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ACADEMIC APPOINTMENTS

THE UNIVERSITY OF TEXAS AT AUSTIN
Department of Chemical Engineering, Center for Energy and Environmental Resources

- Associate Professor 2020 – present
- Assistant Professor 2012 – 2020

OTHER APPOINTMENTS

NATIONAL CENTER FOR ATMOSPHERIC RESEARCH

- Postdoctoral Research Fellow, Atmospheric Chemistry Division 2011 – 2012

EDUCATION

CARNEGIE MELLON UNIVERSITY
Dual Ph.D. in Chemical Engineering, and in Engineering and Public Policy 2011

- Advisors: Spyros N. Pandis and Neil M. Donahue
- Dissertation title:
  "Atmospheric Organic Particulate Matter: Measurements, Models and Mitigation."

CALIFORNIA INSTITUTE OF TECHNOLOGY
Bachelor of Science in Chemical Engineering (Environmental) 2006

SELECTED HONORS AND AWARDS

- James J. Morgan Early Career Award 2021
  American Chemical Society Environmental Division, ES&T, ES&T Letters
- Early Career Award 2020
  American Institute of Chemical Engineers, Environmental Division
- Board of Directors, American Association for Aerosol Research 2018 – 2021
- CAREER Award, U.S. National Science Foundation 2017 – 2022
- Atmospheric and Geospace Sciences Postdoctoral Research Fellowship 2011 – 2012
  U.S. National Science Foundation

- STAR ("Science to Achieve Results") Graduate Research Fellowship, U.S. Environmental Protection Agency — 2010 – 2011
- Heinz Scholars for Environmental Research Doctoral Dissertation Support, The Teresa and H. John Heinz III Foundation — 2010 – 2011
- Graduate Research Fellowship, U.S. National Science Foundation — 2006 – 2009

PUBLICATIONS

Publications in peer-reviewed scientific journals
Summary: h-index = 32, i10-index = 39
*corresponding author
names of LHR group members in bold

66. Qi Zhang, Jing Pan, Donghai Xiong, Junjun Zheng, **Kristi N. McPherson**, Sangbeom Lee, Mofei Huang, Yitian Xu, Shu-hsia Chen, Yian Wang, **Lea Hildebrandt Ruiz**, Ming You. Aerosolized miR-138-5p and miR-200c targets PD-L1 for lung cancer therapy. *Frontiers in Immunology*. 14:1166951. https://doi.org/10.3389/fimmu.2023.1166951

65. **Nirvan Bhattacharyya**, **Mrinali Modi**, **Leif G. Jahn**, and **Lea Hildebrandt Ruiz***. Different Chlorine and Hydroxyl Radical Environments Impact m-xylene Oxidation Products. *Environmental Science, Atmospheres*, 3, 1174-1185, 2023. https://doi.org/10.1039/D3EA00024A

64. Tran B. Nguyen*, Kelvin H. Bates, Reina S. Buenconsejo, Sophia M. Charan, Eric E. Cavanna, David R. Cocker III, Douglas A. Day, Marla P. DeVault, Neil M. Donahue, Zachary Finewax, Luke F. Habib, Anne V. Handschy, **Lea Hildebrandt Ruiz**, Chung-Yi S. Hou, Jose L. Jimenez, Taekyu Joo, Alexandra L. Klodt, Weimeng Kong, Chen Le, Catherine G. Masoud, Matthew S. Mayernik, Nga L. Ng, Eric J. Nienhouse, Sergey A. Nizkorodov, John J. Orlando, Jeroen J. Post, Patrick O. Sturm, Bridget L. Thrasher, Geoffrey S. Tyndall, John H. Seinfeld, Steven J. Worley, Xuan Zhang, Paul J. Ziemann. Overview of ICARUS─A Curated, Open Access, Online Repository for Atmospheric Simulation Chamber Data. *ACS Earth and Space Chemistry*, 7, 6, 1235–1246, 2023. https://doi.org/10.1021/acsearthspacechem.3c00043

63. **Kanan Patel**, **Sahil Bhandari**, Shahzad Gani, Purushottam Kumar, Nisar Baig, Gazala Habib, **Joshua Apte***, **Lea Hildebrandt Ruiz***. Factors Influencing Ambient Particulate Matter in Delhi, India: Insights from Machine Learning. *Aerosol Science and Technology*, in press, 2023. https://doi.org/10.1080/02786826.2023.2193237

62. **Nirvan Bhattacharyya**, Mengjia Tang, Daniel Blomdahl, **Leif Jahn**, **Pearl Abue**, David Allen, Richard Corsi, Atila Novoselac, Pawel Misztal, **Lea Hildebrandt Ruiz**. "Bleach Emissions Interact Substantially with Surgical and KN95 Mask Surfaces". *Environmental Science and Technology*, 57, 16, 6589–6598, 2023. https://doi.org/10.1021/acs.est.2c07937

