NCAR OPERATED BY UCAR Community Earth System Model

Chemistry Aerosol Working Group and Whole Atmosphere Working Group Agenda
31st Annual CESM Workshop
June 16th, 2026

Tuesday, June 16th, 8:30- 12:30 pm:

** All times are MST; **Speakers**: 15 min talk. Please leave 2 min at the end of your slot for questions.*

Time	Topic	Speakers	Organization
8:30-8:45	Implementation of a Correlated-k parameterization for O2 photolysis within the Schumann-Runge bands in TUV 5.4 and WACCM 6	Orlando Tomazelli	ICB - CONICET Remote Talk
8:45-9:00	Limited long-term photolysis of stratospheric organic aerosols with implications for CESM modeling	Jian Guan	MIT
9:00-9:15	Detection and Classification of Polar Vortex Disruptions using Topological Data Analysis	Hope Hunter	University of Illinois Urbana-Champaign
9:15-9:30	Stratospheric ozone projections under sulfur-based stratospheric aerosol injection: Insights from the multi-model G6-1.5K-SAI experiment	Ewa Bednarz	CIRES (CU Boulder) & NOAA CSL
9:30-9:45	Development and Application of a UK Regionally Refined MUSICA Configuration with Soil NO_x Emissions for Air Quality and Land–Atmosphere Interactions	Maria ValMartin	University of Sheffield
9:45-10:00	Overview of emission-driven methane simulations	Ben Gaubert	NSF NCAR
10:00-10:15	Advancing Global-scale Pollen Emission Modeling in an Earth System Model	Yingxiao Zhang	NSF NCAR
10:15-10:45	**Coffee break**		
10:45-11:00	Investigating chemistry-climate interactions with simplified climate dynamics in CESM Aqua-chem	Arlene Fiore	MIT
11:00-11:15	Attributing tropospheric ozone changes in the context of internal climate variability: Implications for radiative forcing; Estimating the avoided tropospheric ozone radiative forcing from US air pollution controls	Xinyuan Yu, Stephanie Elkins	MIT EAPS, MIT
11:15-11:30	The Model Behind the Law: CESM/CAM-chem Uncovers Industrial Impacts on Air Quality	Siyuan Wang	University of Miami
11:30-11:45	Chlorine-mediated methane removal over the North Atlantic: insights from CO isotopic signals and chemistry-climate models	Yu Yao	Cornell University

11:45-12:00	Radiative effects of boreal biomass burning aerosols on the Arctic using CESM2	Xiaohong Liu	Texas A&M University
12:00-12:15	Aerosol Microphysics Model Intercomparison and Machine Learning Emulation for Stratospheric Aerosol Injection	Ali Akherati	Reflective
12:15-12:30	Operational PM2.5 Estimation in Data-Sparse Environments Using Multi-Source Remote Sensing and Machine Learning	Rehan Ahmad	Pakistan Air Quality Initiative Remote Talk

Posters

	Improving Fire CO and CO2 Emissions in CESM by Incorporating Satellite-Based Modified Combustion Efficiency from FILDA-2	Lakhima Chutia	University of Iowa
	Minding your ‘P’s and Queues: A Perturbed Parameter Ensemble (PPE) to explore physical assumptions in simulating Mt. Pinatubo and stratospheric aerosol injection	Hunter Brown	University of Wyoming / Reflective
	Influence of Explicit Tropospheric VOC Chemistry on the Top-of-Atmosphere Net Radiation Budget: Differences Between Two Preindustrial CESM2 Chemistry Configurations.	Noah Stanton	York University
	From MAM to CARMA: an ML translator for stratospheric sulfate aerosol size distributions	Daniele Visioni	Cornell University
	Interactive Ensemble Estimates of the Methane Budget	Shuo Chen	Purdue University
	Drivers of tropospheric OH variability 2003–2022: a multi-satellite and surface evaluation of emission-driven CAM-chem simulations	Amin Mirrezaei	University of Arizona
	An Energetic Perspective on Climate Interventions Reveals Ambiguous Definitions of Stability and Effectiveness	Jonah Shaw	University of Colorado, Boulder