DEMETRIOS PAGONIS

Curriculum Vitae

Weber State University
Department of Chemistry and Biochemistry
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Summary: Dr. Pagonis researches the atmospheric chemistry and air quality of outdoor and indoor environments, with particular focus on secondary organic aerosol chemistry

Education

2018	Ph.D., Department of Chemistry, University of Colorado, Boulder. Thesis supervised by Prof. Ziemann: Influence of multiphase processes on the chemistry and measurement of organic compounds in indoor and outdoor environments
2013	B.S., *magna cum laude* with honors, Davidson College, Davidson, NC

Professional Appointments

2021-Present	Assistant Professor, Dept. of Chemistry and Biochemistry, Weber State University, Ogden, Utah
2019-2021	Postdoctoral Associate, Jimenez group. Dept. of Chemistry and Cooperative Institute for Research in Environmental Sciences, University of Colorado, Boulder

Teaching

2022	Environmental Chemistry, Weber State University
2021-2023	Quantitative Analysis, Weber State University
2021-2023	General Chemistry, Weber State University
2020	Guest lecturer, Atmospheric Chemistry, University of Denver
2019	Guest lecturer, Advanced Atmospheric Chemistry, CU Boulder
2019	Guest lecturer, Mass Spectrometry and Chromatography, CU Boulder
2014, 2016	Teaching assistant, Instrumental Analysis Laboratory, CU Boulder
2013	Teaching assistant, General Chemistry 1 with laboratory, CU Boulder

Publications

25. Moravek, A., VandenBoer, T., Finewax, Z., **Pagonis, D.**, Nault, B. A., Brown, W., Day, D., Handschy, A., Stark, H., Ziemann, P., Jimenez, J., de Gouw, J., and Young, C. Reactive chlorine emissions from cleaning and reactive nitrogen chemistry in an indoor athletic facility. *Environmental Science and Technology*, 56, 10.1021/acs.est.2c04622, 2022
24. 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., Paul Bui, T., Peischl, J., Yokelson, R. J., Alvarado, M. J., Kreidenwis, S. M., Jathar, S. H., and Pierce, J. R. 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,* 10.5194/acp-22-12803-2022, 2022

