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Preface

This volume contains the reviewed papers accepted for the Seventeenth International Conference on Modelling, Monitoring and Management of Air Pollution held in Tallinn, Estonia in July 2009. This meeting similarly to the previous meetings has attracted outstanding contributions from leading researchers in the field. All the presented contributions are permanently stored in the WIT eLibrary as Transactions of the Wessex Institute (see <http://library.witpress.com/>).

Air pollution is highly topical nowadays due to the increase in the number of emission sources and the significance that good quality air has on human health. The complexity of this topic is increased by the fact that air pollution generated locally can have an impact on a regional and in some cases even on a global scale. The contaminants emitted in one place can quickly disperse through the atmosphere and industrial activities in one country can affect the air quality in another. More accurate and reliable predictive models are necessary, which can be used to assess the influence of one or several sources of pollution on various end points. The improvements are possible through achieving better quantification of emission rates and more accurate information on composition of pollutants of various sources, improving transport models on a regional scale which can include accurate predictions on local scale where necessary, enhancing the knowledge on the chemical reactions transforming existing and creating new pollutants, deposition of particles, and improving the understanding of impact of separate pollutants and combinations of pollutants on human health and the environment.

The technology constantly brings new products to the consumers and with this comes the possibility of creating new contaminants. Perhaps a good example is the emerging industry producing nanoparticles. Although nanoparticles have always existed in the environment, only recently have people become concerned with their effect upon human health due to the increasing quantities being produced. The history of new products, e.g. asbestos, shows that sometimes whether one product represents a threat to human health, or commodity, depends only upon our level of understanding about the product properties. This indicates that technological

development will constantly demand research in the field of air pollution in order to better understand and prevent, or bring to acceptable levels, new pollution sources. The process of defining the acceptable levels is constantly demanding new research to understand better the impact of long term exposure to various pollutants, or mixtures where separate components can have synergistic effects. The improved knowledge on the effect of pollutants on human health forces periodic review of the regulations for air quality and emissions. Further research for improving, monitoring and detection technology is required in order to be able to verify that the current regulations for air quality are satisfied, and to identify areas where further improvements are required.

The papers in this volume address a wide range of topics including air management and policy, aerosols and particles, air pollution effects and environmental health, air pollution modelling, emission studies, global and regional studies, monitoring and measuring and pollution effects and reduction.

The Editors are grateful to all the participants for the quality of their contributions as well as the eminent members of the International Scientific Advisory Committee and other colleagues who reviewed the papers published in this volume.

The Editors
Tallinn, 2009

Contents

Section 1: Air pollution modelling

| | |
|--|----|
| Air quality in street canyons: a case study <i>F. Patania, A. Gagliano, F. Nocera & A. Galesi</i> | 3 |
| Use of CALPUFF and CAMx models in regional air quality planning: Italy case studies <i>C. Trozzi, S. Villa & E. Piscitello</i> | 17 |
| Numerical simulation of particle air dispersion around the landfill <i>N. Samec, M. Hriberšek & J. Ravnik</i> | 27 |
| Selecting a fast air quality calculator for an optimization meta-model <i>L. Aleluia Reis, D. S. Zachary, U. Leopold & B. Peters</i> | 39 |
| The role of meteorological factors on year-to-year variability of nitrogen and sulphur deposition in the UK <i>M. Matejko, A. Dore, C. Dore, M. Blás, M. Kryza, R. Smith & D. Fowler</i> | 51 |
| ZIMORA – an atmospheric dispersion model <i>H. R. Zimmermann & O. L. L. Moraes</i> | 63 |
| The application of GIS to air quality analysis in Enna City (Italy) <i>F. Patania, A. Gagliano, F. Nocera & A. Galesi</i> | 75 |

Section 2: Air management and policy

| | |
|---|----|
| Effects of road traffic scenarios on human exposure to air pollution <i>C. Borrego, A. M. Costa, R. Tavares, M. Lopes, J. Valente, J. H. Amorim, A. I. Miranda, I. Ribeiro & E. Sá</i> | 89 |
|---|----|

| | |
|---|-----|
| Exploring barriers to and opportunities for the co-management of air quality and carbon in South West England: a review of progress <i>S. T. Baldwin, M. Everard, E. T. Hayes, J. W. S. Longhurst & J. R. Merefild</i> | 101 |
| An urban environmental monitoring and information system <i>J. F. G. Mendes, L. T. Silva, P. Ribeiro & A. Magalhães</i> | 111 |
| Guiding principles for creating environmental regulations that work <i>T. S. Mullikin</i> | 121 |
| Atmosphere environment improvement in Tokyo by vehicle exhaust purification <i>H. Minoura, K. Takahashi, J. C. Chow & J. G. Watson</i> | 129 |
| Managing air pollution impacts to protect local air quality <i>C. Grant, R. Bloxam & S. Grant</i> | 141 |

