

The air we breathe: indoor aerosol sources and chemistry

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About this Symposium: This symposium seeks to bridge topics in indoor aerosols and aerosol chemistry. Indoor aerosols have a range of sources including nucleation and/or condensation of oxidized VOCs and from SVOCs emitted from different surfaces, such as a cooking and heating sources. Aerosols can also be brought indoors through open doors and windows, through the ventilation system, and through leaks in the building envelope. Depending on the source and composition of the outdoor aerosol, the chemical composition and size of the particles can change once they enter the building. This indoor-outdoor exchange bridges the atmospheric chemistry of outdoor air and indoor environments.

Indoor aerosol may undergo similar aging processes (e.g., photolysis, oxidation, humidity effects, etc.), but these processes operate at different time scales and with different relative intensities compared to outdoor aerosol. By applying the tools we use to understand ambient aerosol reactivity and aging to indoor environments, we can develop a better understanding of parameters that affect the identity, concentration, and size distribution of the aerosol in our buildings. This symposium will highlight studies of indoor aerosols including, but not limited to, sources (indoor emissions, re-suspension, and transport from outdoors) and heterogeneous reactions on aerosol particles and other indoor surfaces. We aim to build a dialogue around our current understanding of indoor aerosol chemistry and to identify needs for future research in this developing field.

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