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Editorial

## Urban air quality

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 their 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 behaviour of emissions on local, 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 conferences, 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 715) and the recent Actions on mesoscale modelling for air pollution applications (COST 728) and on quality assurance of microscale models (COST 732). Collectively, these groups represent a significant part of the wider air pollution research community.

The sessions within the UAQ conferences traditionally 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  $PM_{10}$  concentrations in European cities and their implications for local air quality management; variations in  $PM_{10}$  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  $PM_{10}$  pollution episodes in the Helsinki Metropolitan 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 researchers, 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 Generalitat 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 Professors Millán Millán and Nicolas Moussiopoulos 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 Conference Organising Committee and the International Scientific and Advisory Committee are thanked for their invaluable

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

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