Section 3: Emission studies

| | |
|--|-----|
| Application of mineral magnetic concentration measurements as a particle size proxy for urban road deposited sediments <i>C. J. Crosby, C. A. Booth, A. T. Worsley, M. A. Fullen, D. E. Searle, J. M. Khatib & C. M. Winspear</i> | 153 |
| Microbial and endotoxin emission from composting facilities: characterisation of release and dispersal patterns <i>L. J. Pankhurst, L. J. Deacon, J. Liu, G. H. Drew, E. T. Hayes, S. Jackson, P. J. Longhurst, J. W. S. Longhurst, S. J. T. Pollard & S. F. Tyrrel</i> | 163 |
| Annual study of airborne pollen in Mexicali, Baja California, Mexico <i>S. Ahumada-Valdez, M. Quintero-Nuñez, O. R. García-Cueto & R. Venegas</i> | 173 |
| Impact of road traffic on air quality at two locations in Kuwait <i>E. Al-Bassam, V. Popov & A. Khan</i> | 183 |
| Remote sensing study of motor vehicles' emissions in Mexican Cities <i>A. Aguilar, V. Garibay & I. Cruz-Jimate</i> | 193 |
| Correlations between the exhaust emission of dioxins, furans and PAH in gasohol and ethanol vehicles <i>R. de Abrantes, J. V. de Assunção & C. R. Pesquero</i> | 203 |

Section 4: Monitoring and measuring

| | |
|--|-----|
| Development of an automated monitoring system for OVOC and nitrile compounds in ambient air <i>J. Roukos, H. Plaisance & N. Locoge</i> | 215 |
| Multispectral gas detection method <i>M. Kastek, T. Sosnowski, T. Orżanowski, K. Kopczyński & M. Kwaśny</i> | 227 |
| Application of advanced optical methods for classification of air contaminants <i>M. Włodarski, K. Kopczyński, M. Kaliszewski, M. Kwaśny, M. Mularczyk-Oliwa & M. Kastek</i> | 237 |
| Electronic application to evaluate the driver's activity on the polluting emissions of road traffic <i>D. Pérez, F. Espinosa, M. Mazo, J. A. Jiménez, E. Santiso, A. Gardel & A. M. Wefky</i> | 247 |
| The importance of atmospheric particle monitoring in the protection of cultural heritage <i>I. Ozga, N. Ghedini, A. Bonazza, L. Morselli & C. Sabbioni</i> | 259 |

Section 5: Aerosols and particles

| | |
|--|-----|
| CFD modelling of radioactive pollutants in a radiological laboratory <i>G. de With</i> | 273 |
| Indoor aerosol transport and deposition for various types of space heating <i>P. Podoliak, J. Katolicky & M. Jicha</i> | 285 |
| Characterization of organic functional groups, water-soluble ionic species and carbonaceous compounds in PM ₁₀ from various emission sources in Songkhla Province, Thailand <i>K. Thumanu, S. Pongpiachan, K. F. Ho, S. C. Lee & P. Sompongchaiyakul</i> | 295 |

Section 6: Air pollution effects and environmental health

| | |
|---|-----|
| The relationship between air pollution caused by fungal spores in Mexicali, Baja California, Mexico, and the incidence of childhood asthma <i>R. A. de la Fuente-Ruiz, M. Quintero-Núñez, S. E. Ahumada & R. O. García</i> | 309 |
|---|-----|

| | |
|---|-----|
| Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States <i>C. Wu, L. Tam, J. Clark & P. Rosenfeld</i> | 319 |
| GHG intensities from the life cycle of conventional fuel and biofuels <i>H. H. Khoo, R. B. H. Tan & Z. Tan</i> | 329 |
| Some aspects on air pollution in historical, philosophical and evolutionary context <i>A. A. Berezin & V. V. Gridin</i> | 341 |
| Risk assessment of atmospheric toxic pollutants over Cairo, Egypt <i>M. A. Hassanien</i> | 353 |
| PBDEs and PCBs in European occupational environments and their health effects <i>I. L. Liakos, D. Sarigiannis & A. Gotti</i> | 365 |

Section 7: Global and regional studies

| | |
|--|-----|
| Improved modelling experiment for elevated PM ₁₀ and PM _{2.5} concentrations in Europe with MM5-CMAQ and WRF/CHEM <i>R. San José, Juan L. Pérez, J. L. Morant, F. Prieto & R. M. González</i> | 377 |
| Monitoring of PM ₁₀ air pollution in small settlements close to opencast mines in the North-Bohemian Brown Coal Basin <i>S. Hykyšová & J. Brejcha</i> | 387 |
| PAH concentrations and seasonal variation in PM ₁₀ in the industrial area of an Italian provincial town <i>M. Rotatori, E. Guerriero, S. Mosca, F. Olivieri, G. Rossetti, M. Bianchini & G. Tramontana</i> | 399 |

Section 8: Pollution effects and reduction

| | |
|--|-----|
| Influence of CO ₂ on the corrosion behaviour of 13Cr martensitic stainless steel AISI 420 and low-alloyed steel AISI 4140 exposed to saline aquifer water environment <i>A. Pfennig & A. Kranzmann</i> | 409 |
|--|-----|

| | |
|--|-----|
| Effects of flattening the stockpile crest and of the presence of buildings on dust emissions from industrial open storage systems <i>C. Turpin & J. L. Harion</i> | 419 |
| Synergies between energy efficiency measures and air pollution in Italy <i>T. Pignatelli, M. Bencardino, M. Contaldi, F. Gracceva & G. Vialeto</i> | 431 |
| Quantification of the effect of both technical and non-technical measures from road transport on Spain's emissions projections <i>J. M. López, J. Lumbreras, A. Guijarro and E. Rodriguez</i> | 439 |
| Author Index | 449 |