

V. FAYE MCNEILL

COLUMBIA UNIVERSITY

A. Field of Specialization

Academic specialization: Chemical Engineering, Earth and Environmental Sciences

Research specialization: Aerosols, Atmospheric Chemistry, Air Quality, Climate

B. Educational Background

- B.S., California Institute of Technology, Chemical Engineering, 1999.
- M.S., Massachusetts Institute of Technology, Chemical Engineering Practice, 2001.
- Ph. D., Massachusetts Institute of Technology, Chemical Engineering, 2005.
Doctoral thesis: Studies of Heterogeneous Ice Chemistry Relevant to the Atmosphere
Advisors: Prof. Mario J. Molina, Prof. Bernhardt L. Trout

C. List of Positions held since Bachelor's Degree

- Professor of Chemical Engineering, Columbia University. (2019-).
- Professor of Climate, Columbia University (2025-).
- Professor of Earth and Environmental Sciences, Columbia University. (2020-).
- Member, Faculty of the Earth Institute at Columbia University (2018-present)
- Associate Professor of Chemical Engineering, Columbia University. (2012- 2019). (Tenured in 2014)
- Assistant Professor of Chemical Engineering, Columbia University. (2007 –2011).
- Postdoctoral Research Associate, University of Washington. (2005 - 2007).
- NASA Earth System Science Fellow, 2000-2003
- Graduate Research Assistant, Massachusetts Institute of Technology, (1999-2004)

D. Honors and Recognitions

- Fellow, American Association for Aerosol Research (2024)
- FAN Ivy+ Provost Leadership Fellow (2024-2025)
- Fellow, Royal Society of Chemistry (2023)
- 2019 EPA Scientific and Technological Achievement Award Honorable Mention (for Budisulistiorini et al. 2017)
- Mellichamp Emerging Leaders Lectureship, U.C. Santa Barbara (2018)
- Kenneth T. Whitby Award, AAAR (2015)
- NSF Career Award, National Science Foundation (2009).
- ACS Petroleum Research Fund Doctoral New Investigator, American Chemical Society (2009).
- Columbia University Professional Schools Research Fellowship, Columbia University (2008).

E. Leadership Experience

1. Select Columbia University Roles

Department of Chemical Engineering

- Vice Chair (2022- present)
- Chair, Masters Committee (2022-present)
- Chair, Undergraduate Committee (2016-2022)
- Founding Chair, DEI Committee (2020-2021)

School level/University-wide

- PI, Clean Air Toolbox for Cities Initiative, Columbia Climate School (2019-present)
- EI/Climate School Appointments and Promotions Committee (2021-present)
- Earth Institute Executive Committee (2021-2023)
- Climate School Interim Executive Committee (2022-2023)

- SEAS COVID Safety Officer/Liaison for Reopening (2020-2022)
- SEAS Executive Committee ad hoc member (2018-2020)

2. Elected Offices Held in Professional Societies

- President (2023-2024), Vice President (2022-2023), Vice President Elect (2021-2022), Secretary (2016-2019), Board of Directors (2011-2014), American Association for Aerosols Research
- Secretary (Composition, Chemistry, Aerosols, and Clouds), 2016-2019, Fall Meeting Program Committee Chair 2018, AGU Atmospheric Sciences Section
- Chair (2016), First Vice Chair (2015), Second Vice Chair (2014), Board of Directors (2010-2012), AIChE Environmental Division

3. Editorships

- Associate Editor, ACS Earth and Space Chemistry 2016-
- Co-editor, *Atmospheric Chemistry and Physics*. 2007-2017
- Editor, *Topics in Current Chemistry: Advances in Atmospheric Chemistry* (w/ Parisa Ariya) (2012)

4. Select Additional External Leadership

- Co-chair (elected), Gordon Research Conference on Atmospheric Chemistry, 2029
- Member (appointed), IUPAC Task Group on Kinetic Data evaluation (2015 - present)
- Member, EPA-NOAA CRACMM development steering committee (2024 - present)
- Member (appointed), ACS Committee on Environmental Improvement, Public Policy subcommittee, Lead Author Climate Change Statement (2015-2024)
- International Aerosols Modeling Algorithms Conference, Davis, CA
 - Conference Co-Chair, 2021
 - Conference Chair, 2023
- Scientific steering Committee, Simons Foundation program on Solar Radiation Management (2022-)
- Co-organizer (with Prof. Qi Zhang), Telluride Workshop on Organic Aerosols, July 2022

F. Teaching Experience

- CHEN 4600, Aerosols. 2009-present
- CHEN 4300, Chemical Process Control and Process Safety, 2018-present
- CHEN 4001, Essentials of Chemical Engineering Modules. 2013-present
 - Kinetics and Reactor Engineering
 - Mathematical Methods for Chemical Engineering
- CHEN 4010, Mathematical Methods in Chemical Engineering, 2026-present
- CHEN 4320, Molecular Phenomena. 2013-2017
- CHEN 3110, Transport Phenomena I. 2013-2017
- CHEN 4330, Advanced Chemical Kinetics. 2009-2012
- CHEN 3100, Material and Energy Balances. 2007-2011
- CHEN 3810, Chemical Engineering and Applied Chemistry Laboratory. 2008
- CHEN 9000, Chemical Engineering Colloquium. 2011-2015

G. Publications

Published peer-reviewed, ISI-indexed journal publications: 99

Citations as of 4/13/2026: 8417

h-index as of 4/13/2026: 44

(Statistics provided by Google Scholar)

Articles in ISI-indexed Journals (published or accepted for publication)

* Denotes corresponding author. McNeill Group student or postdoc co-authors underlined.

