

# **Separating dynamical and microphysical impacts of aerosols on moist convection applying piggybacking methodology**

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## **Abstract**

This lecture will present a novel modeling methodology, the microphysical piggybacking, that was recently developed to separate purely microphysical effects of aerosols on convection from the impacts on the cloud dynamics. Piggybacking simulations with bin microphysics for shallow non-precipitating convection and with double-moment bulk microphysics for deep convection will be discussed. These simulations document the fidelity of the methodology and allow clarification of significant misconceptions concerning aerosol effects on convection.