61. Anita Avery, Mitchell Alton, Manjula Canagaratna, Jordan Krechmer, Donna Sueper, **Nirvan Bhattacharyya, Lea Hildebrandt Ruiz**, William Brune, Andrew Lambe*. Comparison of the yield and chemical composition of secondary organic aerosol generated

from the OH and Cl oxidation of decamethylcyclopentasiloxane. *ACS Earth and Space Chemistry*, 7, 1, 218–229, 2023. https://doi.org/10.1021/acsearthspacechem.2c00304

60. Emily Reidy*, Brandon P. Bottorff, Colleen Marciel F. Rosales, **Felipe J. Cardoso-Saldaña**, Caleb Arata, Shan Zhou, Chen Wang, Andrew Abeleira, **Lea Hildebrandt Ruiz**, Allen H. Goldstein, Atila Novoselac, Tara F. Kahan, Jonathan P.D. Abbatt, Marina E. Vance, Delphine K. Farmer, Philip S. Stevens*. Measurements of hydroxyl radical concentrations during indoor cooking events: Evidence of an unmeasured photolytic source of radicals. *Environmental Science and Technology*, 57, 2, 896–908, 2023. https://doi.org/10.1021/acs.est.2c05756

59. **Leif G. Jahn**, Mengjia Tang, Daniel Blomdahl, **Nirvan Bhattacharyya**, **Pearl Abue**, Atila Novoselac, **Lea Hildebrandt Ruiz***, and Pawel K. Misztal*. Volatile organic compound (VOC) emissions from the usage of benzalkonium chloride and other disinfectants based on quaternary ammonium compounds. *Environmental Science: Atmospheres*, **3**, 363-373, 2023. https://doi.org/10.1039/D2EA00054G

58. **Catherine G. Masoud**, Ying Li, **Dongyu S. Wang**, Erin F. Katz, Peter F. DeCarlo, Delphine K. Farmer, Marina E. Vance, Manabu Shiraiwa, **Lea Hildebrandt Ruiz***. Molecular composition and gas-particle partitioning of indoor cooking aerosol: Insights from a FIGAERO-CIMS and kinetic aerosol modeling. *Aerosol Science and Technology*, 56, 12, 1156-1173, 2022. https://doi.org/10.1080/02786826.2022.2133593

57. **Sahil Bhandari**, Zainab Arub, Gazala Habib, Joshua S. Apte*, and **Lea Hildebrandt Ruiz***. Contributions of primary sources to submicron organic aerosols in Delhi, India. *Atmospheric Chemistry and Physics*, 22, 13631–13657, 2022. https://doi.org/10.5194/acp-22-13631-2022.

56. **Sahil Bhandari**, Zainab Arub, Gazala Habib, Joshua S. Apte*, and **Lea Hildebrandt Ruiz***. Source apportionment resolved by time-of-day for improved deconvolution of primary source contributions to air pollution. *Atmospheric Measurement Techniques*, 15, 6051–6074, 2022. https://doi.org/10.5194/amt-15-6051-2022

55. Anna L Hodshire*, Ellison Carter, James M Mattila, Vito Ilacqua, Jordan Zambrana, Jonathan P D Abbatt, Andrew Abeleira, Caleb Arata, Peter F DeCarlo, Allen H Goldstein, **Lea Hildebrandt Ruiz**, Marina E Vance, Chen Wang, Delphine K Farmer*. Detailed Investigation of the Contribution of Gas-Phase Air Contaminants to Exposure Risk during Indoor Activities. *Environmental Science and Technology*, 56 (17), 12148-12157. https://doi.org/10.1021/acs.est.2c01381

54. **Dongyu S. Wang, Catherine G. Masoud, Mrinali Modi,** and **Lea Hildebrandt Ruiz*.** Impacts of chlorine chemistry on urban air quality: Isoprene-chlorine oxidation in the presence of NOx. *Environmental Science and Technology*, 56, 13, 9251–9264, June 2022. https://doi.org/10.1021/acs.est.1c07048.

53. Andrew T. Lambe*, Anita M. Avery, **Nirvan Bhattacharyya**, **Dongyu S.Wang**, **Mrinali Modi**, **Catherine G. Masoud**, **Lea Hildebrandt Ruiz**, and William H. Brune. Comparison of Secondary Organic Aerosol Generated from the Oxidation of Laboratory Precursors by Hydroxyl Radicals, Chlorine Atoms, and Bromine Atoms in an Oxidation Flow Reactor. *Environmental Science: Atmospheres*, 2, 687, May 2022. https://doi.org/10.1039/D2EA00018K

52. Ying Chen*, Yu Wang, Athanasios Nenes, Oliver Wild, Shaojie Song, Dawei Hu, Dantong Liu, Jianjun He, **Lea Hildebrandt Ruiz**, Joshua S. Apte, Sachin S. Gunthe*, and Pengfei Liu*. Ammonium chloride associated aerosol liquid water enhances haze in Delhi, India. *Environmental Science and Technology*, 56, 11, 7163–7173, April 2022**.** https://doi.org/10.1021/acs.est.2c00650

