

Volume 42

Issue 17

June 2008

ISSN 1352-2310

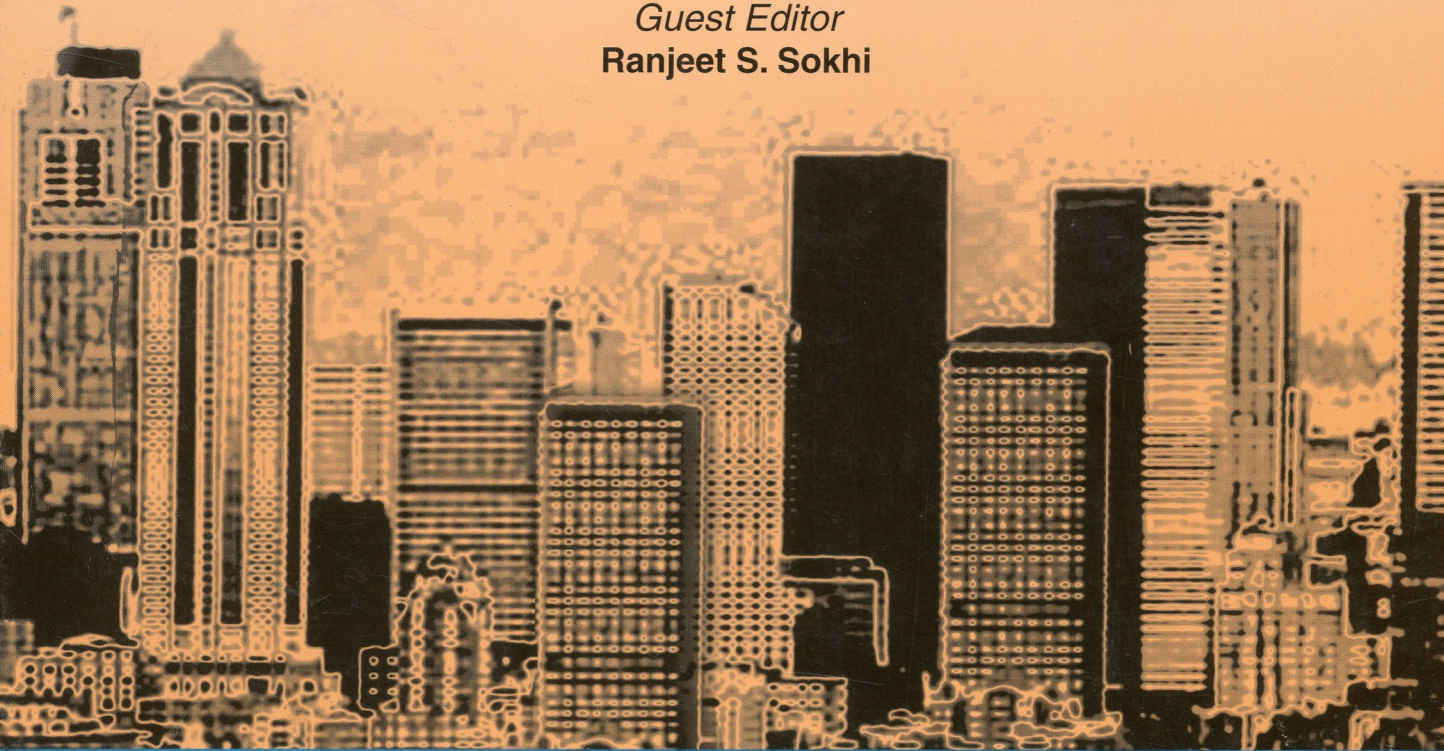
ATMOSPHERIC ENVIRONMENT

URBAN AIR QUALITY

Special Issue: Fifth International Conference on Urban Air Quality
29–31 March 2005, Valencia, Spain

