

Non-tailpipe particles: sampling, exposure models, and health effects



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Traffic-derived air pollution comprises of a mixture of gaseous pollutants and particulate matter (PM) from exhaust (tailpipe) as well as non-exhaust (non-tailpipe) emissions. Non-tailpipe emissions mainly arise from mechanical abrasion of brakes and tires, erosion of road surfaces and resuspension of a mixture of dust that accumulates on road surfaces. Most epidemiological and experimental research into traffic-related pollution focuses on tailpipe exposures, with far less attention paid to non-tailpipe exposures despite the fact that it is an important source of toxic metals in urban atmospheres. We present results of the Intra-Community Variability study, a spatially intensive sampling campaign of PM concentrations at multiple size fractions (quasi-ultrafine, accumulation mode and coarse) collected and analyzed for chemical speciation at over 220 locations across Southern California. With a focus on non-tailpipe metal tracers, we further developed spatiotemporal land use regression models to generate exposures with which we conducted a health effects study of the association of children's lung function.

Wednesday, Nov 2 , 2022 3:00 - 4:00PM EDT

**In Person: Wallberg Building, 200 College Street, Room 407
OR**

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Meeting ID: 237 702 617 152
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