51. **Catherine Masoud**, and **Lea Hildebrandt Ruiz***. Chlorine-initiated oxidation of α-pinene: Formation of secondary organic aerosol and highly oxygenated organic molecules. *ACS Earth and Space Chemistry*, 5, 9, 2307–2319, September 2021. https://doi.org/10.1021/acsearthspacechem.1c00150

50. **Leif G. Jahn**, **Dongyu S. Wang**, **Surya Venkatesh Dhulipala**, and **Lea Hildebrandt Ruiz***. Gas-phase chlorine radical oxidation of alkanes: effects of structural branching, NO_x, and relative humidity observed during environmental chamber experiments. *The Journal of Physical Chemistry*, *Part A*, 125, 33, 7303–7317, 2021. https://doi.org/10.1021/acs.jpca.1c03516

49. **K. Patel**, M.J. Campmier, **S. Bhandari**, N. Baig, G. Habib, J.S. Apte*, **L. Hildebrandt Ruiz***. Persistence of Primary and Secondary Pollutants in Delhi: Concentrations and Composition from 2017 through the COVID Pandemic. *Environmental Science and Technology Letters*, 8, 7, 492–497, 2021, https://doi.org/10.1021/acs.estlett.1c00211.

48. Erin F. Katz, Hongyu Guo, Pedro Campuzano-Jost, Douglas A. Day, Wyatt L. Brown, Erin Boedicker, Matson Pothier, David M. Lunderberg, Sameer Patel, **Kanan Patel**, Patrick L. Hayes, Anita Avery, **Lea Hildebrandt Ruiz,** Allen H. Goldstein, Marina E. Vance, Delphine K. Farmer, Jose L. Jimenez, Peter F. DeCarlo*. Quantification of Cooking Organic Aerosol in the Indoor Environment Using Aerodyne Aerosol Mass Spectrometers. *Aerosol Science and Technology*, 55, 10, 1099-1114, 2021, https://doi.org/10.1080/02786826.2021.1931013.

47. Sarah L. Guberman VerPloeg*, Adelaide E. Clark, Subin Yoon, **Lea Hildebrandt Ruiz**, Rebecca J. Sheesley, and Sascha Usenko. Assessing the atmospheric fate of pesticides used to control mosquito populations in Houston, TX. *Chemosphere*, 275, 129951, 2021.

46. **K. Patel**, **S. Bhandari**, S. Gani, M.J. Campmier, P. Kumar, G. Habib, J.S. Apte*, **L. Hildebrandt Ruiz***. Sources and dynamics of submicron aerosol during the autumn onset of the air pollution season in Delhi, India. *ACS Earth and Space Chemistry*, 5 (1), 118-128, 2021. https://doi.org/10.1021/acsearthspacechem.0c00340

45. Subin Yoon, Stephanie M. Ortiz, Adelaide E. Clark, Tate E. Barrett, Sascha Usenko, Rachelle M. Duvall, **Lea Hildebrandt Ruiz**, **Jeffrey K. Bean**, **Cameron B. Faxon**, James H. Flynn III, Barry L. Lefer, Yu Jun Leong, Robert J. Griffin, and Rebecca J. Sheesley*. Apportioned primary and secondary organic aerosol during pollution events of DISCOVER-AQ Houston. *Atmospheric Environment*, 244, 117954, 2021. https://doi.org/10.1016/j.atmosenv.2020.117954.

44. Juan C. Gonzales-Rivera, Kevin C. Baldridge, J.C.L. Chuvalo-Abraham, **D.S. Wang**, **K. Patel**, **L. Hildebrandt Ruiz**, and L. Contreras*. RNA oxidation in chromatin modification and DMA-damage response following exposure to formaldehyde, *Scientific Reports*, 10 16545, 2020. https://doi.org/10.1038/s41598-020-73376-7

43. Wyatt L. Brown, Douglas A. Day, Harald Stark, Demetrios Pagonis, Jordan E. Krechmer, Xiaoxi Liu, Derek J. Price, Erin F. Katz, Peter F. DeCarlo, **Catherine G. Masoud**, Dongyu S. Wang, **Lea Hildebrandt Ruiz**, Caleb Arata, David M. Lunderberg, Allen H. Goldstein, Delphine K. Farmer, Marina E. Vance, Jose L. Jimenez*. Real-time organic aerosol chemical speciation in the indoor environment using extractive electrospray ionization mass spectrometry. *Indoor Air*, 31 (1), 141-155, 2021, https://doi.org/10.1111/ina.12721.

42. Juan C. Gonzalez-Rivera, Kevin C. Baldridge , **Dongyu S. Wang** , **Kanan H. Patel**, Jamie C. L. Chuvalo-Abraham, **Lea Hildebrandt Ruiz**, and M. Lydia Contreras*. Post-transcriptional air pollution oxidation to the cholesterol biosynthesis pathway promotes pulmonary stress phenotypes, *Communications Biology*, 3, 392, 2020.