23. Saide, P. E., Thapa, L. H., Ye, X., **Pagonis, D.**, Campuzano-Jost, P., Guo, H., Schueneman, M. L., Jimenez, J. L., Moore, R., Wiggins, E., Winstead, E., Robinson, C., Thornhill, L., Sanchez, K., Wagner, N. L., Ahern, A., Katich, J., Perring, A., Schwarz, J., Lyu, M., Holmens, C. D., Hair, J. W., Fenn, M. A., and Shingler, T. Understanding the evolution of smoke mass extinction efficiency using field campaign measurements. *Geophysical Research Letters*, 49, 10.1029/2022GL099175, 2022
22. Jimenez, J. L., Peng, Z., and **Pagonis, D.** A Systematic Way to Understand and Classify the Shared-Room Airborne Transmission Risk of Indoor Spaces, *Indoor Air*, 32, 10.1111/ina.13025, 2022
21. Zeng, L., Dibb, J., Scheuer, E., Katich, J. M., Schwarz, J. P., Bourgeois, I., Peischl, J., Ryerson, T., Warneke, C., Perring, A. E., Diskin, G. S., DiGangi, J. P., Nowak, J. B., Moore, R. H., Wiggins, E. B., **Pagonis, D.**, Guo, H., Campuzano-Jost, P., Jimenez, J. L., Xu, L., and Weber, R. J.: Characteristics and Evolution of Brown Carbon in Western United States Wildfires, *Atmospheric Measurement Techniques* 10.5194/acp-22-8009-2022, 2022
20. Bourgeois, I., Peischl, J., Neuman, J. A., Brown, S. S., Allen, H. M., Campuzano-Jost, P., Coggon, M. M., DiGangi, J. P., Diskin, G. S., Gilman, J. B., Gkatzelis, G. I., Guo, H., Halliday, H., Hanisco, T. F., Holmes, C. D., Huey, L. G., Jimenez, J. L., Lamplugh, A. D., Lee, Y. R., Lindaas, J., Moore, R. H., Nowak, J. B., **Pagonis, D.**, Rickly, P. S., Robinson, M. A., Rollins, A. W., Selimovic, V., St. Clair, J. M., Tanner, D., Vasquez, K. T., Veres, P. R., Warneke, C., Wennberg, P. O., Washenfelder, R. A., Wiggins, E. B., Womack, C. C., Xu, L., Zarzana, K. J., and Ryerson, T. B.: Comparison of airborne measurements of NO, NO2, HONO, NOy and CO during FIREX-AQ, *Atmospheric Measurement Techniques*, 10.5194/amt-2021-432, 2022
19. Price, D. J.; Day, D. A.; **Pagonis, D.**; Stark, H.; Handschy, A. V.; Algrim, L. B.; Miller, S. L.; de Gouw, J. A.; Ziemann, P. J.; and Jimenez, J. L. Sources of Gas-Phase Species in an Art Museum from Comprehensive Real-Time Measurements. *ACS Earth and Space Chemistry*, 5, 2252-2267, 2021
18. Decker, Z.; Wang, S.; Bourgeois, I.; Campuzano-Jost, P.; Coggon, M.; DiGangi, J.; Diskin, G.; Flocke, F.; Franchin, A.; Fredrickson, C.; Gkatzelis, G.; Hall, S.; Halliday, H.; Hayden, K.; Holmes, C. D.; Huey, L.; Jimenez, J.; Lee, Y.; Lindaas, J.; Middlebrook, A.; Montzka, D.; Neuman, J. A.; Nowak, J.; **Pagonis, D.**; Palm, B.; Peischl, J.; Piel, F.; Rickly, P.; Robinson, M. ; Rollins, A.; Ryerson, T.; Sekimoto, K.; Thornton, J.; Tyndall, G.; Ullmann, K.; Veres, P.; Warneke, C.; Washenfelder, R.; Weinheimer, A.; Wisthaler, A.; Womack, C.; and Brown, S. A novel analysis to quantify plume crosswind heterogeneity applied to biomass burning smoke. *Environmental Science and Technology*, 55, 15646-15657, 2021
17. Finewax, Z., **Pagonis, D.**, Claflin, M. S., Handschy, A. V., Brown, W., Jenks, O., Nault, B. A., Day, D. A., Lerner, B. M., Jimenez, J. L., Ziemann, P. J., and de Gouw, J. A. Quantification and source characterization of volatile organic compounds from exercising and application of chlorine-based cleaning products in a university athletic center. *Indoor Air*, 5, 1323-1339, 2020

