Vehicle Emissions by Resonance-enhanced Multiphoton Ionisation – Time-of-flight Mass Spectrometry (REMPI-TOFMS)	58
T. Adam, C. Astorga, G. Martini, A. Perujo, U. Manfredi, A. Krasenbrink, M. Sklorz, M. Elsasser, R. Zimmermann	
Particles emitted by 2- and 4-stroke engines: Aspects from chasing and test bench experiments	62
S. Weimer, R. Richter, C. Mohr, D. Schreiber, A.S.H. Prevot, M. Mohr, P. Dimopoulos Eggenschwiler	
Investigations of Diesel Emissions with DPF+SCR in VERTdePN	68
J. Czerwinski, Y. Zimmerli, N. Heeb, A. Mayer, G. D'Urbano	

Tailpipe emissions from garbage trucks in the metropolitan area of Milan, Italy and their evolution by 2010	74
P. Dilara, C. Pastorello, G. Martini, P. Bonnel, U. Manfredi	
 SESSION 2: AIR QUALITY MEASUREMENT AND MODELLING	80
Size resolved ultra fine particle model for a traffic tunnel	80
B. De Maerschalck, I. Nikolova, S. Jannssen, P. Vos	
Impact of roadside noise barriers on particle size distributions and pollutants concentrations near freeways	86
Zhi Ning, Neelakshi Hudda, Nancy Daher, Winnie Kam, Jo rn Herner, Kathleen Kozawa, Steven Mara, Constantinos Sioutas	
CO₂ Distribution and Transport in Urban Areas - A Task for High Resolution Urban CFD	93
A. Gartmann, M.D. Müller, R. Vogt, E. Parlow	
Modelling Estimation of the Contribution of the Road Transport to the Particulate Matter Concentration over Italy	99
A Balzarini, G. Pirovano, G.M. Riva, A.M. Toppetti	
 SESSION 3: ELECTRO AND HYBRID VEHICLES	105
Foresight of Electrictransport in France: an opportunity with a smart demand side management	107
Eric Vidalenc	
Electric vehicle and plug-in hybrid energy efficiency and life cycle emissions.....	113
H. Helms, M. Pehnt, U. Lambrecht and A. Liebich	
Life Cycle Assessment of Battery Electric and Internal Combustion Engine Drivetrains for a Small Passenger Car.....	125
A. Simons and C. Bauer	
Effect of Battery Performance on Determining CO₂ Emissions of Hybrid Electric Vehicles under Real-World Conditions	131
Robert Alvarez, Peter Schlienger, Martin Weilenmann	
 SESSION 3: SECONDARY POLLUTANTS AND EXPOSURE	140
Long-term trend of direct NO₂ emissions from urban road traffic in Zurich, Switzerland	140
Ch. Hueglin, Juerg Brunner, B. Bu chmann	
City-dwellers exposure to atmospheric pollutants when commuting in Paris urban area	145
H. Ravelomanantsoa, Y. Le Moullec, C. Delaunay, G. Goupil, S. Mazoué	
Modeling of Exposure to Highway Traffic Exhaust in Alpine Valleys in Switzerland.....	151
R. Ducret-Stich, HC. Phuleria, M. Ragetti, A. Ineichen, C. Schindler, L.-J. S. Liu	

SESSION 4: NEW TECHNOLOGIES 157

Performance of Clean City Bus Technologies in Real World Traffic157

S. Hausberger, W. Stadlhofer, J. Blassnegger, M. Rexeis, A. Flanschger

Emissions Control Systems and Climate Change Emissions164

J. May, D. Bosteels and C. Favre

Investigation of guanidinium formate as novel ammonia precursor compound for selective catalytic reduction of NO_x171

D. Peitz, O. Kröcher, M. Elsener

Combustion of mineral diesel and alternative fuels in a heavy duty on-road engine with combined NO_x and particle exhaust gas treatment177

P. Soltic, D. Edenhauser, T. Thurnheer, D. Schreiber, A. Sankowski

SESSION 4: EMISSION POLICIES 184

Effects of GHG-certificate trade on transport demand in Austria.....184

C. Link, J. Stark, R. Hoessinger, G. Sammer, G. Maier, J. Lechner, A. Sonntag

Air Quality Impact Assessment of the Environmental Zone in Copenhagen191

S.S. Jensen, M. Ketzel, J.K. Nøjgaard, P. Wåhlin

CO₂ Emissions and Daily Mobility: Factors for Change the Case of the Lyon Urban Area.....198

Louafi Bouzouina, Jean -Pierre Nicolas, Florian Vanco

SESSION 5: EMISSION MODELLING 1..... 205

Development and Evaluation of a Generalised Model for Traffic Induced Road Dust205

J. Berger and B. Denby

Potentials and Costs for GHG Mitigation in the Transport Sector.....210

J. Borken-Kleefeld, J. Cofala, P. Rafaj, F. Wagner and M. Amann

SESSION 5: BIOFUELS 1..... 216

Experimental evaluation of straight vegetable oil-diesel blends application on vehicle regulated and non-regulated exhaust emissions over legislated and real world driving cycles216

Georgios Fontaras, Marina Kousoulidou, Georgios Karavalakis, Stamoulis Stournas and Zisis Samaras

The Impact of Biodiesel Blends on Emissions223

Curt Robbins, S. Kent Hoekman, Amber Broch, Mani Natarajan and Alan Gertler

SESSION 6: EMISSION MODELLING 2 230

Uncertainty and Sensitivity Analysis of COPERT 4230

L. Ntziachristos, I. Kioutsioukis, C. Kouridis, D. Gkatzoflias, Z. Samaras, P. Dilara

**Coupling of microscale traffic and emission models to minimize emissions by traffic control systems
.....237**

M. Zallinger, R.Luz, S. Hausberger, K. Hirschmann and M. Fellendorf

Speed-time profiles as a basis for emission modelling of road traffic – the example of Munich244

R. Gerike and F. Hülsmann

SESSION 6: BIOFUELS 2..... 251

Carbonyl compounds in exhaust from alternative fuels used in modern engines and from two stroke mopeds.....251

C. Astorga, M. Clairotte, T. Adam, A. Farfaletti, G. Martini

Determination of VOC components in the exhaust of light vehicles fuelled with different biofuels...260

F. Cazier , A. Delbende , H. Nouali , B. Hanoune , D. Pillot, R.Vidon, P. Perret and
P. Tassel

**Emissions and fuel consumption of modern flexifuel and gasoline vehicles on various ethanol blends
.....267**

L. Pelkmans, G. Lenaers, J. Bruyninx, I. De Vlieger