Guest Editor

Ranjeet S. Sokhi



CONTENTS

Special Issue

**Fifth International Conference on Urban Air Quality,
29–31 March 2005, Valencia, Spain**

Guest Editor
Ranjeet S. Sokhi

- R.S. Sokhi 3909 Urban air quality
- A. Patra, R. Colvile, S. Arnold, E. Bowen,
D. Shallcross, D. Martin, C. Price, J. Tate,
H. ApSimon and A. Robins 3911 On street observations of particulate matter movement and dispersion due to traffic on an urban road
- J.L. Santiago and F. Martín 3927 SLP-2D: A new Lagrangian particle model to simulate pollutant dispersion in street canyons
- P. Siegmann, F.J. Acevedo, K. Siegmann and
S. Maldonado-Bascón 3937 A probabilistic source attribution model for nanoparticles in air suspension applied on the main roads of Madrid and Mexico City
- S. Vardoulakis and P. Kassomenos 3949 Sources and factors affecting PM₁₀ levels in two European cities: Implications for local air quality management
- X. Querol, A. Alastuey, T. Moreno,
M.M. Viana, S. Castillo, J. Pey, S. Rodríguez,
B. Artiñano, P. Salvador, M. Sánchez,
S. Garcia Dos Santos, M.D. Herce Garraleta,
R. Fernandez-Patier, S. Moreno-Grau,
L. Negral, M.C. Minguillón, E. Monfort,
M.J. Sanz, R. Palomo-Marín, E. Pinilla-Gil,
E. Cuevas, J. de la Rosa and
A. Sánchez de la Campa 3964 Spatial and temporal variations in airborne particulate matter (PM₁₀ and PM_{2.5}) across Spain 1999–2005
- J. Kukkonen, R. Sokhi, L. Luhana,
J. Härkönen, T. Salmi, M. Sofiev and
A. Karppinen 3980 Evaluation and application of a statistical model for assessment of long-range transported proportion of PM_{2.5} in the United Kingdom and in Finland
- P. Aarnio, J. Martikainen, T. Hussein,
I. Valkama, H. Vehkamäki, L. Sogacheva,
J. Härkönen, A. Karppinen, T. Koskentalo,
J. Kukkonen and M. Kulmala 3992 Analysis and evaluation of selected PM₁₀ pollution episodes in the Helsinki Metropolitan Area in 2002
- D. Kim and W.R. Stockwell 4006 An online coupled meteorological and air quality modeling study of the effect of complex terrain on the regional transport and transformation of air pollutants over the Western United States

invaluable advice. Finally, we would like to express our sincere gratitude to all the researchers who have contributed to the scientific advances presented at the conference and now reported in this special issue.

Ranjeet S. Sokhi
Centre for Atmospheric and Instrumentation
Research (CAIR), University of Hertfordshire,
Hatfield AL10 9AB, UK
E-mail address: r.s.sokhi@herts.ac.uk

The sessions within the UAQ conference tradi- tionally attract a large number of presentations on the fundamental and applied aspects involving experimental and modelling studies. Some of the selected papers presented at the Valencia conference are included in this special issue and cover the following topics: street canyon observations of particulate matter and dispersion due to road traffic; source attribution of road pollution in Madrid and Mexico City; sources affecting PM₁₀ concentrations in European cities and their implica- tions for local air quality management; variations in PM₁₀ and PM_{2.5} levels across Spain; evaluation and application of a statistical long-range transport model for PM_{2.5} in the UK and in Finland; analysis of PM₁₀ pollution episodes in the Helsinki Metro- politan Area and a study of complex terrain effects on the regional air quality over the Western United States.

The support of WMO, EMS and EURASAP, especially for providing bursaries for young re- searcher, is greatly appreciated. The continued involvement of the USA organisations, namely A&WMA and AMS, in promoting this series of conferences is also fully acknowledged. Similarly we are grateful to Conselleria Valenciana Conselleria de Territori i Habitatge and the Conselleria de Cultura, Educació i Esport for providing local support for the meeting.

We would especially like to highlight the help received from Professor Millán Millán and Nicolás Mousiopoulos and their organisations, CEAM and Aristotle University, respectively. The dedication of all the chairs of the sessions, Pilar Zamora at CEAM and the CAIR team members for assisting in the organisation of the meeting is very much appreciated. The members of the Conference Organising Committee and the International Sci- ence and Advisory Committee are thanked for their

There has been a continued growth in the interest in urban air pollution in the research community and in the wider public domain. This interest has been mainly stimulated by the need to improve our understanding of the impact of air pollution on the environment and human health. Complexities arise as pollutants that are emitted into the atmosphere become subject to a range of physical and chemical processes which control transport, mixing and transformation. These processes are themselves scale dependent and can lead to air pollution impacts on local to global scales.

The particular focus on air pollution in cities has stimulated research on the movement and beha- viour of emissions on local scales, such as within streets or near industrial stacks, and on wider urban scales. Furthermore, the influence of long- range transport of air pollution on urban air quality is important especially for pollutants such as fine particles and ozone. An example is where emissions from large cities (megacities) determine not only the urban levels but also contribute to the regional air quality. This in turn has encouraged greater interaction between urban, regional and also the global air quality communities. In the case of the UAQ conference, a number of key international groups and networks have contributed to the programme and these include the Cluster of European Air Quality Research (CLEAR), FP6 Network of Excellence ACCENT, Atmospheric Composition Change projects such as FUMAPEX, OSCAR and PICADA; COST Action on urban meteorology and air pollution (Action 712) and the recent Actions on mesoscale modelling for air pollution applications (COST 728) and on quality assurance of mesoscale models (COST 732). Collectively, these groups represent a significant part of the wider air pollution research community.