16. **Pagonis, D.**, Campuzano-Jost, P., Guo, H., Day, D. A., Schueneman, M. K., Brown, W. L., Nault, B. A., Stark, H., Siemens, K., Laskin, A., Piel, F., Tomsche, L., Wisthaler, A., Coggon, M. M., Gkatzelis, G. I., Halliday, H. S., Krechmer, J. E., Moore, R. H., Thomson, D. S., Warneke, C., Wiggins, E. B., and Jimenez, J. L. Airborne extractive electrospray ionization mass spectrometry measurements of the chemical composition of organic aerosol. *Atmospheric Measurement Techniques*, 14, 1545-1559, 2020
15. Claflin, M., **Pagonis, D.**, Finewax, Z., Handschy, A., Day, D., Brown, W., Jayne, J., Worsnop, D., Jimenez, J. L., Ziemann, P. J., de Gouw, J., and Lerner, B. Measurements of indoor air using an *in-situ* gas chromatograph with automatic detector switching between Vocus PTR-TOF-MS and EI-TOF-MS. *Atmospheric Measurement Techniques*, In Press. doi:10.5194/amt-2020-271, 2020
14. Nault, B. A., Campuzano-Jost, P., Day, D. A., Guo, H., Jo, D. S., Handschy, A. V., **Pagonis, D.**, Schroder, J. C., Schueneman, M. K., Cubison, M. J., Dibb, J. E., Hodzic, A., Hu, W., Palm, B. B., and Jimenez, J. L. Interferences on aerosol acidity quantification due to gas-phase ammonia uptake onto acidic sulfate filter samples. *Atmospheric Measurement Techniques*, 13, 6193–6213. 2020
13. Brown, W. L., Day, D. A., Stark, H., **Pagonis, D.**, Krechmer, J. E., Liu, X., Price, D. J., Katz, E. F., DeCarlo, P., Masoud, C. G., Wang, D. S., Hildebrandt Ruiz, L., Arata, C., Lunderberg, D., Goldstein, A. H., Farmer, D. K., Vance, M. E., and Jimenez, J. L. Real-time organic aerosol chemical speciation in the indoor environment using extractive electrospray ionization mass spectrometry. *Indoor Air.* 31, 141-155, 2020
12. Algrim, L., **Pagonis, D.**, de Gouw, J. A., Jimenez, J. L., Ziemann, P. J. Measurements and modeling of absorptive partitioning of volatile organic compounds to painted surfaces. *Indoor Air*, 30, 745-756, 2020
11. Price, D., Day, D. A., **Pagonis, D.**, Stark, H., Algrim, L. B., Handschy, A. V., Liu, S., Krechmer, J. E., Miller, S. L., Hunter, J. F., de Gouw, J. A., Ziemann, P. J., and Jimenez, J. L. Budgets of organic carbon composition and oxidation in indoor air. *Environmental Science and Technology*, 53, 13053-13063, 2019
10. **Pagonis, D.**, Algrim, L. B., Price, D. J., Day, D. A., Handschy, A. V., Stark, H., Miller, S. L., de Gouw, J. A., Jimenez, J. L., and Ziemann, P. J. Autoxidation of limonene in a university art museum. *Environmental Science and Technology Letters*, 6, 520-524, 2019
9. Deming, B., **Pagonis, D.**, Liu, X., Day, D., Talukdar, R., Krechmer, J., de Gouw, J. A., Jimenez, J. L., and Ziemann, P. J. Measurements of delays of gas-phase compounds in a wide variety of tubing materials due to gas-wall interactions. *Atmospheric Measurement Techniques*, 12, 3453-3461, 2019
8. Liu, X., Deming, B., **Pagonis, D.**, Day, D., Palm, B., Talukdar, R., Roberts, J., Veres, P., Krechmer, J., Thornton, J., de Gouw, J., Ziemann, P., and Jimenez, J. L. Effects of gas-wall interactions on measurements of semivolatile compounds and small polar molecules. *Atmospheric Measurement Techniques*, 12, 3173-3149, 2019
7. **Pagonis, D.**, Sekimoto, K., and de Gouw, J. A library of proton-transfer reactions of H_3O^+ ions used for trace gas detection. *Journal of the American Society for Mass Spectrometry*, 30, 1330-1335, 2019

