Dr. Shantanu H. Jathar

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Position

Associate Professor in Mechanical Engineering

Education

B.E. in Mechanical Engineering 2000 - 2004
Government College of Engineering Pune, India

M.S. in Mechanical Engineering 2005 - 2007
University of Minnesota, Twin Cities

Ph.D. in Engineering and Public Policy 2008 - 2012
Carnegie Mellon University

Areas of Specialization

Air Quality
Atmospheric Chemistry
Environmental Sensors

Appointments Held

Associate Professor 2021 - Present
Mechanical Engineering
Colorado State University

Associate Appointment 2019 - Present
Fuels and Combustion Science Group
National Renewable Energy Laboratory

Assistant Professor 2015 - 2021
Mechanical Engineering
Colorado State University

Postdoctoral Scholar 2012 - 2014
Civil and Environmental Engineering
University of California Davis

Industry Experience

Product Engineer 2007 - 2008
Eaton Hydraulics
Eden Prairie, MN

Management Trainee 2004 - 2005
Larsen and Toubro
Mumbai, India

Honors

George T. Abell Award for Outstanding Mid-Career Faculty from the Walter Scott, Jr. College of Engineering (2025)
Early Career Award from the US Environmental Protection Agency (2020)
Honorable Mention for Colorado Governor's Awards for High-Impact Research (2018)
ORAU's Ralph E. Powe Junior Faculty Enhancement Award (2016)
John and Claire Bertucci Fellowship, Carnegie Mellon University (2011)
Graduate Fellowship, University of Minnesota, Twin Cities (2005)

Teaching	MECH 377, Thermodynamics (Fall '17, '18, '19, '20, '21, '22) MECH 408, Applied Engineering Economy (Spring '15, '16, '17, '18, '19, '20, '21, '22, '23, '25; Fall '23) MECH 577, Aerosol Physics and Technology (Spring '16, '17, '19, '21, '23) MECH 534, Transportation, Energy, and the Environment (Spring '18, '20)
Professional Societies (past five years)	American Association for Aerosol Research American Geophysical Union American Chemical Society
Journal Reviewer (past five years)	Aerosol Science and Technology Atmospheric Chemistry and Physics Earth and Space Chemistry Environmental Sciences: Atmosphere Environmental Sciences: Processes and Impacts Environmental Science and Technology Geophysical Research Letters Geoscientific Model Development Journal of the American Chemical Society Journal of Geophysical Research Proceedings of the National Academy of Sciences Scientific Reports
Proposal Reviewer (past five years)	Department of Energy, Office of Science National Science Foundation Oak Ridge Associated Universities Swiss National Science Foundation
External Service	Board of Directors, American Association for Aerosol Research, 2022-Present Education Committee, American Association for Aerosol Research, 2021-2024 Organizing Committee, System for Integrated Model for the Atmosphere Workshop, National Center for Atmospheric Research, Virtual, 2020 Early Career Committee, American Association for Aerosol Research, 2017-2021 Co-chair, Carbonaceous Aerosol Formation Session, International Aerosol Modeling Algorithms Conference, Davis, CA, 2017 and 2019 Co-Chair, Special Symposium, Regional and Global Climate and Air Quality Modeling, American Association for Aerosol Research Conference, Raleigh, NC, 2017
University Service	Host of the Energy & Environment Seminar, Energy Institute (2015-Present) Code Committee Member for Mechanical Engineering, CSU (2020-2022) Awards Committee Member for Mechanical Engineering, CSU (2017-2020, 2022-2023) Graduate Center for Diversity and Access Faculty, CSU (2017-2018) Faculty Council Representative, CSU (2016-2019) Committee Member for Faculty Search in Energy, CSU (2016) Faculty Advisor to Pi Tau Sigma Honor Society (2015-2020) Co-organizer of the Aerosol Measurement Workshop, CSU (2015, 2016, 2018) Silver Medal Committee Member, CSU (2015)
Active Grants	Total funding as PI = \$3.7 million; total funding as co-PI = \$4.6 million [1] *Developing mechanisms for secondary organic aerosol from oxygenated volatile organic compounds in biomass burning and volatile chemical product emissions*

Sponsor: Environmental Protection Agency
Award amount and period: $400,000, 08/2020-07/2024
Months per year: 1.1, Role in project: PI

[2] *Understanding the emerging contribution of volatile chemical products and food cooking to air quality, the aerosol size distribution, and climate-relevant properties over urban to regional scales*
Sponsor: National Oceanic and Atmospheric Administration
Award amount and period: $553,336, 05/2021-04/2024
Months per year: 1.0, Role in project: PI

[3] *Collaborative Research: Atmospheric formation and implications of secondary organic aerosol from glycols and glycol ethers*
Sponsor: National Science Foundation - Atmospheric Chemistry
Award amount and period: $526,946, 05/2021-04/2025
Months per year: 0.75, Role in project: PI

[4] *San Joaquin Valley Visualization of Ozone (VOz) Project*
Sponsor: California Air Resources Board
Award amount and period: $126,196, 06/2022-12/2024
Months per year: 0.5, 0.25, Role in project: CSU PI

[5] *Secondary Marine Aerosol precursors and Links to aerosol growth at ice-melT onset in the Arctic (SMALTA)*
Sponsor: National Science Foundation, Atmospheric Chemistry
Award amount and period: $756,008, 07/2022-06/2025
Months per year: 0.25, Role in project: Co-PI (PI: Willis)

[6] *Structural fires at the wildland urban interface: Emission factors, inventories, and implications*
Sponsor: National Oceanic and Atmospheric Administration
Award amount and period: $749,640, 09/2022-08/2025
Months per year: 1.0, Role in project: PI

[7] *CSU Spur Regional Air Monitoring Site (RAMS)*
Sponsor: National Science Foundation, Atmospheric Chemistry
Award amount and period: $160,000, 07/2022-06/2025
Months per year: 0.25, Role in project: Co-PI (PI: Willis)

[8] *How do drones help improve smoke forecasts?*
Sponsor: A. J. Kauvar Foundation
Award amount and period: $230,588, 06/2023-05/2025
Months per year: 1, Role in project: PI

[9] *Global impacts of phase state on secondary organic aerosol partitioning*
Sponsor: National Science Foundation, Atmospheric Chemistry
Award amount and period: $123,304, 04/2023-03/2026
Months per year: 0.25, Role in project: Co-PI (CSU PI: Pierce)

[10] *Gas-phase precursors, aerosol composition and new particle formation during TRACER using spatially resolved TRACER-MAP datasets; TRACER-MAP-NPF*
Sponsor: Department of Energy Office of Science, Atmospheric System Research
Award amount and period: $388,314, 08/2023-07/2026
Months per year: 0.5, Role in project: Co-PI (CSU PI: Pierce)

[11] *SMASH: Situational Awareness with Mobile Air Sampling for Hazards*
Sponsor: State of Colorado
Award amount and period: $180,000, 01/2025-07/2026
Months per year: 0.5, Role in project: Co-PI (CSU PI: Volckens)

[12] *RAPID: Rapid Assessment of Air Quality During Wildland-Urban Interface Fires in Southern California*
Sponsor: National Science Foundation, Atmospheric Chemistry
Award amount and period: $126,709, 02/2025-01/2026
Months per year: 0.3, Role in project: PI

[13] *Leveraging satellites and low-cost monitors to strengthen air pollution and health decision making in under-monitored regions*
Sponsor: National Aeronautics and Space Administration
Award amount and period: $599,919, 01/2025-12/2028
Months per year: 0.35, Role in project: Co-I (PI: Pierce)

