Special Issue

Formation, Evolution, Toxicity, and Climate Properties of Atmospheric Aerosols

Message from the Guest Editor

The current global pandemic is a stark reminder of the importance of airborne particulate matter (aerosols) in human health. Air pollution from aerosols is a leading cause of global mortality and affects visibility and climate via uptake of water vapor and interactions with solar and terrestrial radiation. During transport, atmospheric aerosols can undergo chemical and physical aging processes via photochemical and multiphase reactions with trace gases. Such interactions can modulate particle chemical and physical properties, impacting the toxicity and hygroscopicity of atmospheric aerosol. In this Special Issue, we encourage manuscript submission of a broad range of experimental (both laboratory and field) and theoretical (fundamental chemistry and atmospheric modeling) studies related to the formation, evolution, toxicity, and climate properties of atmospheric aerosols. Studies that provide molecular and chemical kinetic insights into aerosol formation and multiphase processes that affect the toxicity and climate-relevant properties (e.g., hygroscopicity, ice nucleation efficiency, optical) of atmospheric aerosol are particularly encouraged.

Guest Editor

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About the Journal

Message from the Editor-in-Chief

Continued developments in instrumentation and modeling have driven atmospheric science to become increasingly more complex with a deeper understanding of concepts, mechanisms, and interactions. This is the field that innovation built and it has led to a better appreciation for the complexity with atmosphere. Human life is intertwined in this complexity as we strive to better understand our atmosphere. Climate change is constantly stretching the limits of our thinking and forcing new ideas and concepts to be played out. Welcome to the Anthropocene!

Editor-in-Chief

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