6. **Pagonis, D.**, Price, D. J., Algrim, L. B., Day, D. A., Handschy, A. V., Stark, H., Miller, S. L., de Gouw, J., Jimenez, J. L., and Ziemann, P. J. Time-resolved measurements of indoor chemical emissions, deposition, and reactions in a university art museum. *Environmental Science and Technology*, 53, 4794-4802, 2019
5. **Pagonis, D.** and Ziemann, P. Chemistry of hydroperoxycarbonyls in secondary organic aerosol. *Aerosol Science and Technology*, 52, 1178-1193, 2018
4. **Pagonis, D.**, Krechmer, J., de Gouw, J., Jimenez, J., Ziemann, P. Effects of gas-wall partitioning in Teflon tubing and instrumentation on time-resolved measurements of gas-phase organic compounds. *Atmospheric Measurement Techniques*, 10, 4687-4696, 2018
3. Suda Petters, S., **Pagonis, D.**, Claflin, M., Levin, E., Petters, M., Ziemann, P., Kreidenweis, S. Hygroscopicity of organic compounds as a function of carbon chain length and carboxyl, hydroperoxyl, and carbonyl functional groups. *Journal of Physical Chemistry A*, 121, 5164-5174, 2017
2. Krechmer, J., **Pagonis, D.**, Ziemann, P., and Jimenez, J. Quantification of gas-wall partitioning in Teflon environmental chambers using rapid bursts of low-volatility oxidized species generated in-situ. *Environmental Science and Technology*, 50, 5757-5765, 2016
1. Hangarter, C., Liu, Y., **Pagonis, D.**, Bertocci, U., and Moffat, T. Electrodeposition of Ternary Pt100-x-yCoxNiy Alloys. *Journal of the Electrochemical Society*, 161, D31-D43, 2014

Invited Presentations

5. Pagonis, D. Constraints on Biomass Burning Organic Aerosol Volatility and the Impacts of Gas-Particle Partitioning. **2021** Sixteenth Atmospheric Chemistry Colloquium for Emerging Senior Scientists ACCESS XVI
4. Pagonis, D., Algrim, L., Morris, M., Ziola, A., Price, D., Day, D., Handschy, A., de Gouw, J., Ziemann, P., and Jimenez, J. L. Reversible Partitioning in the Indoor Environment. **2021** Sloan Chemistry of Indoor Environments Meeting
3. Pagonis, D., Campuzano-Jost, P., Guo, H., Day, D. A., Schueneman, M. K., Nault, B. A., Brown, W., and Jimenez, J. L. Synergistic EESI-MS and AMS Measurements at FIREX-AQ. **2021** Aerodyne Aerosol Mass Spectrometers Users' Meeting, Online
2. Pagonis, D., Campuzano-Jost, P., Guo, H., Day, D., Schueneman, M., Brown, W., Nault, B., DiGangi, J., Diskin, G., Fenn, M., Hair, J., Halliday, H., Katich, J., Mikoviny, T., Nowak, J., Perring, A., Piel, F., Saide, P., Schwarz, J., Shingler, T., Thapa, L., Tomsche, L., Wisthaler, A., and Jimenz, J. L. Chemical Aging of Biomass Burning Organic Aerosol: Insight from Airborne Extractive Electrospray Mass Spectrometry (EESI) Measurements. September **2020** NCAR ACOM Seminar
1. Pagonis, D., Claflin, M., Lerner, B., Ziemann, P. J., Jimenez, J. L. and de Gouw, J. Time-resolved measurements of volatile organic compounds indoors using a Vocus time-of-flight proton-transfer-reaction mass spectrometer. **2019** International Society of Indoor Air Quality and Climate Webinar