Completed Grants

[1] *Fuel economy and emissions modeling using neural network models*
Sponsor: Lightning Hybrids
Award amount and period: $17,965, 01/2016-06/2016
Months per year: 0; Role in project: Collaborator (PI: Bradley)

[2] *Role of Alternative fuels & emissions control systems on the atmospheric & health properties of primary organic aerosol from diesel engines*
Sponsor: ORAU Ralph E. Powe Junior Faculty Award
Award amount and period: $10,000, 06/2016-05/2017
Months per year: 0.25; Role in project: PI

[3] *Influence of fuel treatment and additives on performance & emissions from off-road diesel engines*
Sponsor: Air Water Earth Inc.
Award amount and period: $20,104, 04/2016-12/2017
Months per year: 0.5; Role in project: PI

[4] *Application of the Statistical Oxidation Model to Study the Chemistry and Thermodynamics of Secondary Organic Aerosol*
Sponsor: National Institute of Environmental Studies, Japan
Award amount and period: $14,390, 05/2016-12/2017
Months per year: 0.875; Role in project: PI

[5] *Portable GC-FID to support smog chamber research in air quality, climate and health*
Sponsor: Office of the Vice President for Research, CSU
Award amount and period: $10,000, 08/2016-07/2017
Months per year: 0.0; Role in project: PI

[6] *Citizen-Enabled Aerosol Measurements for Satellites (CEAMS): A network for high-resolution measurements of $PM_{2.5}$ and aerosol optical depth*
Sponsor: National Aeronautics and Space Administration
Award amount and period: $161,556, 03/2017-02/2018
Months per year: 0.25, Role in project: Co-I (PI: Volckens)

[7] *Rapid field-deployable low-cost sensor to measure fuel quality*
Sponsor: Colorado State University Ventures

Award amount and period: $8,500, 05/2017-12/2017
Months per year: 0.0, Role in project: PI

[8] *Modeling the complex and dynamic physico-chemical evolution of primary and secondary organic aerosol from wildfire smoke*
Sponsor: National Oceanic and Atmospheric Administration
Award amount and period: $241,888, 07/2017-06/2021
Months per year: 1.0, Role in project: PI

[9] *Health Impact Assessment of Coal-Fired Boiler Retirement at the Martin Drake and Comanche Power Plants*
Sponsor: American Lung Association
Award amount and period: $18,000, 08/2017-07/2018
Months per year: 0.0, Role in project: Co-I (PI: Magzamen)

[10] *Studying cloud and radiative impacts through an improved physically based representation of organic aerosol in large-scale models (WRF-Chem)*
Sponsor: Department of Energy Office of Science, Atmospheric System Research
Award amount and period: $520,000, 09/2017-08/2021
Months per year: 1.0, Role in project: PI

[11] *Citizen-Enabled Aerosol Measurements for Satellites (CEAMS): A network for high-resolution measurements of $PM_{2.5}$ and aerosol optical depth*
Sponsor: National Aeronautics and Space Administration
Award amount and period: $1,700,000, 07/2018-06/2021
Months per year: 1.0, Role in project: Co-I (PI: Volckens)

[12] *Linking volatile organic compound chemistry to secondary organic aerosol formation from use of next-generation biofuels and volatile chemical products*
Sponsor: Colorado Energy Research Collaboratory
Award amount and period: $45,000, 08/2018-07/2021
Months per year: 0.0, Role in project: PI

[13] *Cows as canaries: Impacts of regional air quality on health*
Sponsor: One Health Institute, Colorado State University
Award amount and period: $50,000, 02/2019-12/2020
Months per year: 0.0, Role in project: Co-I (PI: Magzamen)

[14] *Southeast Wisconsin Interdisciplinary Study of Children's Health, Ecological Exposures and Social Environment (SWISCHEESE)*
Sponsor: Environmental Protection Agency - Science to Achieve Results
Award amount and period: $600,000, 04/2018-12/2022
Months per year: 0.45, 0.45, 0.18, Role in project: Co-PI (PI: Magzamen)

[15] *Collaborative Research: Understanding the chemical and physical variability of smoke plumes using plume spatial gradients: analysis and parameterization for air quality and climate models*
Sponsor: National Science Foundation, Atmospheric Chemistry
Award amount and period: $470,016, 03/2020-02/2025
Months per year: 0.25, Role in project: Co-PI (PI: Pierce)

Peer-Reviewed Publications

*Colorado State University Work, **Student/Postdoc Author in Bold**, #under review

[*78] **Ridgway, K.**, **Helfrich, A.**, **Cast, L.**, **Trujillo, M.**, **Medina, C.**, Davis, A.

Y., Cleary, T. G., Falkenstein-Smith, R. L., Bryant, R. A., Bundy, M. F., Flynn, J., Bond, T. C., Borch, T., L'Orange, C., and Jathar, S. H.. (2025). Emissions from Structure Fires: Overview of BHASMA and Results for CO_2 and Select Pollutants by Fuel, Combustion Mode, and Scale, Environmental Science and Technology, 59, 23926–23937.

[*77] O'Donnell, S. E., Croft, B., Ford, B., June, N. A., Kuang, C., Singh, A., Chang, R. Y.-W., Collins, D. R., Hakala, S., Jathar, S. H., Paasonen, P., Shrivastava, M., Smith, J. N., and Pierce, J. R. (2025). Going Off Grid: A Comparative Study of the Lagrangian and Eulerian Perspectives of New Particle Formation Events, Journal of Geophysical Research: Atmospheres, 130, e2025JD043713.

[*76] June, N. A., Wiggins, E. B., Winstead, E. L., Robinson, C. E., Thornhill, L., Sanchez, K. J., Moore, R. H., Pagonis, D., Guo, H., Campuzano-Jost, P., Jimenez, J. L., Shingler, T., Coggon, M. M., Peischl, J., Dayalu, A., Mountain, M., Jathar, S. H., Alvarado, M. J., Pierce, J. R. (2025). Look Within: Intraplume Differences on Smoke Aerosol Aging Driven by Concentration Gradients, Journal of Geophysical Research, 130 (5), e2024JD042359.

[*75] Luu, R., Schervish, M., June, N. A., O'Donnell, S. E., Jathar, S. H., Pierce, J. R., and Shiraiwa, M. (2025). Global simulations of phase state and equilibration time scales of secondary organic aerosols with GEOS-Chem, ACS Earth Space Chem, 9, 2, 288-302.

[*74] **He, Y.**, **Bilsback, K. R.**, Shrivastava, M., Zaveri, R., Shilling, J. E., Seinfeld, J. H., Zhao, B., Wang, S., Cappa, C. D., Pierce, J. R., and Jathar, S. H. (2025). Kinetic modeling of secondary organic aerosol in a weather-chemistry model: Parameterizations, processes, and predictions for GOAmazon, Environmental Science and Technology Air, 2, 249-263.

[*73] Pan, T., Lambe, A. T., Hu, W., **He, Y.**, Hu, M., Zhou, H., Wang, X., Hu, Q., Chen, H., Zhao, Y., Huang, Y., Worsnop, D. R., Peng, Z., Morris, M. A., Day, D. A., Campuzano-Jost, P., Jimenez, J.-L., and Jathar, S. H. (2024). A comprehensive evaluation of enhanced temperature influence on gas and aerosol chemistry in the lamp-enclosed oxidation flow reactor (OFR) system, Atmospheric Measurement Techniques, 17 (16), 4915-4939.