41. S. Gani, **S. Bhandari**, **K. Patel**, S. Seraj, P. Soni, Z. Arub, G. Habib, **L. Hildebrandt Ruiz***, and J. S. Apte*: Particle number concentrations and size distribution in a polluted megacity: The Delhi Aerosol Supersite study, *Atmos. Chem. Phys.*, 20, 8533-8549, 2020.

40. Z. Arub, **S. Bhandari**, S. Gani, J. S. Apte, **L. Hildebrandt Ruiz**, and G. Habib*: Air mass physio-chemical characteristics over New Delhi: Impacts on aerosol hygroscopicity and CCN formation, *Atmos. Chem. Phys*., 20, 6953-6971, 2020. doi: 10.5194/acp-20-6953-2020.

39. **Kanan Patel**, **Dongyu S. Wang**, **Puneet Chhabra**, **Jeffrey Bean**, **Surya Venkatesh Dhulipala**, **L. Hildebrandt Ruiz***. Effects of Sources and Meteorology on Ambient Particulate Matter in Austin, Texas. *ACS Earth and Space Chemistry*, 4, 4, 602-613, 2020. doi:10.1021/acsearthspacechem.0c00016

38. Leigh R. Crilley, Ajit Singh, Louisa J. Kramer, Marvin D. Shaw, Mohammed S. Alam, Joshua S. Apte, William J. Bloss, **Lea Hildebrandt Ruiz**, Pingqing Fu, Weiqi Fu, Shahzad Gani, Michael Gatari, Evgenia Ilyinskaya, Alastair C. Lewis, David Ng'ang'a, Yele Sun, Rachel C. W. Whitty, Siyao Yue, Stuart Young, and Francis D. Pope. Effect of aerosol composition on the performance of low-cost optical particle counter correction factors. *Atmospheric Measurement Techniques*, 13, 1181–1193, 2020.

37. J. M. Mattila, P. S. J. Lakey, M. Shiraiwa, C. Wang, J. P.D. Abbatt, C. Arata, A. H. Goldstein, L. Ampollini, E. F. Katz, P. F. DeCarlo, S. Zhou, T. F. Kahan, **F. J. Cardoso-Saldaña**, **L. Hildebrandt Ruiz**, A. Abeleira, E. K. Boedicker, M. E. Vance, D. K. Farmer. Multiphase chemistry controls inorganic chlorinated and nitrogenated compounds in indoor air during bleach cleaning. *Environmental Science and Technology*, 54, 3, 1730-1739, 2020.

36. **S. Bhandari**, S. Gani, **K. Patel**, **D.S. Wang**, P. Soni, Z. Arub, G. Habib, J.S. Apte, **L. Hildebrandt Ruiz***. Sources and atmospheric dynamics of organic aerosol in New Delhi, India: Insights from receptor modeling. *Atmospheric Chemistry and Physics*, 20, 735–752, 2020.

35. D. Hagan, G. Shahzad, **S. Bhandari**, **K. Patel**, G. Habib, J. Apte, **L. Hildebrandt Ruiz,** and J. Kroll*. Inferring Aerosol Sources from Low-Cost Air Quality Sensor Measurements: A Case Study in Delhi, India. *Environmental Science and Technology Letters*, 6, 8, 467- 472, 2019, doi: 10.1021/acs.estlett.9b00393.

34. D.K. Farmer*, M.E. Vance, J.P.D. Abbatt, A. Abeleira, M.R. Alves, C. Arata, E. Boedicker, S. Bourne, **F. Cardoso-Saldaña**, R. Corsi, P.F. DeCarlo, A.H. Goldstein, V.H. Grassian, **L. Hildebrandt Ruiz**, J.L. Jimenez, T.F. Kahan, E.F. Katz, J.M. Mattila, W.W. Nazaroff, A. Novoselac, V.W. Or, R.E. O'Brien, S. Patel, S. Sankhyan, P. S. Stevens, Y. Tian, M. Wade,

C. Wang, S. Zhou, Y. Zhou. Overview of HOMEChem: House Observations of Microbial and Environmental Chemistry, *Environmental Science: Processes & Impacts*, 21, 1280–1300, 2019.

33. S. Gani, **S. Bhandari**, S. Seraj, **D. S. Wang**, **K. Patel**, P. Soni, Z. Arub, G. Habib, **L. Hildebrandt Ruiz***, and J. S. Apte*. Submicron aerosol composition in the world's most polluted megacity: The Delhi Aerosol Supersite campaign. *Atmospheric Chemistry and Physics*, 19, 6843–6859, 2019.