Oral Presentations

14. Pagonis, D., Selimovic, V., Campuzano-Jost, P., Guo, H., Schueneman, M., Day, D., Nault, B., Campos, T., DiGangi, J., Diskin, G., Farmer, D., Gargulinski, E., Garofalo, L., Hair, J., Halliday, H., Herndom, S., Holmes, C., Katich, J., Kreidenweis, S., Levin, E., Nowak, J., Perring, A., Pothier, M., Saide, P., Schwarz, J., Shingler, T., Soja, A., Thapa, L., Wiggins, E., Yacovitch, T., Yokelson, R., and Jimenez, J. L. Biomass Burning Organic Aerosol Volatility, Emission Factors, and Aging. **2021** American Geophysical Union Fall Meeting, Online
13. Pagonis, D., Campuzano-Jost, P., Guo, H., Day, D. A., Schueneman, M. K., Nault, B. A., Brown, W., Coggon, M., DiGangi, J., Diskin, G., Fenn, M., Gkatzelis, G., Hair, J., Halliday, H., Holmes, C., Katich, J., Laskin, A., Nowak, J., Perring, A., Saide, P., Schwarz, J., Sekimoto, K., Siemens, K., Thapa, L., Warneke, C., Wolfe, G., and Jimenez, J. L. Chemical Aging of Biomass Burning Organic Aerosol: Insight from Fast Near-Molecular Measurements. **2020** American Geophysical Union Fall Meeting, Online
12. Pagonis, D., Campuzano-Jost, P., Guo, H., Day, D. A., Schueneman, M. K., Brown, W., Nault, B. A., Stark, H., Siemens, K., Laskin, A., Piel, F., TomscheL. , Mikoviny, T., Wisthaler, A., Coggon, M., DiGangi, J., Diskin, G., Gkatzelis, G., Halliday, H., Katich, J., Krechmer, J., Nowak, J., Perring, A., Schwarz, J., Thomson, D., Warneke, C., and Jimenez, J. L. Airborne Extractive Electrospray Mass Spectrometry (EESI) Measurements of the Chemical Composition of Biomass Burning Organic Aerosol. **2020** American Association of Aerosol Research Annual Conference, Online
11. Pagonis, D., Krechmer, J. E., Ziemann, P. J., de Gouw, J., and Jimenez, J. L. Deconvolution of Partitioning Delays from Time-Resolved Measurements. **2020** Aerodyne ToF-CIMS Users' Meeting, Online
10. Pagonis, D., Campuzano-Jost, P., Guo, H., Day, D. A., Brown, W., Schueneman, M., Nault, B., Siemens, K., Laskin, A., Piel, F., Mikoviny, T., Tomsche, L., Wisthaler, A., DiGangi, J., Diskin, G., Halliday, H., Hildebrandt Ruiz, L., Masoud, C., Nowak, J., Schwarz, J., Warneke, C., and Jimenez, J. L. Airborne EESI-TOF Measurements of the Chemical Composition of Biomass Burning Organic Aerosol. **2020** Aerodyne ToF-CIMS Users' Meeting, Online
9. Pagonis, D., Krechmer, J. E., Ziemann, P. J., de Gouw, J., and Jimenez, J. L. Deconvolution of Partitioning Delays from Time-Resolved Measurements. **2020** Front Range TOF-CIMS Users' Meeting, Online
8. Pagonis, D., Campuzano-Jost, P., Guo, H., Day, D. A., Brown, W., Schueneman, M., Nault, B., Diskin, G., Schwarz, J., Warneke, C., Wisthaler, A., and Jimenez, J. L. Airborne EESI-TOF. **2020** Front Range TOF-CIMS Users' Meeting, Online
7. Pagonis, D., Price, D. J., Algrim, L. B., Day, D. A., Handschy, A. V., Stark, H., Miller, S. L., de Gouw, J., Jimenez, J. L., and Ziemann, P. J. Air quality measurements and management strategies for museums. **2019** Mountain Plains Museum Association Conference, Albuquerque, NM
6. Pagonis, D., Krechmer, J. E., Ziemann, P. J., de Gouw, J., and Jimenez, J. L. Correcting for partitioning delays: deconvolution vs fast zeroing. **2019** Aerodyne ToF-CIMS Users' Meeting, Boulder, CO

5. Pagonis, D., Price, D., Algrim, L., Day, D., Handschy, A., Miller, S., de Gouw, J., Jimenez, J., and Ziemann, P. Time-resolved measurements of indoor chemistry, emission rates, and deposition velocities in a university art museum. **2018** International Society of Indoor Air Quality and Climate Indoor Air Conference, Philadelphia, PA
4. Pagonis, D., Deming, B., Liu, X., Talukadar, R., Roberts, J., Krechmer, J., de Gouw, J., Jimenez, J., and Ziemann, P. Effects of gas-wall partitioning in tubing and instrumentation on gas-phase measurements. **2018** Aerodyne ToF-CIMS Users' Meeting, Seattle, WA
3. Pagonis, D., Deming, B., Liu, X., Talukadar, R., Roberts, J., Krechmer, J., de Gouw, J., Jimenez, J., and Ziemann, P. Tubing delays – teflon and other materials. **2018** Front Range Chemical Ionization Mass Spectrometer Users' Meeting, Boulder, CO
2. Pagonis, D., Krechmer, J., de Gouw, J., Jimenez, J., and Ziemann, P. What about the tubing? **2017** Front Range Chemical Ionization Mass Spectrometer Users' Meeting, Boulder, CO
1. Pagonis, D., and Ziemann, P. Reaction pathways, kinetics, and equilibria of multifunctional hydroperoxides in secondary organic aerosol. **2016** American Association of Aerosol Research Annual Conference, Portland, OR