[*72] Shrivastava, M., Fan, J., Zhang, Y., Rasool, Q., Zhao, B., Shen, J., Pierce, J. R., Jathar, S. H., **Akherati, A.**, Zhang, J., Zaveri, R., Gaudet, B., Liu, Y., Andreae, M., Pohlker, M., Donahue, N. M., Wang, Y., and Seinfeld, J. H. (2024). Intense formation of secondary ultrafine particles from Amazonian vegetation fires and their invigoration of deep clouds and precipitation, One Earth, 7 (6), 1029-1043.

[*71] **Li, E.**, Pierce, J. R., Juncosa, J., Sullivan, A., Pollack, I., Roscioli, R., Caulton, D., McCabe, M., Jathar, S. H., and Fischer, E. (2024). Inorganic Nitrogen Gas-Aerosol Partitioning in and around Animal Feeding Operations in Northeastern Colorado in Late Summer 2021, Journal of Geophysical Research: Atmosphere, 129, e2023JD040507.

[*70] **Dearden, A.**, **He, Y.**, **Akherati, A.**, Lim, C. Y., Coggon, M. M., Koss, A. R., de Gouw, J., Warneke, C., Yee, L. D., Seinfeld, J. H., Cappa, C. D., Kroll, J. H., Pierce, J. R., and Jathar, S. H. (2024). Multi-day photochemical evolution of organic aerosol from biomass burning emissions, Environmental Science: Atmospheres, 4, 925 - 941.

[*69] **Kodros, J. K.**, Carter, E., Oke, O., Wilson, A., Jathar, S. H., and Magzamen, S. (2024). Cumulative Exposures to Environmental and Socioeconomic Risk Factors in Milwaukee County, Wisconsin, GeoHealth, 8, e2023GH000927.

[*68] He, Y., Zhao, B., Wang, S., Valorso, R., Chang, X., Yin, D., Feng, B., Camredon, M., Aumont, B., **Dearden, A.**, Jathar, S. H., Shrivastava, M., Jiang, Z., Cappa, C. D., Yee, L., D., Seinfeld, J. H., Hao, J., Donahue, N. D. (2024). Formation of secondary organic aerosol from wildfire emissions enhanced by long-time ageing, Nature Geoscience, 17, 124-129.

[*67] Murphy, B. N., Sonntag, D., Seltzer, K. M., Pye, H. O. T., Allen, C., Murray, E., Toro, C., Gentner, D. R., Huang, C., Jathar, S. H., Li, L., May, A. A., and Robinson, A. L. (2023). Reactive organic carbon air emissions from mobile sources in the United States, Atmospheric Chemistry and Physics, 23 (20), 13469-13483.

[*66] **Sasidharan, S.**, **He, Y.**, **Akherati, A.**, Li, Q., Li, W., Cocker, D., McDonald, B. C., Coggon, M. M., Seltzer, K. M., Pye, H. O. T., Pierce, J. R., and Jathar, S. H. (2023). Secondary Organic Aerosol Formation from Volatile Chemical Product Emissions: Parameters and Contributions to Anthropogenic Aerosol, Environmental Science and Technology, 57, 32, 11891-11902.

[*65] Movafaghi, S., Vallabhuneni, S., Wang, W., Jathar, S. H., Kota, A. (2023). Rapid and on-site detection of fuel adulteration, Langmuir, 39, 26, 9044-9050.

[*64] Brewer, J.F., Jacob, D.J., Jathar, S. H., **Akherati, A.**, **He, Y.**, Zhai, S., Jo, D. S., Hodzic, A., Nault, B. A., Campuzano-Jost, P., Jimenez, J. L., Park, R.J., Oak, Y. J., and Liao, H. (2023). A scheme for representing aromatic secondary organic aerosols in chemical transport models: application to source attribution of organic aerosols over South Korea during the KORUS-AQ campaign, Journal of Geophysical Research, 128(8), e2022JD037257.

[*63] O'Donnell, S., **Akherati, A.**, **He, Y.**, Hodshire, A. L., Shilling, J. E., Kuang, C., Fast, J. D., Mei, F., Schobesberger, S., Thornton, J. A., Smith, J. N., Jathar, S. H., and Pierce, J. R. (2023). Look up: Probing the vertical profile of new particle formation and growth in the planetary boundary layer with models and observations, Journal of Geophysical Research, 128(3), e2022JD037525.

[*62] **Bilsback, K.R.**, **He, Y.**, Cappa, C.C., Chang R.Y.-W., Croft, B., Martin, R.V., Ng, N.L., Seinfeld, J.H., Pierce, J.R., and Jathar, S. H.. (2022). Vapors are Lost to Wall, Not to Particles on the Wall: Artifact-Corrected Parameters from Chamber Experiments and Implications for Global Secondary Organic Aerosol, Environmental Science & Technology, 57, 1, 53-63.

[*61] Morino, Y., Satoru, C., Fujitani, Y., Tanabe, K., Murphy, B. N., Jathar, S. H., Takahashi, K., Sato, K., Kumagai, K., and Sato, S. (2022). Emissions of Condensable Organic Aerosols from Stationary Combustion Sources over Japan, Atmospheric Environment, 289, 119319.

[*60] June, N. A., Hodshire, A. L., Wiggins, E. B., Winstead, E. L., Robinson, C. E., Thornhill, K. L., Sanchez, K. J., Moore, R. H., Pagonis, D., Guo, H., Campuzano-Jost, P., Jimenez, J. L., Coggon, M. M., Dean-Day, J. M., Bui, T. P., Peischl, J., Yokelson, R. J., Alvarado, M. J., Kreidenweis, S. M., Jathar, S. H., and Pierce, J. R. (2022). Aerosol size distribution changes in FIREX-AQ biomass burning plumes: the impact of plume concentration on coagulation and OA condensation/evaporation, Atmospheric

Chemistry and Physics, 22, 12803-12825.

[*59] **Akherati, A.**, **He, Y.**, Garofalo, L. A., **Hodshire, A. L.**, Farmer, D. K., Kreidenweis, S. M., Permar, W., Hu, L., Fischer, E. V., Jen, C. N., Goldstein, A. H., Levin, E. J. T., DeMott, P. J., Campos, T. L., Flocke, F., Reeves, J. M., Toohey, D. W., Pierce, J. R., and Jathar, S. H. (2022). Dilution and photooxidation driven processes explain the evolution of organic aerosol in wildfire plumes. Environmental Science: Atmospheres, 2, 1000-1022.

[*58] **He Y.**, Lambe A. T., Seinfeld J. H., Cappa C. D., Pierce J. R., and Jathar S. H. (2022). Process-Level Modeling Can Simultaneously Explain Secondary Organic Aerosol Evolution in Chambers and Flow Reactors, Environmental Science and Technology, 56, 10, 6262-6273.

[*57] Morino, Y., Li, Y., Fujitani, Y., Sato, K., Inomata, S., Tanabe, K., Jathar, S. H., Kondo, Y., Nakayama, T., Fushimi, A., Takami, A., and Kobayashi, S. (2022). Secondary organic aerosol formation from gasoline and diesel vehicle exhaust under light and dark conditions, Environmental Science: Atmospheres, 2 (1), 46-64.

[*56] Beaupied, B. L., Martinez, H., Martenies, S., McConnel, C. S., Pollack, I. B., **Giardina, D.**, Fischer, E. V., Jathar, S. H., Duncan, C. G., and Magzamen, S. (2022). Cows as canaries: The effects of ambient air pollution exposure on milk production and somatic cell count in dairy cows, Environmental Research, 207, 112197.