32. **S.V. Dhulipala**, **S. Bhandari**, and **L. Hildebrandt Ruiz***. Formation of Oxidized Organic Compounds from Cl-Initiated Oxidation of Toluene. *Atmospheric Environment*, 199, 265-273, 2019. https://doi.org/10.1016/j.atmosenv.2018.11.002

31. **D. S. Wang** and **L. Hildebrandt Ruiz***. Chlorine-initiated oxidation of n-alkanes under high NOx conditions: Insights into secondary organic aerosol composition and volatility using a FIGAERO-CIMS. *Atmospheric Chemistry and Physics*, 18, 15535–15553, 2018. https://doi.org/10.5194/acp-18-15535-2018

30. **C. B. Faxon**, **S. V. Dhulipala**, D. T. Allen and **L. Hildebrandt Ruiz***. Heterogeneous Production of Cl_2 from Particulate Chloride: Effects of Composition and Relative Humidity. *AIChE Journal*, 64, 8, 3151 – 3158, 2018. https://doi.org/10.1002/aic.16204

29. **J. K. Bean**, **S. Bhandari**, A. Bilotto and **L. Hildebrandt Ruiz***. Formation of particulate matter from the oxidation of evaporated hydraulic fracturing wastewater. *Environmental Science and Technology*, 52, 8, 4960-4968, 2018. https://doi.org/10.1021/acs.est.7b06009

28. **D. S. Wang** and **L. Hildebrandt Ruiz***. Secondary organic aerosol from chlorine-initiated oxidation of isoprene, *Atmospheric Chemistry and Physics*, 13491-13508, 17, 2017.

27. Y. J. Leong, N. P. Sanchez, H. W. Wallace, B. Karakurt Cevik, C. S. Hernandez, Y. Han, J. H. Flynn, P. Massoli, C. Floerchinger, E. C. Fortner, S. Herndon, **J. K. Bean, L. Hildebrandt Ruiz**, W. Jeon, Y. Choi, B. Lefer, R. J. Griffin*: Overview of Surface Measurements and Spatial Characterization of Submicron Particulate Matter during the DISCOVER-AQ 2013 Campaign in Houston, *The Journal of the Air & Waste Management Association* 67, 8, 854-872, 2017.

26. A. Kiendler-Scharr*, A. A. Mensah, E. Friese, D. Topping, E. Nemitz, A. S. H. Prevot, M. Äijälä, J. Allan, F. Canonaco, M. Canagaratna, S. Carbone, M. Crippa, M. Dall Osto, D. A. Day, P. De Carlo, C.F. Di Marco, H. Elbern, A. Eriksson, E.Freney, L. Hao, H. Herrmann, **L. Hildebrandt**, R. Hillamo, J. L. Jimenez, A. Laaksonen, G. McFiggans, C. Mohr, C. O'Dowd, R. Otjes, J. Ovadnevaite, S. N. Pandis, L. Poulain, P. Schlag, K. Sellegri, E. Swietlicki, P. Tiitta, A. Vermeulen, A. Wahner, D. Worsnop, and H.-C. Wu: Organic nitrates from night-time chemistry are ubiquitous in the European submicron aerosol, *Geophysical Research Letters*, **43**, 14, 7735-7744, 2016.

25. **J.K. Bean**, **C.B. Faxon**, Y.J. Leong, H.W. Wallace, B.K. Cevik, S. Ortiz, M.R. Canagaratna, S. Usenko, R. Sheesley, R.J. Griffin, and **L. Hildebrandt Ruiz***: Composition and Sources of Particulate Matter Measured near Houston, TX: Anthropogenic-Biogenic Interactions, *Atmosphere*, **7**, 73, 2016

24. **J.K. Bean** and **L. Hildebrandt Ruiz***. Gas-particle Partitioning and Hydrolysis of Organic Nitrates Formed from the Oxidation of α-Pinene in Environmental Chamber Experiments. *Atmospheric Chemistry and Physics*, 2175–2184, **16**, 2016.

23. A. Paciga, E. Karnezi, E. Kostenidou, **L. Hildebrandt**, M. Psichoudaki, G. J. Engelhart, B. H. Lee, M. Crippa, A. S. H. Prevot, U. Baltensperger, and S. N. Pandis*. Volatility of organic aerosol and its components in the Megacity of Paris. *Atmospheric Chemistry and Physics*, 2013-2023, **16**, 2016.

22. **C. B. Faxon**, **J. K. Bean** and **L. Hildebrandt Ruiz***. Inland Concentrations of Cl_2 and $ClNO_2$ in Southeast Texas Suggest Chlorine Chemistry Significantly Contributes to Atmospheric Reactivity, *Atmosphere*, 6, 1487-1506, 2015. https://doi.org/10.3390/atmos6101487

21. M. Pikridas, J. Sciare, F. Freutel, S. Crumeyrolle, S.-L. von der Weiden-Reinmüller, A. Borbon, A. Schwarzenboeck, M. Merkel, M. Crippa, E. Kostenidou, M. Psichoudaki, **L. Hildebrandt**, G. J. Engelhart, T. Petäjä, A. S. H. Prévôt, F. Drewnick, U. Baltensperger, A. Wiedensohler, M. Kulmala, M. Beekmann, and S. N. Pandis*. In situ formation and spatial variability of particle number concentration in a European megacity. *Atmospheric Chemistry and Physics*, **15**, 10219 - 10237, 2015.

