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## Sources, chemistry, impacts and regulations of complex air pollution: Preface

Clean air is essential to people's health and that of the environment. Since the industrial revolution, however, the quality of the air that people breathe has deteriorated considerably — mainly as a result of human activities. Rising industrial and energy production, the burning of fossil fuels and the dramatic rise in traffic all contribute to air pollution in our cities which, in turn, can lead to serious health problems for instance through the frequent formation of photochemical smog and haze.

The need to deliver cleaner air has been recognized for several decades with action having been taken at national and international levels. Despite significant improvements, serious air pollution problems still persist... and are becoming more and more complex and varying from one region to another. Therefore, a scientifically sound understanding is urgently needed to disclose the key reasons for regional complex air pollution problems and for the effective implementation of control measures.

Such a profound understanding of the atmospheric system can only be gained by a multidisciplinary approach, with scientists of different origins strongly interacting. The series of Sino-French Workshops on Atmospheric Environment has been initiated to trigger and catalyze such exchanges. The Sino-French Workshops on Atmospheric Environment have been successfully held since 2008, they have provided the opportunity for fruitful cooperation among interdisciplinary scientists.

The 4<sup>th</sup> Sino-French Workshop was held on December 10–13, 2014 at Lyon, at the Hôtel de Région, France, and provided a further forum for exchanging ideas about current research progress on regional complex air pollution with various aspects, including pollution status, formation mechanisms, source apportionments, control techniques and regulations etc. The emphasis of this workshop was on urban air quality and its specificities in France and China, and their possible improvements. More than 100 scientists from China, France and other countries had attended this workshop. To spread the information about the achievement of the workshop, this special issue of Journal of Environmental Sciences presents selected contribution to the 4<sup>th</sup> Sino-French Workshop on Atmospheric Environment.

We are very grateful for the guidance and support of the Region Rhône-Alpes, the French Embassy, the French Centre National de la Recherche Scientifique, the Ministry of Environmental Protection of P.R. China, Chinese Research Academy of Environmental Sciences, Research Centre for Eco-Environmental Sciences, Fudan University, Journal of Environmental Sciences, Shandong University and different sponsors for the financial support and organization of this fruitful workshop.

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