
Air Pollution XI

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Advances in Air Pollution

Objectives

The last decade has shown an increase in public and government concern around environmental issues due to air pollution, in particular that generated by man-made processes associated with the lifestyle of modern society. Pollution is widespread throughout the world and elimination of the risks to human health is of paramount importance.

Atmospheric pollution consists of the adverse effects of a variety of contaminants emitted into the atmosphere by natural and anthropogenic processes. These phenomena are complicated because an apparently inert contaminant can be transformed by chemical reaction into an adverse one, during its transport through the atmosphere.

Nowadays, the physical and chemical processes undertaken during an air pollution episode are to a large extent understood. The modelling of such processes has shown a constant and remarkable growth in the last three decades. Also, the development of efficient and economical monitoring devices has been very successful in recent years. Modelling and monitoring studies constitute only an initial activity. The results provide useful information for possible future implementation of emission regulations and control strategies.

The definition of efficient control strategies cannot be achieved without a good and clear knowledge of the complete pollution process, *i.e.* emission, transport and transformation.

Volumes in the series cover areas of current interest or active research in air pollution and include contributions by leaders in the field. Topics for the series consist of: air pollution assessment, management, monitoring and modelling; aerosols and particles; chemical transformation modelling; chemistry of air pollution; comparison of modelling with experiment; data analysis and observation; emission inventories; fluid mechanics for air pollution; global studies; health problems; indoor air pollution; laboratory studies; process studies; regulatory bodies; turbulence modelling at small and meso scales; urban air pollution, and urban and suburban transport emission.

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Published by

WIT Press

Ashurst Lodge, Ashurst, Southampton, SO40 7AA, UK

Tel: 44 (0) 238 029 3223; Fax: 44 (0) 238 029 2853

E-Mail: witpress@witpress.com

<http://www.witpress.com>

For USA, Canada and Mexico

Computational Mechanics Inc

25 Bridge Street, Billerica, MA 01821, USA

Tel: 978 667 5841; Fax: 978 667 7582

E-Mail: infousa@witpress.com

<http://www.witpress.com>

British Library Cataloguing-in-Publication Data

A Catalogue record for this book is available
from the British Library

ISBN: 1-85312-982-8

ISSN: 1369-5886

*The texts of the papers in this volume were set
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Preface

This book contains most of the papers presented at the 11th International Conference on Modelling, Monitoring and Management of Air Pollution, held in the City of Catania in September 2003. The meeting was organised by the Wessex Institute of Technology and the University of Catania.

The Conference follows a series of successful meetings started in Monterey, Mexico (1993), and continued in Barcelona, Spain (1994); Porto Carras, Greece (1995); Toulouse, France (1996); Bologna, Italy (1997); Genova, Italy (1998); San Francisco, USA (1999); Cambridge, UK (2000); Ancona, Italy (2001) and Segovia, Spain (2002).

The field of air pollution studies has experienced considerable advances in the last few years because of the increasing awareness of the many negative effects on health and the environment resulting from a variety of processes due to technical development. This has led to a large number of studies including analytical and experimental methods, trying to understand better the diverse phenomena involved, leading to reliable techniques for forecasting and to the developments of mitigation strategies. The conference presented the state of the art in this important field of research.

The meeting attracted a substantial number of contributors on topics ranging from experimental to computational techniques, leading to a better understanding and to the solution of practical air pollution problems. The Conference brought together scientists working in industry, research organisations and academia.

The papers covered a wide range of topics including:

- Air Pollution Modelling
- Aerosols and Particles
- Air Pollution Monitoring
- Chemistry of Air Pollution
- Emission Inventory
- Health Problems
- Indoor Pollution
- Monitoring and Laboratory Studies
- Pollution Engineering
- Urban and Suburban Air Pollution

The Editors are grateful to all the participants for the quality of their contributions as well as the members of the International Scientific Advisory Committee who helped to select the papers published in this volume.

Special gratitude is due to the organisations who have contributed to enhance the Conference by sponsoring different events, namely the University of Catania, its Engineering Faculty, DIIM (Catania), ISAB ENER spa, SIDRA SRL (Catania), CONTECT Eng. and AMT (Catania).

The Editors
Catania, 2003

Contents

Section 1: Air pollution modelling

Escompte 2001: multi-scale modelling and experimental validation <i>F. Cousin, P. Tulet & R. Rosset</i>	3
Exploring the use of soft-computing and artificial intelligence techniques in atmospheric pollution modelling <i>M. Cossentino, A. Damiani, S. Gaglio, F.M. Raimondi & M.C. Vitale</i>	11
Estimation of the height of the mixing layer using polonium concentrations in the atmosphere. An attempt at modelling. <i>L. Osrodka, E. Krajny, M. Wojtylak, K. Skubacz & J. Skowronek</i>	23
Fuzzy logic modelling of air pollution during Chinook winds <i>R. Mintz, B.R. Young & W.Y. Svrcek</i>	33
A 3D CNN-based approach to integrate the air pollution diffusion equation <i>G. Nunnari</i>	43
Micrometeorological database for air pollution modelling in the Mexico City metropolitan area <i>A. Salcido, A.T. Celada, R. Villegas, R. Sozzi & T. Georgiadis</i>	53
Air pollution monitoring and modelling in the urban area of Catania <i>V. Ferlito, G. Nunnary & C. Oliveri</i>	65
Environmental impact assessment of an industrial facility by means of Lagrangian particles and Gaussian models in complex terrain <i>C. Gariazzo, A. Pelliccioni, M.P. Blgliolo & G. Scalisi</i>	75
Evaluation of two street canyon air quality models using data from European cities <i>N. Aquilina & A. Micallef</i>	85
Importance of local meteorology in coastal ozone dynamics: a case study	