[*55] Garofalo, L. A., **He, Y.**, Jathar, S. H., Pierce, J. R., Fredrickson, C. D., Palm, B. B., Thornton, J. A., Mahrt, F., Crescenzo, G. V., Bertram, A. K., Draper, D. C., Fry, J. L., Orlando, J., Zhang, X. and Farmer, D. K. (2021). Heterogeneous nucleation drives particle size segregation in sequential ozone and nitrate oxidation of catechol, Environmental Science and Technology, 55 (23), 15637-15645.

[*54] Tryner, J., Phillips, M., Quinn, C., Neymark, G., Wilson, A., Jathar, S. H., Carter, E., and Volckens, J. (2021). Design and testing of a low-cost sensor and sampling platform for indoor air quality, Building and Environment, 206, 108398.

[*53] Wendt, E. A., Quinn, C., L'Orange, C., Miller-Lionberg, D. D., Ford, B., Pierce, J. R., Mehaffy, J., Cheeseman, M., Jathar, S. H., Hagan, D. H., Rosen, Z., Long, M., and Volckens, J. (2021). A low-cost monitor for simultaneous measurement of fine particulate matter and aerosol optical depth - Part 3: Automation and design improvements, Atmospheric Measurement Techniques, 14, 6023-6038.

[*52] Jathar, S. H., Cappa, C. D., **He, Y.**, Pierce, J. R., **Chuang, W.**, **Bilsback K. R.**, Seinfeld, J. H., Zaveri, R. A., Shrivastava, M. (2021). A computationally efficient model to represent the chemistry, thermodynamics, and microphysics of secondary organic aerosols (simpleSOM): model development and application to α-pinene SOA, Environmental Science: Atmospheres, 1, 372-394.

[*51] Motallebiaraghi, F., Rabinowitz, A., Jathar, S. H., Fong, A., Asher Z., Bradley, T. (2021). High-Fidelity Modeling of Light-Duty Vehicle Emission and Fuel Economy Using Deep Neural Networks, SAE Technical Paper 2021-01-0181.

[*50] **Hodshire, A. L.**, Ramnarine, E., **Akherati, A.**, Alvarado, M. L., Farmer, D. K., Jathar, S. H., Kreidenweis, S. M., Lonsdale, C. R., Onasch, T. B., Springston, S. R., Wang, J., Wang, Y., Kleinman, L. I., Sedlacek III, A. J., and Pierce, J. R. (2021). Dilution impacts on smoke aging: Evidence in BBOP data, Atmospheric Chemistry

and Physics, 21, 6839-6855.

[*49] Marteneis, S. E., Hoskovec, L., Wilson A., Allshouse, W. B., Adgate, J. L., Dabelea, D., Jathar, S. H., and Magzamen, S. (2021). Assessing the impact of wildfires on the use of black carbon as an indicator of traffic exposures in environmental epidemiology studies, GeoHealth, 3 (9), 266-283.

[*48] Bond, T., Bosco-Lauth, A., Farmer, D. K., Francisco, P., Pierce, J. R., Fedak, K., Ham, J., Jathar, S. H., and VandeWoude, S. (2021). Quantifying proximity, confinement, and interventions in disease outbreaks: a decision support framework for air-transported pathogens, Environmental Science and Technology, 55, 5, 2890-2898.

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[*45] Morino, Y., Sato, K., Jathar, S. H., Tanabe, K., Inomata, S., Fujitani, Y., Ramasamy, S., Cappa, C. (2020). Modelling the effects of dimerization and bulk diffusion on the evaporative behavior of secondary organic aerosol formed from alpha-pinene and 1,3,5-trimethylbenzene, Earth and Space Chemistry, 4 (11), 1931-1946.

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[*43] **He, Y.**, **King, B.**, Pothier, M., **Lewane, L.**, **Akherati, A.**, Mattila, J., Farmer, D. K., McCormick, R., Thornton, M., Pierce, J. R., Volckens, J., and Jathar, S. H. (2020). Secondary organic aerosol formation from evaporated biofuels: comparison to gasoline and correction for vapor wall losses, Environmental Sciences: Processes and Impacts, 22 (7), 1461-1474.

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Book Chapters

[1] Arunachalam, S., Woody, M., Rissman, J., Binkowski, F., Wong, H. W., Jathar, S. H., and Robinson, A. (2014). An enhanced sub-grid scale approach to characterize air quality impacts of aircraft emissions. In Air Pollution Modeling and its Application XXII (pp. 327-332). Springer Netherlands.

Presentations

*Colorado State University Work, **Invited in Bold**

[*69] **Photochemical processes in air quality models, Air Quality Modeling Workshop, April 1-2, 2025, Delhi, India.**

[*68] **Production, processes, and parameters for secondary organic aerosol from oxygenated volatile organic compounds found in volatile chemical products, American Geophysical Union, December 9-13, 2024, Washington, DC.**

[*67] Production, processes, and parameters for secondary organic aerosol from oxygenated volatile organic compounds found in volatile chemical products, American Association for Aerosol Research, October 21-25, 2024, Albuquerque, NM.

[*66] **Volatile chemical products as an emerging source of anthropogenic aerosols in urban environments, School of Environmental Science and Engineering, Nanjing University of Information Science and Technology, September 23, 2024, Nanjing, China.**

[*65] **The 'long' and 'short' of biomass burning organic aerosol: Insights about photochemical aging from the 3 pillars of atmospheric chemistry, School of Atmospheric Sciences, Nanjing University, September 24, 2024, Nanjing, China.**

[*64] **Exploring environmental justice in the United States: Low-cost sensors to study ozone exposure in agricultural communities and environmental and socioeconomic risk factors in a post-industrial city, College of Environmental Sciences and Engineering, Peking University, September 20, 2024, Beijing, China.**

[*63] **Emissions from structural fires at the WUI: From carpets to couches and shingles to studs, Air Benefit and Cost and Attainment Assessment and Symposium on Atmospheric Haze Chemistry, September 20-22, 2024, Shanghai, China.**

[*62] **The 'long' and 'short' of biomass burning organic aerosol: Insights about photochemical aging from the 3 pillars of atmospheric chemistry, Institute of Atmospheric Physics, Chinese Academy of Sciences, September 18, 2024, Beijing, China.**

[*61] Cumulative exposures to environmental and socioeconomic risk factors in Milwaukee County, WI, American Chemical Society Fall Meeting, August 17-22, 2024, Denver, CO.

[*60] Low-cost environmental sensors to study ozone exposure in underserved agricultural communities, American Chemical Society Fall Meeting, August 17-22, 2024, Denver, CO.

[*59] Emissions from structural fires at the WUI: From carpets to couches and shingles to studs, American Chemical Society Fall Meeting, August 17-22, 2024, Denver, CO.

[*58] **Sources of atmospheric organic aerosol: From fires to fragrances and forests to fiberboards, Telluride Science Research Center, July 29 - August 2, 2024, Telluride, CO**

[*57] Volatile Chemical Products as an Emerging Source of Anthropogenic Aerosols in Urban Environments, Indian Institute of Technology Delhi, March 6, 2024, Delhi, India.

[*56] Photochemical Aging of BBOA: Insights from the 3 Pillars of Atmospheric Chemistry, Indian Institute for Science Education and Research, March 4, 2024, Mohali, India.

[*55] How Fragrances and Industrial Solvents are Fouling the Air You Breathe, Jio Institute, February 28, 2024, Ulwe, India.