- 1) Wang, J., **McNeill, V. F.**, Collins, D. R., Flagan, R. C.* (2002). Fast Mixing Condensation Nucleus Counter: Application to Rapid Scanning Differential Mobility Analyzer Measurements. *Aerosol Sci. Technol.*, 36(6), 678-689.
- 2) **McNeill, V. F.**, Geiger, F. M., Loerting, T., Trout, B. L., Molina, M. J.* (2006). Hydrogen Chloride-Induced Surface Disorder on Ice. *Proc. Natl. Acad. Sci. USA*, 103 (25), 9422-9427.
- 3) **McNeill, V. F.**, Patterson, J., Wolfe, G. M., Thornton, J. A.* (2006). The Effect of Varying Levels of Surfactant on the Reactive Uptake of N_2O_5 to Aqueous Sub-micron Aerosol. *Atmos. Chem. Phys.*, 6, 1635-1644.
- 4) Wolfe, G. M., Thornton, J. A.*, **McNeill, V. F.**, Jaffe, D. A., Reidmiller, D., Chand, D., Smith, J., Swartzendruber, P., Flocke, F., Zheng, W. (2007). Influence of Trans-Pacific Pollution Transport on Acyl Peroxy Nitrate Abundances and Speciation at Mount Bachelor Observatory During INTEX-B. *Atmos. Chem. Phys.*, 7, 5309-5325.
- 5) **McNeill, V. F.**, Geiger, F. M., Loerting, T., Trout, B. L., Molina, L. T., Molina, M. J.* (2007). The Interaction of Hydrogen Chloride with Ice Surfaces: The Effects of Grain Size, Surface Roughness, and Surface Disorder. *J. Phys. Chem. A*, 111, 6274-6284.
- 6) **McNeill, V. F.**, Wolfe, G. M., Thornton, J. A.* (2007). The Oxidation of Oleate in Submicron Aqueous Salt Aerosols: Evidence of a Surface Process. *J. Phys. Chem. A*, 111, 1073-1083.
- 7) Thornton, J. A.*, Jaegle, L., **McNeill, V. F.** (2008). Assessing Known Pathways for HO_2 Loss in Aqueous Atmospheric Aerosols: Regional and Global Impacts on Tropospheric Oxidants. *J. Geophys. Res. – Atmos.*, 113, D05303.
- 8) **McNeill, V. F.**, Yatavelli, R. L.N., Thornton, J. A.*, Stipe, C. B., Langrebe, O. (2008). Heterogeneous OH Oxidation of Palmitic Acid in Single Component and Internally Mixed Aerosol Particles: Vaporization and the Role of Particle Phase. *Atmos. Chem. Phys.*, 8, 5465-5476.
- 9) Shapiro, E. L., Szprengiel, J., Sareen, N., Jen, C. N., Giordano, M. R., **McNeill, V. F.*** (2009). Light-Absorbing Secondary Organic Material Formed by Glyoxal in Aqueous Aerosol Mimics. *Atmos. Chem. Phys.*, 9, 2289-2300.
- 10) Sahu, K., **McNeill, V. F.***, Eisenthal, K. B.* (2010). Effect of Salt on the Adsorption Affinity of an Aromatic Carbonyl Molecule to the Air-Aqueous Interface: Insight for Aqueous Environmental Interfaces. *J. Phys. Chem. C*, 114, 18258-18262.
- 11) Sareen, N., Schwier, A. N., Shapiro, E. L., Mitroo, D., **McNeill, V. F.*** (2010). Secondary Organic Aerosol Material Formed by Methylglyoxal in Aqueous Aerosol Mimics. *Atmos. Chem. Phys.*, 10, 997-1016.
- 12) Schwier, A. N., Sareen, N., Mitroo, D., Shapiro, E. L., **McNeill, V. F.*** (2010). Glyoxal-Methylglyoxal Cross-Reactions in Secondary Organic Aerosol (SOA) Formation. *Environ. Sci. Technol.*, 44(16), 6174-6182.
- 13) Chu, S. N., Sands, S., Tomasik, M. R., Lee, P. S., **McNeill, V. F.*** (2010). Ozone Oxidation of Surface-Adsorbed Polycyclic Aromatic Hydrocarbons (PAHs): Role of PAH-Surface Interaction. *J. Am. Chem. Soc.*, 132(45), 15968-15975.
- 14) Romakkaniemi, S.*, Kokkola, H., Smith, J. N., Prisle, N. L., Schwier, A. N., **McNeill, V. F.**, Laaksonen, A. (2011). Partitioning of Semivolatile Surface-Active Compounds Between Bulk, Surface, and Gas Phase. *Geophys. Res. Lett.*, 38, 3, L03807 doi:10.1029/2010GL046147.
- 15) Kuo, M. H., Moussa, S. G., **McNeill, V. F.*** (2011) Modeling Interfacial Liquid Layers on Environmental Ices. *Atmos. Chem. Phys.*, 11, 9971-9982.
- 16) Sahu, K., Eisenthal, K.B.*, **McNeill, V. F.*** (2011) Competitive Adsorption at the Air-Aqueous Interface: A Second Harmonic Generation Study. *J. Phys. Chem. C*, 115 (19), 9701-9705