20. **L. Hildebrandt Ruiz***, A.L. Paciga, K. Cerully, A. Nenes, N.M. Donahue and S.N. Pandis. Formation and Aging of Secondary Organic Aerosol from Toluene: Changes in Chemical Composition, Volatility and Hygroscopicity, *Atmospheric Chemistry and Physics*, **15**, 8301-8313, 2015.

19. B. Zhao*, S. Wang, N. M. Donahue, W. Chuang, **L. Hildebrandt Ruiz**, N. L. Ng, Y. Wang, J. Hao. Evaluation of one-dimensional and two-dimensional volatility basis sets in simulating the aging of secondary organic aerosol with smog chamber experiments, *Environmental Science and Technology*, **49** (4), 2245-2254, 2015.

18. M. R. Canagaratna*, J. L. Jimenez, J. H. Kroll, Q. Chen, S. H. Kessler, P. Massoli, **L. Hildebrandt Ruiz**, E. Fortner, L. R. Williams, K. R. Wilson, J. D. Surratt, N. M. Donahue, J. T. Jayne, and D. R. Worsnop. Elemental Ratio Measurements of Organic Compounds using Aerosol Mass Spectrometry: Characterization, Improved Calibration, and Implications. *Atmospheric Chemistry and Physics* **15**, 253-272, 2015.

17. M. Crippa, F. Canonaco, V. A. Lanz, M. Äijälä, J. D. Allan, S. Carbone, G. Capes, D. Ceburnis, M. Dall'Osto, D. A. Day, P. F. DeCarlo, M. Ehn, A. Eriksson, E. Freney, **L. Hildebrandt Ruiz**, R. Hillamo, J.-L. Jimenez, H. Junninen, A. Kiendler-Scharr, A.-M. Kortelainen, M. Kulmala, A. Laaksonen, A. A. Mensah, C. Mohr, E. Nemitz, C. O'Dowd, J. Ovadnevaite, S. N. Pandis, T. Petäjä, L. Poulain, S. Saarikoski, K. Sellegri, E. Swietlicki, P. Tiitta, D. R. Worsnop, U. Baltensperger, A. S. H. Prévôt*. Compilation of organic aerosol components for 25 AMS datasets across Europe using a newly developed ME-2 based source apportionment strategy. *Atmospheric Chemistry and Physics*, **14**, 6159–6176, 2014.

16. T. Yli-Juuti, K. Barsanti, **L. Hildebrandt Ruiz**, A.-J. Kieloaho, U. Makkonen, T. Petäjä, M. Kulmala and I. Riipinen*. Model for acid-base chemistry in nanoparticle growth. *Atmospheric Chemistry and Physics*, **13**, 12507 - 12524, 2013

15. M. R. Pennington, B. R. Bzdek, J. W. DePalma, J. N. Smith, A.-M. Kortelainen, **L. Hildebrandt Ruiz**, T. Petäjä, M. Kulmala, D. R. Worsnop, M. V. Johnston*. Identification

and quantification of particle growth channels during new particle formation. *Atmospheric Chemistry and Physics*, **13**, 10215-10225, 2013.

14. M. Pikridas, I. Riipinen, **L. Hildebrandt**, E. Kostenidou, H. Manninen, N. Mihalopoulos, N. Kalivitis, J. Burkhart, A. Stohl, M. Kulmala, S. N. Pandis*. New particle formation at a remote marine site in the Eastern Mediterranean. *Journal of Geophysical Research – Atmospheres*, **117**, D12205, doi:10.1029/2012JD017570, 2012.

13. **L. Hildebrandt**, E. Kostenidou, V. A. Lanz, G. Kouvarakis, A. S. H. Prevot, U. Baltensperger, N. Mihalopoulos, N.M. Donahue and S.N. Pandis*. Sources and Atmospheric Processing of Organic Aerosol in the Mediterranean: Insights from Aerosol Mass Spectrometer Factor Analysis. *Atmospheric Chemistry and Physics*, **11**, 12499–12515, 2011.

12. **L. Hildebrandt**, K. Henry, J.H. Kroll, D. R. Worsnop, S.N. Pandis and N.M. Donahue*. Evaluating the Mixing of Organic Aerosol Components Using High-Resolution Aerosol Mass Spectrometry. *Environmental Science and Technology* **45**, 6329-6335, 2011.

11. G.J. Engelhart, **L. Hildebrandt**, E. Kostenidou, N. Mihalopoulos, N.M. Donahue, S.N. Pandis*. Water content of aged aerosol. *Atmospheric Chemistry and Physics* **11**, 911-920, 2011.

10. B.-H. Lee, E. Kostenidou, **L. Hildebrandt**, I. Riipinen, G.J. Engelhart, C. Mohr, P.F. DeCarlo, N. Mihalopoulos, A.S.H. Prevot, U. Baltensperger, S.N. Pandis*. Measurement of the Ambient Organic Aerosol Volatility Distributions: Application during the Finokalia Aerosol Measurement Experiment (FAME-2008). *Atmospheric Chemistry and Physics* **10**, 12149-12160, 2010.