[*54] Fascinating fine-particles from fires, fragrances, and forests, Institute of Eminence Seminar Series - Indian Institute of Technology Bombay, February 7, 2024, Mumbai, India.

[*53] Secondary organic aerosol from oxygenated VOCs Arising from anthropogenic and natural sources, Space Physics Laboratory - Vikram Sarabhai Space Center, January 19, 2024, Thiruvananthapuram, Kerala, India

[*52] Process-level, kinetic models to study the formation, properties, and experimental artifacts for SOA, International Aerosol Modeling Algorithms, December 6-8, 2023, Davis, CA.

[*51] Autonomous network of low-cost PM2.5 and ozone sensors to study spatial distribution and exposure in underserved agricultural communities in California, 41st American Association for Aerosol Research Conference, October 2-6, 2023, Portland, OR.

[*50] Process-level, kinetic models to study the formation, physicochemical properties, and experimental artifacts for secondary organic aerosol, Institute for Atmospheric and Earth System Research - University of Helsinki, September 14, 2023, Kuopio, Finland.

[*49] Highlights from the Laboratory for Air Quality Research, Finnish Meteorological Institute, September 12, 2023, Helsinki, Finland.

[*48] Volatile chemical products as an emerging source of anthropogenic aerosols in urban environments, Aerosol Physics Research Group - University of Eastern Finland, September 13, 2023, Kuopio, Finland.

[*47] How fragrances and industrial solvents are fouling the air you breathe, Atmospheric Science Colloquium, August 24, 2023, Fort Collins, CO.

[*46] Developing SOA mechanisms for OVOCs found in biomass burning and VCP emissions, Chemical Mechanisms to Address New Challenges in Air Quality Modeling Grantee Meeting, May 31, 2023, Raleigh, NC.

[*45] Secondary organic aerosol from volatile chemical product emissions, Institute of Atmospheric Physics - Chinese Academy of Sciences, March 24, 2023, Beijing, China. [virtual]

[*44] Secondary organic aerosol from volatile chemical product emissions, University of Wollongong, January 11, 2023, Wollongong, Australia.

[*43] Secondary organic aerosol from oxygenated precursors: Mass yields, composition, and parameters for chemical transport models, 40th American Association for Aerosol Research Conference, October 3-7, 2022, Rayleigh, NC.

[*42] Process-level representation of organic aerosols in a regional climate model (WRF-Chem): Processes, parameterizations, and predictions for GoAmazon, 40th American Association for Aerosol Research Conference, October 3-7, 2022, Rayleigh, NC.

[*41] Air pollutant emissions: From cars and cranes to cookstoves, Emissions Inventory Virtual Seminar Series, February 9th, 2022. [virtual]

[*40] Atmospheric chemistry and air quality impacts from emerging sources: fires, fuels, and fresheners, Environmental, Water Resources and Coastal Seminar Series, April 5th, 2021, Texas A&M University. [virtual]

[*39] Formation and evolution of organic aerosol: From laboratory fires to wildfire plumes, Frontiers in Atmospheric Chemistry Seminar Series, March 12th, 2021. [virtual]

[*38] Developing mechanisms for SOA from oxygenated VOCs in biomass burning and VCP emissions, EPA Chemical Mechanisms Kick-Off Meeting, December 17th, 2020. [virtual]

[*37] Atmospheric chemistry and air quality impacts: from fires and fuels to Front Range cows, NREL Fuel and Combustion Science, October 28th, 2020, Golden, CO. [virtual]

[*36] Research on emerging sources to improve predictions of urban and regional air quality, Regional Air Quality Council, October 2nd, 2020, Denver, CO. [virtual]

[*35] Secondary organic aerosol formation from evaporated biofuels: comparison to gasoline and correction for vapor wall losses, American Chemical Society Fall Meeting, August 17-20, San Francisco, CA. [virtual]

[*34] Studying the emissions and formation of air pollutants from mobile sources, Woodward Technology Center, February 27, 2020, Loveland, CO.

[*33] Oxygenated aromatic compounds contribute substantially to secondary organic aerosol formation from photooxidation of wildfire emissions, American Geophysical Union Fall Meeting, December 9-13, 2019, San Francisco, CA.

[*32] Ground- and aerial-based platforms to measure aerosol size distributions: Spatiotemporal variability, vertical profiles, and near source sampling, 37th American Association for Aerosol Research Conference, October 14-18, 2019, Portland, OR.

[*31] Artificial neural networks for emissions modeling and environmental routing for light-duty passenger vehicles, CRC Real World Emissions Workshop, March 11-13, 2019, Long Beach, CA.

[*30] Artificial neural networks for emissions modeling and environmental routing for light-duty passenger vehicles, Center for Advancing Research in Transportation Emissions, Energy, and Health, February 18-20, 2019, Austin, TX.

[*29] Carbon-, oxygen-, and size- resolved model to simulate the microphysics, chemistry, and thermodynamics of wildfire organic aerosol, American Meteorological Society Conference, January 6-10, 2019, Phoenix, AZ.

[*28] Hands-on aerosol science and technology workshops in the Colorado Front Range, 10th International Aerosol Conference, September 2-7, 2018, St. Louis, MO.

[*27] Modeling the Formation and Composition of Secondary Organic Aerosol in Oxidation Flow Reactors Using Simple and Detailed Chemistry and Thermodynamic Models, 10th International Aerosol Conference, September 2-7, 2018, St. Louis, MO.

[*26] Atmospheric Formation of Secondary Organic Fine Particles from Combustion Sources: Tractors, Trees, and Traffic, Indian Institute of Science Education and Research, June, 4, 2018, Pune, India.

[*25] Atmospheric Formation of Secondary Organic Fine Particles from Combustion Sources: Tractors, Trees, and Traffic, University of Wyoming, November 28, 2017, Laramie, WY.

[*24] Linking Chemical Composition and Volatility to the Oxidative Potential of Diesel Exhaust Aerosols, 36th American Association for Aerosol Research Conference, October 16-20, 2017, Raleigh, NC.

[*23] Estimating Gasoline and Diesel Source Contributions to Organic Aerosol in Southern California using a Chemical Transport Model, 36th American Association for Aerosol Research Conference, October 16-20, 2017, Raleigh, NC.

[*22] Heterogeneous adoption and environmental impacts of clean energy technology, American Lung Association, February 21, Denver, CO.

[*21] Investigating diesels and emissions controls as an atmospheric source of isoycanic acid, Mobile Source Air Toxics Workshop, February 13-15, Sacramento, CA.

[*20] Investigating the atmospheric contribution of primary and secondary organic pollutants from mobile sources: a little bit of this (measurements) and a little bit of that (modeling), National Center for Atmospheric Research, November 15, 2016, Boulder, CO.

[*19] Photochemical Production of Secondary Organic Aerosol from a Non-road Diesel Engine: Influence of Engine Load, Fuel and Aftertreatment, 35th American Association for Aerosol Research Conference, October 17-21, 2016, Portland, OR.

[*18] The influence of constrained multi-generational oxidation on the mass, composition and properties of secondary organic aerosol in the United States, Atmospheric Sciences and Applications to Air Quality, November 11-13, 2015, Kobe, Japan.

[*17] Secondary organic aerosol from combustion sources: Measurements, models and policy implications, National Institute of Environmental Studies, November 10, 2015, Tsukuba, Japan.

