Environmental Engineering & Sciences

Department of Civil and Environmental Engineering

CEE 595AG Seminar

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Dry Deposition of Aerosols and Reactive Gases in our Earth System

Abstract

Identifying the drivers and impacts of air pollutants and short-lived climate forcers with global models relies on accurate representation of dry deposition, a primary removal pathway for aerosols and many reactive gases. Dry deposition happens when compounds are transported to the Earth's surface via turbulence and are removed from the atmosphere by sticking to, or reacting with, surfaces. Dry deposition can also injure vegetation with implications for forest and crop health and regional-to-global water and carbon cycling. Dry deposition schemes have not been updated for decades in most global models used for predicting tropospheric composition and climate, and thus do not reflect current process-based knowledge. In my talk, I will discuss my work using observations and a hierarchy of models to advance mechanistic understanding of dry deposition, identify gaps in our understanding, and pinpoint the impacts of dry deposition on air pollution, ecosystems, and climate.

Bio

Olivia Clifton is NASA Postdoctoral Program Fellow at NASA Goddard Institute for Space Studies (GISS) in New York, NY. Before GISS, Olivia was Advanced Study Program Postdoctoral Fellow at the National Center for Atmospheric Research in Boulder, CO, working across meteorology, atmospheric chemistry, and climate divisions. Olivia received her PhD under the supervision of Arlene Fiore in 2018 from Columbia University from the Department of Earth and Environmental Sciences where she held an NSF Graduate Research Fellowship. Olivia's research interests include land-atmosphere interactions and atmospheric chemistry, in particular the dry deposition of reactive gases and aerosols relevant for air quality, ecosystems, and climate.

FRIDAY MARCH 11TH 10 AM

Friday, March 11th, 2022

10:00 – 10:50 a.m.

Zoom Meeting

https://illinois.zoom.us/j/82274105644?pwd=QWRSWEthaXFyQTRic3U1enFLem5oQT09

Meeting ID: 822 7410 5644

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