<i>R. Cocci Grifoni, L. Magnaterra, G. Passerini & S. Tascini</i>	95
Estimating biogenic contributions to ozone production at continental scale <i>S. Moukhtar, B. Bessagnet, P. Carlier, J.F. Doussin, L. Rouil & V. Simon</i>	105
Differential absorption lidar (DIAL) applied to the mapping of horizontal air pollution distribution: examples from measurement campaigns in the Czech Republic <i>A. Černý, P. Berger, M. Strížik, P. Engst & Z. Zelinger</i>	115
The conditional moment closure approach for atmospheric pollution problems <i>E. Mastorakos</i>	125
Analytic solutions of two coupled reaction-diffusion equations <i>P. Barrera, T. Brugarino & L. Pignato</i>	135
Air pollution modelling surrounding Serdang power station <i>Z. Zardi, A.A. Rahman & M.I. Aman</i>	143
A computational analysis of re-burn process in wood/sludge-fired stoker boilers <i>B. Rovagnati, P. Deb, S. Nester, J.K. Rabovitser & F. Mashayek</i>	153
Section 2: Aerosols and particles	
Fine particulate matter pollution of air in Tuscany <i>C. Grassi, M. Mazzini, L. Tognotti & M. Romanelli</i>	167
Emission inventory for fine dust in Flanders (Belgium) <i>L. Schrooten, H. Van Rompaey & I. De Vlieger</i>	177
Carbonaceous material in an Italian megacity: a brief overview <i>P. Avino & D. Brocco</i>	185
Chemical characterization of aerosol particles in Hong Kong <i>K.K.W. Ma & K.N. Yu</i>	193
Section 3: Air pollution monitoring	
Analysis of environmental time series in the frequency domain <i>R. Cocci Grifoni, L. Magnaterra, G. Passerini & S. Tascini</i>	203
Comparing neural networks and transfer function models for ozone forecasting <i>G. Latini, R. Cocci Grifoni, L. Magnaterra & G. Passerini</i>	213

Monitoring of biogenic emissions using remote sensing <i>E. Paliouras, K.P. Günther, S.W. Maier, P. Tungalagsaikhan, S. Fistic, K. Wisskirchen & T. Holzer-Popp</i>	223
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Section 4: Chemistry of air pollution

Estimation of biogenic emissions of non-methane volatile organic compounds from Catalonia <i>R. Parra & J.M. Baldasano</i>	235
Variation in PM ₁₀ chemical composition on low and high pollution days <i>A.R. Deacon & K.L. Smallbone</i>	245
Sulphur dioxide dry deposition flux and velocity in Northern Thailand <i>S. Thepanondh, M. Hooper & G. Ayers</i>	255
Influence of volcanic passive degassing on air quality in the Mt. Etna area <i>A. Aiuppa, S. Bellomo, W. D'Alessandro, M. Ferm & M. Valenza</i>	263
Trends in the base cation deposition in Finland <i>T. Ruoho-Airola & K. Salminen</i>	273

Section 5: Emission inventories

Emission inventories for organochlorine pesticides <i>Y.F. Li & S. Venkatesh</i>	285
The emission saving related to the use of renewable energy sources: the case study of solar thermal collectors <i>F. Ardente, G. Beccali, M. Cellura & V. Lo Brano</i>	295
Determination of multi-element profiles of street dust and road dust for Hong Kong <i>Z.L.L. Yeung & K.N. Yu</i>	305
The Finnish regional emission scenario model – a base year calculation <i>N. Karvosenoja & M. Johansson</i>	315

Section 6: Global and regional studies

Conceptual and institutional aspects in implementing an Emissions Trading scheme <i>A. Smajgl</i>	327
---	-----

An integrated meteo-diffusional modelling system to manage atmospheric pollution in the Tuscany region: a preliminary application in the Livorno industrial area
F. Calastrini & G. Gualtieri 337

Industrial emissions reduction potential by Best Available Technologies on national and local scale
C. Trozzi & M. Pantaleoni..... 349

On the significance of the atmospheric deposition to the eutrophication of the Baltic Sea
M. Hongisto 359

Section 7: Health problems

Adverse effects on people's health as a result of the Etna volcano eruption: singling out and precautionary controls
F. Patania, A. Gagliano, F. Nocera & G. Sciuto..... 373

Health effects of diesel exhaust
D. Duscio, L. Proietti, S. Giarrusso, R. Fantauzzo, V. Rapisarda & C. Calandra 387