[*16] The influence of constrained multi-generational oxidation on the mass, composition and properties of secondary organic aerosol in the United

States, Analytical and Environmental Chemistry Division and Atmospheric Chemistry Program Seminar, March 9, 2015, Boulder CO.

[15] Estimating marginal social costs from tailpipe emissions of motor vehicles, 33rd American Association for Aerosol Research Conference, October 20-24, 2014, Orlando, FL.

[14] Exploring new pathways of SOA formation in a 3-D model: Role of aging, water, IVOCs and aqueous and surface chemistry, 33rd American Association for Aerosol Research Conference, October 20-24, 2014, Orlando, FL.

[13] Explicit modeling of multi-generational aging of organic aerosol in a 3-D model, 33rd American Association for Aerosol Research Conference, October 20-24, 2014, Orlando, FL.

[12] Influence of the absorbed aerosol water on secondary organic aerosol in a source-oriented model, 4th International Aerosol Modeling Algorithms Conference, December 4-6, 2013, Davis, CA.

[11] SOA formation from photo-oxidation of evaporated fuels: Experiments and implications for SOA formation from combustion emissions, 32nd American Association for Aerosol Research Conference, September 30 - October 4, 2013, Portland, OR.

[10] Modeling the behavior and effects of hygroscopic organic aerosol in a chemical transport model, 32nd American Association for Aerosol Research Conference, September 30 - October 4, 2013, Portland, OR.

[9] The role of volatility and molecular structure on secondary organic aerosol formation, 31st American Association for Aerosol Research Conference, October 8-12, 2012, Minneapolis, MN.

[8] Unspeciated emissions from combustion sources and their potential to form SOA, 31st American Association for Aerosol Research Conference, October 8-12, 2012, Minneapolis, MN.

[7] Understanding the formation of secondary organic aerosol from combustion sources, Indian Institute of Technology, Gandhinagar, January 24, 2012, Ahmedabad, India.

[6] Modeling SOA formation from low volatility organics: Application to aircraft exhaust, 3rd International Aerosol Modeling Algorithms Conference, November 30 - December 2, 2011, Davis, CA.

[5] Modeling SOA formation from combustion emissions: Application to aircraft exhaust, 30th American Association for Aerosol Research Conference, October 4-7, 2010, Orlando, FL.

[4] Modeling fine particle pollution from aircraft using JP8, Fischer-Tropsch and blend Fuels, 28th Annual International Pittsburgh Coal Conference, October 12-15, 2011, Pittsburgh, PA.

[3] Simulating the formation of secondary organic aerosol from combustion systems in atmospheric models, Department of Civil Engineering, August 10, 2011, University of Minnesota, MN.

[2] Modeling the formation and properties of secondary organic aerosol from aircraft exhaust, 14th Annual Environmental Chemistry Student Symposium, April 8-9, 2011, Pennsylvania State University, PA.

[1] The sources and fate of global organic aerosol, Technology, Management and Policy Consortium, June 27-29, 2010, Cambridge, UK.

Posters

Colorado State University Work only

[14] Secondary Organic Aerosol Formation from Volatile Chemical Product Emissions: Model Parameters and Contributions to Anthropogenic Aerosol, Gordon Research Conference - Atmospheric Chemistry, July 29 - August 4, 2023, Sunday River, ME.

[13] Volatile Chemical Product Contributions to the Urban Secondary Organic Aerosol Burden in the United States, Atmospheric Chemical Mechanisms Conference, December 7-9, 2022, Davis, CA.

[12] Autonomous Low-Cost O3 Sensors: Development, Calibration, & Study of Exposure & Urban-Rural Gradients, Air Sensors International Conference, May 11-13, 2022, Pasadena, CA.

[11] Vapors are Lost to Walls, Not to Particles on the Wall: Development of Artifact-Corrected Parameters and Implications for Global Secondary Organic Aerosol, 39th American Association for Aerosol Research Conference, October 18-21, 2021. [virtual]

[10] Emissions and Radiative Impacts of Sub-10 nm Particles from Biofuel and Fossil Fuel Cookstoves, 38th American Association for Aerosol Research Conference, October 5-9, 2020. [virtual]

[9] Predicting the Fuel Consumption and Tailpipe Emissions from Light-Duty Passenger Vehicles Using Artificial Neural Networks, 37th American Association for Aerosol Research Conference, October 14-18, 2019, Portland, OR.

[8] Volatility and Oxidative Potential of Diesel Exhaust Particles: Role of Fuel, Engine Load, and Emissions Control, CRC Real World Emissions Workshop, March 11-13, 2019, Long Beach, CA.

[7] Oxidative Potential of Diesel Exhaust Particles: Role of Fuel, Engine Load, and Emissions Control, Center for Advancing Research in Transportation Emissions, Energy, and Health, February 18-20, 2019, Austin, TX.

[6] A Network of Autonomous Particle Spectrometers to Measure Spatiotemporal Variability in Particle Size Distributions in Intraurban Environments, 99th American Meteorological Society Conference, January 6-10, 2019, Phoenix, AZ.

[5] Secondary Organic Aerosol Formation Potential of Next-Generation Biofuels, 10th International Aerosol Conference, September 2-7, 2018, St. Louis, MO.

[4] Hydroxyl and Nitrate Radical Aging of Organic Emissions from Wildfires, 10th International Aerosol Conference, September 2-7, 2018, St. Louis, MO.

[3] Improving the Representation of Organic Aerosol in Atmospheric Models, Joint ARM User Facility and ASR PI Meeting, March 19-23, 2018, Tysons, VA.

[2] Modeling and Constraining the Production and Composition of Secondary Organic Aerosol from a Diesel Engine using Parameterized and Semi-Explicit Chemistry and Thermodynamics Models, 35th American Association for Aerosol Research Conference, October 17-21, 2016, Portland, OR.

[1] Investigating Diesels and Emissions Controls as an Anthropogenic Source of Isocyanic Acid in Urban Areas, International Global Atmospheric Chemistry Conference, September 26-30, 2016, Breckenridge, CO.

Presentations and Posters by Staff/Students Directly Advised

Colorado State University Work Only, **Presenting Author in Bold**

[41] **Maben, A.** Clearing the air: Tracking gas and particle emissions from prescribed fires, Air Quality Measurement Methods and Technology Conference, April 23-25, 2025, Denver, CO. [Presentation]

[40] **Li, E.** A Pseudo-Lagrangian Perspective on New Particle Formation and Growth Observed in Urban Outflow Plumes during AEROMMA, US CLIVAR Micro2Macro Workshop, October 28, 2024, Laramie, WY. [Poster]

[39] **Ridgway, K.** Aerosol emissions from structural fires at the wildland-urban interface: From carpets to couches and shingles to studs, American Association for Aerosol Research, October 21-25, 2024, Albuquerque, NM. [Poster]

[38] **Akbarzadeh, M.** Anthropogenic monoterpenes and monoterpenoids as important precursors for secondary organic aerosol in US cities, American Association for Aerosol Research, October 21-25, 2024, Albuquerque, NM. [Poster]

[37] **Li, E.** A pseudo-lagrangian perspective on new particle formation and growth observed in urban outflow plumes during AEROMMA, American Association for Aerosol Research, October 21-25, 2024, Albuquerque, NM. [Presentation]

[36] **Jones, D.** Improving water condensation bioaerosol sampling using a concentrated sample inlet flow, , American Association for Aerosol Research, October 21-25, 2024, Albuquerque, NM. [Poster]