Funding

3. *COVID-19 Mitigation at the Val A. Browning Center Through Direct Measurement of Ventilation*, Weber State University Research, Scholarship, and Professional Growth Committee Research Grant, (PI) $2,976, 10/2021–12/2021
2. *Constraining Organic Aerosol Evaporation and Aging for Biomass Burning, Pollution, and Biogenic Sources Using Airborne Data*, NASA Earth Science NNH20ZDA001N-ACCDAM (Co-I, PI: J.L. Jimenez) 3.3 mo/yr, $690,500, 4/2021–4/2024
1. *Airborne Investigation of Fresh and Aged Aerosol Emissions from North American Fires on the NASA DC8 with HR-ToF-AMS and EESI-ToF-MS — Funded Extension*, NASA Earth Science Post-COVID-19 Recovery Program (Postdoctoral Associate, PI: J.L. Jimenez) 5 mo/yr, $89,000, 3/2021–4/2022

Outreach

2020-2022	Advising on best ventilation practices for mitigating SARS-COV-2 spread and deploying low-cost carbon dioxide sensors for use in COVID-19 risk assessment
2019	Advising museums in the mountain west on best practices for managing indoor air quality, especially mitigating wildfire smoke exposure
2019-2021	Volunteer at the National Ocean Science Bowl regional Trout Bowl tournament
2018	Talk at the CU Undergraduate Chemistry Club, "Indoor air quality"
2018	Public talk at Nerd Night Boulder, "Chemistry of the indoor environment"
2018	Public talk at the CU Boulder Women in Science & Engineering SciComm Symposium, "Chemistry of the indoor environment"
2017	Hosted and mentored a high school student for a CareerLaunch Internship summer project using FTIR to quantify components of secondary organic aerosol
2016	Public talk at CIRES IGNITE, Boulder, CO, "Laboratory studies of secondary organic aerosol chemistry"

2014-2016 Global Ozone Project, discussed climate change, air pollution and careers in science with 8th grade classes in Colorado

Professional Service

2022-Present Treasurer, Air Quality: Science for Solutions Conference Planning Committee
2022-Present Proposal reviewer, DOE ASR
2021-Present Proposal reviewer, NOAA AC4
2020 Session chair, 2020 American Association of Aerosol Research Annual Meeting
2020-2021 Organizer and host, Front Range TOF-CIMS Users' Meeting
2017-Present Reviewer:

ACS Earth and Space Chemistry
Aerosol Science and Technology
Atmospheric Chemistry and Physics
Atmospheric Environment
Atmospheric Measurement Techniques
Environmental Science and Technology
Environmental Science and Technology Letters
Environmental Science Processes and Impacts
Journal of Chemical Education
Journal of Geophysical Research: Atmospheres
Science Advances

Awards

2021 CIRES Outstanding Performance Award in Science
2021 CIRES Bronze Medal

Field Research Experience

2019 FIREX-AQ – Fire Influence on Regional to Global Environments and Air Quality. Airborne measurements onboard the NASA DC-8 aircraft, Boise, ID and Salina, KS
2018 ATHLETIC – Athletic Center Study of Indoor Chemistry. Indoor site at the Dal Ward Athletic Center, Boulder, CO
2017 ARTISTIC – Art Museum Study of Indoor Chemistry. Indoor site at the University of Colorado Art Museum, Boulder, CO