Section 8: Indoor pollution

Bacteria removal and viability attenuation in a ventilation duct by means of an electrostatic barrier
L. Bontempi, M. Dottori, G. Fava & M.L. Ruello..... 403

Air quality and ductwork contamination: state of the art and guidelines
C. Carletti, G.F. Cellai, G. Raffellini & F. Sciarpi..... 413

Adsorption/desorption of volatile organic compounds on typical adsorbents
A.S. Elkilani, C.G.J. Baker & W.S. Bouhamra 423

Investigation of indoor air quality at residential houses in Agra, India – a case study
A.J. Lawrence, G.S. Satsangi & A. Taneja 433

Section 9: Monitoring and laboratory studies

Airport contributions to local air pollution case study: Rio de Janeiro International Airport
M.A. D'Agosto & S.K. Ribeiro 445

Chimney plumes simulation in the boundary layer wind tunnel

<i>M. Jirsak & R. Ulman</i>	455
Tourist use and moss contamination at Torres del Paine National Park, Chile <i>G.B. Wiersma, J.B. Wiersma & J.S. Elvir</i>	465
Investigation of the fly ash heavy metal pollution of plants in the basin of the West Macedonia Lignite Center (Greece) <i>L.I. Tsikritzis</i>	473
Preparation of the transport TiO ₂ film photocatalyst and its use for the photodegradation of VOCs <i>N. Negishi, K. Takeuchi & P. Pichat</i>	483
Section 10: Pollution engineering	
Improvement of pulse-jet cleaning of industrial filters <i>J. Hemerka, P. Vybiral & V. Adámek</i>	495
Integrated solid oxide fuel cell/microturbine power systems: status and prospective <i>E. Benini & P. Calza</i>	505
Catalytic reduction of N ₂ O exhaust diesel emissions by NaOH spray system <i>A. Sudrajat, N. Osami, F. Hirotsugu & H. Wataru</i>	515
Effect of sudden variations in operating conditions on biofilter performance <i>A. Elías, R. Arias, I. Cano, R. Gonzalez & A. Barona</i>	523
Optimal design of a settling chamber – an air pollution control device <i>R.C. Bhattacharjee</i>	531
Air curtain applied to fire smoke pollution control <i>F. Gugliermetti, L. Santarpia & G. Zori</i>	541
Tests on a small four-stroke engine using as fuel gasoline-bioethanol mixtures <i>C. Arapatsakos, A. Karkanis & P. Sparis</i>	551
Industrial air treatment – heterogeneous photocatalysis development <i>P. Monneyron, F. Benoit-Marquié, M.T. Maurette, M.H. Manero & J.N. Foussard</i>	561
Removal of pollutant mixtures from air streams with an indirect heating and cooling temperature swing adsorption process <i>M. Clause, J. Bonjour & F. Meunier</i>	571

Section 11: Urban and suburban air pollution

Studying the impact of urban sustainable transportation of Lisbon air quality <i>C. Borrego, M. Lopes, A.I. Miranda, J. Valente, J.C. Couto, A. Hauri, A. Dubois & L. Drouet</i>	583
Measurement of vertical number concentration profiles of airborne particles near an urban roadway <i>A. Micallef & J.J. Colls</i>	593
Gaseous ammonia from traffic emissions in the urban area of Rome <i>C. Perrino, M. Catrambone & A. Di Menno Di Bucchianico</i>	601
Reduction of the polluting emissions in urban areas acting on the transport systems: evaluation methods for the strategic planning <i>F.M.M. Cirianni, D.C. Festa & G. Mazzulla</i>	611
Emission and dispersion of PAHs from heavy traffic road <i>N. Ozaki, K. Nitta, T. Sugihara, T. Fukushima & T. Komatsu</i>	623
Study on effects of fluctuations in the wind direction on pollutant diffusion in urban areas <i>M.F. Yassin, S. Kato, R. Ooka, T. Takahashi & R. Kouno</i>	633
Environmental impact of electric cars in the urban area of Palermo <i>S. Salerno, P. Zito, M. Migliore & S. Amoroso</i>	643
Environmental issues in domestic boilers in real operating conditions <i>L. Marletta, G. Evola & F. Sicurella</i>	653
Influence on air pollution monitoring station by vehicular emissions determined using Geographic Information Systems (GIS) <i>B.T.Y. Wong, R.C.W. Kwok, A.K.M. Chu, T. Cheung & K.N. Yu</i>	663
Urban pollution: computational approaches for the modelling of pollution transport on local scale <i>G. de Felice, C. Mongiello, F. Murena & F. Vorraro</i>	673
Tomographic-DOAS: from sensing to visualisation of urban street canyon pollutants <i>S.O. Driscoll & N.J. Smith</i>	681

Section 12: Special contributions

The analysis of the fine and ultrafine dusts present in the atmosphere

<i>C. Giglioni & F. Patania</i>	695
Integrated gasification combined cycle: the last modern tool to solve air pollution coming from crude oil refining <i>G. Guarino & F. Patania</i>	701
Author index	707