9. **L. Hildebrandt**, E. Kostenidou, D. R. Worsnop, N. Mihalopoulos, N.M. Donahue and S.N. Pandis*. Formation of Highly Oxygenated Organic Aerosol in the Atmosphere: Insights from the Finokalia Aerosol Measurement Experiments. *Geophysical Research Letters* 37, L23801, doi:10.1029/2010GL045193, 2010.

8. M. Pikridas, K. Bougiatioti, **L. Hildebrandt**, G.J. Engelhart, E. Kostenidou, C. Mohr, A. S. H. Prevot, G. Kouvarakis, P. Zarmpas, J. F. Burkhart, B.-H. Lee, M. Psichoudaki, N. Mihalopoulos, C. Pilinis, A. Stohl, U. Baltensperger, M. Kulmala, and S. N. Pandis*: The Finokalia Aerosol Measurement Experiments - 2008 (FAME-08): An Overview, *Atmospheric Chemistry and Physics* **10**, 6793–6806, 2010.

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6. **L. Hildebrandt**, G.J. Engelhart, , C. Mohr, E. Kostenidou, V. A. Lanz, A. Bougiatioti, P. F. DeCarlo, A. S. H. Prevot, U. Baltensperger, , N. Mihalopoulos, N.M. Donahue and S.N. Pandis*. Aged organic aerosol in the Eastern Mediterranean: The Finokalia Aerosol Measurement Experiment – 2008, *Atmospheric Chemistry and Physics* **10**, 4167-4186, 2010.

5. **L. Hildebrandt**, N.M. Donahue and S.N. Pandis*. High formation of secondary organic aerosol from the photo-oxidation of toluene. *Atmospheric Chemistry and Physics* **9**, 2973–2986, 2009.
4. J.R. Pierce, G.J. Engelhart, **L. Hildebrandt**, E.A. Weitkamp, R.K. Pathak, N.M. Donahue, A.L. Robinson, P.J. Adams and S.N. Pandis*. Constraining particle evolution from wall losses, coagulation, and condensation-evaporation in smog-chamber experiments: Optimal estimation based on size distribution measurements. *Aerosol Science and Technology* **42**, 1001-1015, 2008.
3. U. Dusek, G.P. Frank, **L. Hildebrandt**, J. Curtius, J. Schneider, S. Walter, D. Chand, F. Drewnick, S. Hings, D. Jung, S. Borrmann, M.O. Andreae*. Size matters more than chemistry for cloud-nucleating ability of aerosol particles. *Science* **312**, 1375-1378, 2006.
2. M.I. Guzman, **L. Hildebrandt**, A.J. Colussi, M.R. Hoffmann*. Cooperative hydration of pyruvic acid in ice. *Journal of the American Chemical Society* **128**, 10621-10624, 2006.
1. J.D. Surratt, S.M. Murphy, J.H. Kroll, N.L. Ng, **L. Hildebrandt**, A. Sorooshian, R. Szmigielski, R. Vermeylen. W. Maenhaut, M. Claeys, R.C. Flagan, J.H. Seinfeld*. Chemical composition of secondary organic aerosol formed from the photooxidation of isoprene. *Journal of Physical Chemistry A* **110**, 9665-9690, 2006.

Publications under review

Catherine Masoud, **Mrinali Modi**, **Nirvan Bhattacharyya**, **Leif Jahn**, **Kristi McPherson**, **Pearl Abue**, **Kanan Patel**, David Allen, **Lea Hildebrandt Ruiz***. High chlorine concentrations in an unconventional oil and gas development region and impacts on atmospheric chemistry. *Environmental Science and Technology*, under review, 2023.

Leif Jahn*, **Nirvan Bhattacharyya**, Daniel Blomdahl, Mengjia Tang, Pearl Abue, Atila Novoselac, **Lea Hildebrandt Ruiz**, Pawel Misztal. Influence of application method on disinfectant byproduct formation during indoor bleach cleaning: an example of phenol chlorination. *Environmental Science and Technology Air*, under review, 2023.

Pearl Abue, Nirvan Bhattacharyya, Mengjia Tang, Daniel Blomdahl, **Leif Jahn**, David Allen, Richard Corsi, Atila Novoselac, Pawel Misztal, **Lea Hildebrandt Ruiz*.** Emissions from hydrogen peroxide disinfection and their interaction with mask surfaces. *ACS Engineering Au*, under review, 2023.

