

MMM SEMINAR SERIES



Integrating models, theory, and observations to advance understanding of urban surface– atmosphere interactions

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The complexity of urban environments challenges existing theoretical and numerical frameworks for simulating near-surface atmospheric processes. Improving these capabilities is critical, as over 55% of the global population (and rising) resides in urban areas. In this talk, I present results which integrate an array of urban boundary-layer observations from three field campaigns to (1) evaluate the performance of the WRF model at hectometric scales and beyond, and (2) assess the applicability of surface-layer similarity theory within heterogeneous urban landscapes. These results reveal systematic limitations in both modeling frameworks and theoretical assumptions in urban settings and highlight key pathways for improving the representation of surface–atmosphere interactions in next-generation models.

Thursday, 16 April 2026, 2:00PM

Refreshments 1:45PM

Please also join colleagues for refreshments and informal discussion after the seminar until 3:30PM

NCAR-Foothills Laboratory, 3450 Mitchell Lane

FL2-1022, Large Seminar

Seminar will also be live webcast

<https://sundog.ucar.edu/public/page/MMM>

Participants may ask questions during the seminar via Slido.



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