[35] **Ksaibati, A.** Developing chemical mechanisms to represent the multigenerational gas-phase chemistry of oxygenated VOCs arising from volatile chemical products, ACS Fall Meeting, August 16-22, 2024, Denver, CO. [Poster]

[34] **Li, E.**, A Pseudo-Lagrangian Perspective on New Particle Formation and Growth Observed in Urban Outflow Plumes during AEROMMA, AEROMMA Science Team Meeting, July 30, 2024, Online. [Presentation]

[33] **Kumar, A.** et al.,Autonomous Network of Low-cost Ozone Sensors to Study the Spatial Distribution and Exposure in Underserved Agricultural Communities in Central California, Air Sensors International Conference, April 30 - May 3, 2024, Riverside, CA. [Poster]

[32] **Kumar, A.** et al., Autonomous Network of Low-Cost PM2.5 and Ozone Sensors to Study Spatial Distribution and Exposure in Underserved Agricultural Communities, Rocky Mountain States Section - Air and Waste Management Association Air Quality Technical Conference, November 2, 2023, Golden, CO. [Presentation]

[31] **Cast, J.** et al., Aerosol Emissions and Characterization During the Burning Homes

and Structural Materials (BHASMA) Project, 41st American Association for Aerosol Research Conference, October 2-6, 2023, Portland, OR. [Poster]

[30] **Polinski, D.** et al., Autonomous, Low-Cost, and Low-Power Ozone Sensors: Development, Calibration, and Applications in Mountain and Agricultural Valleys, American Meteorology Society Conference, January 8-12, 2023, Denver, CO. [Presentation]

[29] **He, Y.** et al., Process-Level Representation of Organic Aerosols in a Regional Climate Model (WRF-Chem): Processes, Parameterizations, and Predictions for GoAmazon, American Geophysical Union Conference, December 12-16, 2022, Virtual. [Presentation]

[28] **Dearden, A.** et al., Multi-Day Evolution of Organic Aerosol Mass and Composition from Biomass Burning Emissions, Atmospheric Chemical Mechanisms Conference, December 7-9, 2022, Davis, CA. [Poster]

[27] **Sasidharan, S.** et al., Volatile Chemical Product Contributions to the Urban Secondary Organic Aerosol Burden in the United States, 40th American Association for Aerosol Research Conference, October 3-7, 2022, Rayleigh, NC. [Presentation]

[26] **Dearden, A.** et al., Multi-Day Evolution of Organic Aerosol Mass and Composition from Biomass Burning Emissions, 40th American Association for Aerosol Research Conference, October 3-7, 2022, Rayleigh, NC. [Presentation]

[26] **Bilsback, K.** et al., A Process-Level 3D Atmospheric Model for Secondary Organic Aerosol: Model Development and Applications to the GoAmazon Field Campaign, American Geophysical Union Conference, December 13-17, 2021, New Orleans, LA. [Poster]

[25] **Bilsback, K.** et al., Vapors are Lost to Walls, Not to Particles on the Wall: Development of Artifact-Corrected Parameters and Implications for Global Secondary Organic Aerosol, American Geophysical Union Conference, December 13-17, 2021, New Orleans, LA. [Presentation]

[24] **He, Y.** et al., Dilution and Photooxidation Driven Processes Explain the Evolution of Organic Aerosol in Wildfire Plumes, American Geophysical Union Conference, December 13-17, 2021, New Orleans, LA. [Presentation]

[23] **He, Y.** et al., Process-Level Modeling Can Simultaneously Explain Secondary Organic Aerosol Evolution in Chambers and Flow Reactors, American Geophysical Union Conference, December 13-17, 2021, New Orleans, LA. [Presentation]

[22] **He, Y.** Process-Level Modeling Can Simultaneously Explain Secondary Organic Aerosol Evolution in Chambers and Flow Reactors, 39th American Association for Aerosol Research Conference, October 18-21, 2021, Virtual. [Presentation]

[21] **Akherati, A.**, Dilution and Photooxidation Driven Processes Explain the Evolution of Organic Aerosol in Wildfire Plumes, 39th American Association for Aerosol Research Conference, October 18-21, 2021, Virtual. [Presentation]

[20] **Akherati, A.** et al., Photochemical Evolution of Primary and Secondary Organic Aerosol in Large Wildfire Plumes, American Geophysical Union Fall Meeting, December 1-17, 2020, Virtual. [Presentation]

[19] **Maben, A.** et al., Heterogeneity in urban air quality impacts inferred from ground-based monitoring networks during the COVID-19 pandemic, American Geophysical Union Fall Meeting, December 1-17, 2020, Virtual. [Poster]

[18] **He, Y.** et al., Particle size distribution dynamics can help constrain the phase state of secondary organic aerosol, American Geophysical Union Fall Meeting, December 1-17, 2020, Virtual. [Poster]

[17 **He, Y.** et al., Particle size distribution dynamics can help constrain the phase state of secondary organic aerosol, 38th American Association for Aerosol Research Conference, October 5-9, 2020, Virtual. [Presentation]

[16] **Sasidharan, S.** et al., Improving the Representation of Secondary Organic Aerosol from VCP Sources in Air Quality Models, 38th American Association for Aerosol Research Conference, October 5-9, 2020, Virtual. [Presentation]

[15] **Chuang, W.** et al., An experimentally constrained chemistry-microphysics model for organic aerosol aging and particle phase state, American Geophysical Union Fall Meeting, December 9-13, 2019, San Francisco, CA. [Presentation]

[14] **Hodshire, A.** et al., Dilution rules everything around me: How can we constrain impacts of dilution on smoke aerosol aging and photochemistry?, International Aerosols Modeling Algorithms Conference, December 4-6, Davis, CA [Presentation]

[13] **Akherati, A.** et al., Dilution rules everything around me: How can we constrain impacts of dilution on smoke aerosol aging and photochemistry?, American Geophysical Union Fall Meeting, December 9-13, 2019, San Francisco, CA. [Presentation]

[12] **Hodshire, A.** et al., Where's the mass: why might field and laboratory studies on aging of biomass burning aerosols disagree on mass enhancements?, 37th American Association for Aerosol Research Conference, October 14-18, 2019, Portland, OR. [Presentation]

[11] **Akherati, A.** et al., Large contribution of oxygenated aromatic compounds in biomass burning emissions to secondary organic aerosol formation, 37th American Association for Aerosol Research Conference, October 14-18, 2019, Portland, OR. [Presentation]

[10] **He, Y.** et al., Translating environmental chamber data for secondary organic aerosol for use in atmospheric models, 37th American Association for Aerosol Research Conference, October 14-18, 2019, Portland, OR. [Presentation]

[9] **Hodshire, A.** et al., Where's the mass: why might field and laboratory studies on aging of biomass burning aerosols disagree on mass enhancements?, Gordon Research Conference on Atmospheric Chemistry, July 28-August 1, 2019, Sunday River, MA. [Poster]

[8] **He, Y.** et al., Secondary Organic Aerosol Formation Potential of Next-Generation Biofuels, Energy Transition Symposium 2020, April 1-2, 2019, Denver, CO. [Poster]

[7] **Chuang, W.** et al., Improving the representation of secondary organic aerosol in atmospheric models, American Geophysical Union Fall Meeting, December 10-14, 2018, Washington DC. [Presentation]

[6] **Akherati, A.** et al., Carbon-, Oxygen-, and Size- Resolved Model to Simulate the Chemistry, Thermodynamics, and Microphysics of Organic Aerosol, Atmospheric Chemical Mechanisms Conference, December 5-7, 2018, Davis, CA. [Poster]