Technical Reports

1. L.M. Contreras**,** J.C. Gonzalez-Rivera, K.C. Baldridge, D.S. Wang, J.C.L. Chuvalo-Abraham, and **L. Hildebrandt Ruiz**. "Understanding the functional impact of VOCs/ozone mixtures on the chemistry of RNA in epithelial lung cells." *Health Effects Institute*, Research Report 201 (2020). Available from: https://www.healtheffects.org/publication/understanding-functional-impact-voc%E2%80%93ozone-mixtures-chemistry-rna-epithelial-lung-cells.
2. **L. Hildebrandt Ruiz**, G. Yarwood, B. Koo, and G. Heo. "Sources of Organic Particulate Matter in Houston: Evidence from DISCOVER-AQ Data, Modeling, and Experiments"

Final report prepared for the Texas Air Quality Research Program (Project 14-024) by the University of Texas at Austin and ENVIRON International Corporation, available at: http://aqrp.ceer.utexas.edu/projectinfoFY14_15/14-024/14-024%20Final%20Report.pdf , 2015

3. **L. Hildebrandt Ruiz** and G. Yarwood. "Interactions between Organic Aerosol and NOy: Influence on Oxidant Production." . Final report prepared for the Texas Air Quality Research Program (Project 12-012) by the University of Texas at Austin and ENVIRON International Corporation, available at http://aqrp.ceer.utexas.edu/projectinfoFY12_13/12-012/12-012%20Final%20Report.pdf , 2013.

INVITED SEMINARS AND PRESENTATIONS

TEXAS A&M UNIVERSITY
Department of Atmospheric Sciences — March 6, 2012
"Formation and Transformation of Atmospheric Particulate Matter: Measurements and Models"

UNIVERSITY OF COLORADO, BOULDER
Cooperative Institute for Research in Environmental Sciences — March 16, 2015
"Tropospheric Reactive Chlorine: Observations, Sources and Effects"

STANFORD UNIVERSITY
Department of Chemical Engineering — January 29, 2018
"The role of chlorine in tropospheric chemistry"

UNIVERSITY OF CALIFORNIA, BERKELEY
College of Chemistry — January 30, 2018
"The role of chlorine in tropospheric chemistry"

THE UNIVERSITY OF TEXAS AT AUSTIN — October 5, 2018
College of Architecture , A I R Symposium
"What is IN A I R"?

Atmospheric Chemical Mechanisms Conference, 2018 — December 6, 2018
The University of California, Davis
"Chlorine-Initiated Oxidation of Hydrocarbons: Mechanistic Insights from Measurements of Gas- and Particle-Phase Composition"

THE UNIVERSITY OF MINNESOTA — February 27, 2019
Department of Mechanical Engineering
"Particulate Matter from Chlorine-Initiated Oxidation of Hydrocarbons"

COLUMBIA UNIVERSITY — April 30, 2019
Department of Chemical Engineering
"The Impacts of Chlorine on Atmospheric Aerosol"

American Meteorological Society 100th Annual Meeting January 23, 2020
"Formation of Organic Particulate Matter from Chlorine-Initiated Oxidation of Hydrocarbons"

GEORGIA TECH May 20, 2020
School of Chemical and Biomolecular Engineering
"Impacts of Chlorine on Air Quality: Indoors, Outdoors and Across the World"

American Institute of Chemical Engineers Annual Meeting 2020 Nov. 18, 2020
50th Anniversary/ Environmental Division Awards and Honors
"Impacts of Chlorine on Air Quality: Indoors, Outdoors and across the World"

American Chemical Society Spring 2021 Meeting April 16, 2021
James Morgan 2021 Award Symposium
"Impacts of Chlorine on Air Quality: Indoors, Outdoors and across the World"

American Institute of Chemical Engineers Aug. 23, 2021
Environmental Division Webinar Series
"The COVID-19 Pandemic's Impacts on Indoor and Outdoor Air Quality"

THE UNIVERSITY OF TEXAS AT AUSTIN Dec. 9, 2021
McKetta Department of Chemical Engineering
"The Air You Breathe: Indoors, Outdoors and Across the World"

UNIVERSITY OF TORONTO April 11, 2023
Centre for Global Change Science Distinguished Lecturer Series
"Sources, Dynamics and Persistence of Particulate Matter in the World's Most Polluted Megacity"

SERVICE TO THE UNIVERSITY OF TEXAS AT AUSTIN

- Graduate Assembly member 2021-current

MC KETTA DEPARTMENT OF CHEMICAL ENGINEERING

- Graduate advisor 2020 – 2023
- Curriculum Committee 2018 – 2020
- ABET Outcomes Evaluation Committee (OEC) Chair 2013 – 2019
  (OEC 1 – criteria a, b and c)
- Computing Committee Chair 2015 – 2016

PROFESSIONAL MEMBERSHIPS

● American Association for Aerosol Research	2007 – present
● American Geophysical Union	2004 – present
● American Institute for Chemical Engineers	2009 – present

SELECTED PROFESSIONAL SERVICE

AMERICAN ASSOCIATION FOR AEROSOL RESEARCH

● Director (Member of Board of Directors)	2018 – 2021
● Atmospheric Chemistry Working Group Chair	2012 – 2014
● Education Committee	2014 – 2017
● Tutorial Chair	2016 – 2017
● Session Chair	2011 – present