

Special Issue

PM_{2.5} and PM₁₀: Atmospheric Behaviors and Correlation with Health Effects

Message from the Guest Editors

Air pollution causes several million deaths each year. Epidemiological studies have shown that air pollution is related to many diseases in both the respiratory and cardiovascular systems, such as lung cancer and asthma, and arrhythmias and myocardial infarction. Air pollution has also been related to adverse birth outcomes, infant mortality, neurodevelopmental disorders, and child obesity. Among pollutants, particulate matter (PM) is considered as one of the most serious air pollutants. Both PM_{2.5} and PM₁₀ emitted from the combustion of fossil fuels and biomass contain strong toxic chemicals such as polycyclic aromatic hydrocarbons (PAHs) and their derivatives. The present air pollution levels are above the World Health Organization (WHO)'s guidelines in Africa, Southeast Asia, the Eastern Mediterranean, and the Western Pacific regions. It is important to understand the causes of air pollution in these regions, the exposure risks to humans, and the mechanisms of adverse health effects, not only to predict future air quality, but also to develop suitable countermeasures.

Guest Editors

Prof. Dr. Kazuichi Hayakawa

Institute of Nature and Environmental Technology, Kanazawa University, Kakuma-machi, Kanazawa 920-1192, Japan

Prof. Dr. Hiroyuki Nakamura

Department of Hygiene and Public Health, Graduate School of Medicine, Kanazawa University, Kanazawa 920-8640, Japan

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Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
appls@mdpi.com

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Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo
Dipartimento di Fisica, Politecnico di Milano, Piazza L. da Vinci 32,
20133 Milano, Italy

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