[5] **Akherati, A.** et al., Carbon-, Oxygen-, and Size- Resolved Model to Simulate the Microphysics, Chemistry, and Thermodynamics of Biomass Burning Organic Aerosol, 10th International Aerosol Conference, September 2-7, 2018, St. Louis, MO. [Poster]

[4] **Akherati, A.** et al., Investigating the role of aromatic compounds on anthropogenic secondary organic aerosol in urban environments, 36th American Association for Aerosol Research Conference, October 16-20, 2017, Raleigh, NC. [Presentation]

[3] **Akherati, A.** et al., Simulating the combined effect of volatility, multigenerational chemistry, unspeciated precursors and vapor wall-losses on ambient organic aerosol in 3-D air quality model, 35th American Association for Aerosol Research Conference, October 17-21, 2016, Portland, OR. [Presentation]

[2] **Eluri, S.** et al., Modeling and Constraining the Production and Composition of Secondary Organic Aerosol from a Diesel Engine using Parameterized and Semi-Explicit Chemistry and Thermodynamics Models, International Global Atmospheric Chemistry Conference, September 26-30, 2016, Breckenridge, CO. [Poster]

[1] **Galang, A.** et al., Volatility of Particulate Matter Emissions from Diesel Engines: Role of Fuel and Engine load, National Biodiesel Conference and Exposition, January 24-28, 2016, Tampa, FL. [Poster]

Current Staff/Student Advising

En Li, Ph.D., 08/21, Graduation: Summer 2026 (Co-advisor, Primary Advisor: Prof. Jeffrey Pierce)
Amel Ksaibati, Ph.D., 08/23, Graduation: Summer 2027
Abbie Maben, Ph.D., 05/23, Graduation: Summer 2027
Masoud Akbarzadeh, M.S., 01/23, Graduation: Summer 2025
Drew Jones, M.S., 01/24, Graduation: Fall 2025
Karthick Kumar, M.S., 01/24, Graduation: Spring 2025
Kevin Ridgway, M.S., 01/23, Graduation: Fall 2025
Torria Colpitts, B.S., 10/24, Graduation: Fall 2025

Past Staff/Students Advised

Dr. Wayne Chuang, 03/20
Dr. Kelsey Bilsback, 08/21
Dr. Jack Kodros, 10/22
Dr. Casey Quinn, 04/23
Dr. Huiying Luo, 06/24
Dr. Srinidhi Lokesh, 08/24 (Co-advisor, Primary Advisor: Prof. Thomas Borch)
Ali Akherati, Ph.D., 05/21 (Co-advisor: Prof. Jeffrey Pierce)
Charles He, Ph.D., 05/22
Anna Hodshire, Ph.D., 12/19 (Co-advisor, Primary Advisor: Prof. Jeffrey Pierce)
Sailaja Eluri, M.S., 02/17
Abraham Dearden, M.S., 01/23
Abril Galang, M.S., 02/17
Dylan Giardina, M.S., 05/22
Akshay Kumar, M. S., 12/24
Kyle Pittman, M.S., 03/23
Sreejith Sasidharan, M.S., 01/23
Naman Sharma, M.S., 10/18

Shiva Tarun, M.S., 06/19
Jamie Cast, B.S., 05/24
Dylan Giardina, B.S., 05/20
Mikaela Henness-Wilson, B.S, 05/19
Christopher Heppding, B.S., 05/16
Brandon King, B.S., 05/18
Zachary Lustig, B.S., 05/20
Abigail Maben, B.S., 05/21
Scott Parmelee, B.S., 05/20
Neil Vaidya, High School, 07/23

Undergraduate Researchers Advised

Jonathan Boualavong, B.S. (2015); Lindsay Dietz, B.S. (2022); Ayla Gotoh-Mack, B.S. (2021); Spencer Jordan, B.S. (2020-2021); Amel Ksaibati, B.S. (2022); Liam Lewane, B.S. (2016-2018); Daniel Polinski, B.S. (2022-2023); Kevin Ridgway, B.S. (2023-2024); Jiachen Sun, B. S. (2021); Cody Vanderheyden, B.S. (2015-2017)

Committee Member (present)

Charles Davis, Ph.D., Atmospheric Science; Adam De Groot, Ph.D., Chemistry; John Flynn, Ph.D., Mechanical Engineering; Emily Lill, Ph.D., Atmospheric Science; Brandon Moore, M.S., Systems Engineering; Lillian Naimie, Ph.D., Atmospheric Science; Samuel O'Donnell, Ph.D., Atmospheric Science; Katelyn Rediger, Ph.D., Chemistry

Committee Member (past)

Kelly Banta, M.S., 03/17; Tyson Berg, Ph.D., 12/24; Kelsey Bilsback, Ph.D., 09/18; Jared Brewer, Ph.D., 01/20; Jennie Bukowski, Ph.D., 02/21; Sam Colosimo, M.S., 10/20; Charles Davis, M.S., 02/25; Katie DeRose, Ph.D., 06/20; Ethan Emerson, Ph.D., 08/19; Betsy Farris, M.S., 03/19; Max Flagge, M.S., 05/17; Jacob Fontenot, M.S., 12/22; Luke Giugliano, M.S., 05/19; Brian Heffernan, M.S., 5/24; Anna Helfrich, M.S., 06/25; Thor Hogberg, M.S., 01/17; Noah Horesh, Ph.D., 07/23; Julieta Juncosa Calahorrano, Ph.D., 12/23; Nicole June, Ph.D., 05/25; Nicole June, M.S., 03/22; Jared Khattak, M.S., 12/17; Kevin Klunder, Ph.D., 06/18; Scott Kelleher, M.S., 05/17; Colin Lee, Ph.D., 09/20; Gabrielle Leung, Ph.D., 04/25; Gabrielle Leung, M.S., 08/22; Jakob Lindaas, Ph.D., 07/20; Michael Link, Ph.D., 09/19; Reid Maynard, Ph.D., 05/25; Emilio Molina Rueda, Ph.D., 07/25; Lillian Naimie, M.S., 03/22; Emily Ramnarine, M.S., 8/18 ; Scott Ritter, Ph.D., 10/21; Sally Runions, M.A., 05/18; Dhyey Solanki, M.S., 03/23; Yixing Shao, M.S., 02/18; Alex Sokolowsky, Ph.D., 07/22; Evan Sproul, Ph.D., 07/20; McKay Stoker, M.S., 05/19; Kyle Tanner, Ph.D., 07/25; James Tillotson, M.S., 10/18; Zitely Tzompa, Ph.D., 11/18; Chris Van Roekel, Ph.D., 02/20; Lizette Van Zyl, M.S., 05/18; Derek Weber, M.S., 12/17; Eric Wendt, M.S., 05/18; Eric Wendt, Ph.D., 06/22; Khalid Zineddin, M.S., 04/21

Senior Design Advising

[4] Building a Better Air Sampler, 2022-2023
Derrick Johnson, Drew Jones, Vincent Montez

[3] UAV-POPS: Airborne Measurements of the Particle Size Distribution, 2018-2019
Alex Lieberman, Vance Payne, Joshua Weller, Kepler Worobec

[2] Low-cost Ozone Sensor, 2016-2017
Alex Gabriel, Ian Huber, Aaron Radack, Jonathan Sharf, Keith Syrstad, Kyle Tallakson

[1] Low-cost Air Quality Monitor, 2015-2016
Collin Babcock, Matt Houghton, Alex Mitchell, Kyle Roberts, Ashlee Sanchez