- 17) Schwier, A. N., Sareen, N., Lathem, T., Nenes, A.*, McNeill, V. F.* (2011) Ozone Oxidation of Oleic Acid Films Decreases Aerosol CCN Activity. *J. Geophys. Res.-Atmos.*, **116**, D16202, doi:10.1029/2010JD015520.
- 18) Li, Z., Schwier, A.N., Sareen, N., McNeill, V. F.* (2011) Reactive Processing of Formaldehyde and Acetaldehyde in Aqueous Aerosol Mimics: Surface Tension Depression and Secondary Organic Products. *Atmos. Chem. Phys.*, **11**, 11617-11629.
- 19) Schwier, A.N., Mitroo, D., McNeill, V. F.* (2012) Surface Tension Depression by Low-Solubility Organic Material in Aqueous Aerosol Mimics. *Atmos. Environ.*, **54**, 495-500.
- 20) **McNeill, V.F.***, Grannas, A.M., Abbatt, J.P.D., Ammann, M., Ariya, P., Bartels-Rausch, T., Domine, F., Donaldson, D.J., Guzman, M.I., Heger, D., Kahan, T.F., Klan, P., Masclin, S., Toubin, C., Voisin, D. (2012) Organic Material in Environmental Ices: Sources, Chemistry, and Impacts. *Atmos. Chem. Phys.*, **12**, 9653-9678.
- 21) **McNeill, V.F.***, Woo, J.L., Kim, D. D., Schwier, A.N., Wannell, N.J., Sumner, A.J., Barakat, J.M. (2012) Aqueous-phase Secondary Organic Aerosol and Organosulfate Formation in Atmospheric Aerosols: A Modeling Study. *Environ. Sci. Technol.* **46** (15) 8075-8081
- 22) Schwier, A.N., Viglione, G.A., McNeill, V. F.* Modeling the surface tension of complex, reactive organic-inorganic mixtures. (2013) *Atmos. Chem. Phys.*, **13**, 10721-10732
- 23) Sareen, N., Schwier, A.N., Lathem, T., Nenes, A., McNeill, V. F.* Gas-Phase Surfactants Enhance Aerosol Cloud Nucleation. (2013) *Proc. Natl. Acad. Sci. USA*, **110**, 2723-2728
- 24) Drozd, G.T., Woo, J.L., McNeill, V.F.* Self-limited uptake of α -pinene oxide to acidic aerosol: The effects of liquid-liquid phase separation and implications for the formation of secondary organic aerosol and organosulfates from epoxides. (2013) *Atmos. Chem. Phys.* **13**, 8255-8263
- 25) Sareen, N., Moussa, S.G., McNeill, V. F.* Photochemical Aging of Light-Absorbing Secondary Organic Aerosol Material (2013) *J. Phys. Chem. A*, **117** (14), 2987-2996
- 26) Moussa, S.G., Kuo, M.H., McNeill, V. F.* Nitric acid-induced surface disordering on ice (2013) *Phys. Chem. Chem. Phys.* **15** (26), 10989-10995
- 27) Woo, J.L., Kim D. D., Schwier, A.N., Li R., McNeill, V.F.* Aqueous aerosol SOA formation: Impact on aerosol physical properties (2013) *Faraday Discuss.*, **165**, 357-367
- 28) Drozd, G.T., Woo, J.L., Haakinen, S., Nenes, A., McNeill, V.F.* Inorganic salts and organic diacids interact to form material with low hygroscopicity and low volatility (2014) *Atmos. Chem. Phys.* **14**, 5205-5215
- 29) Ortiz-Montalvo, D.L., Haakinen, S., Schwier, A.N., Lim, Y.B., McNeill, V.F., Turpin, B.J.* Ammonium Addition (and Aerosol pH) has a Dramatic Impact on Volatility and Yield of Glyoxal SOA (2014) *Environ. Sci. Technol.* **48** (1), 255-262.
- 30) Bartels-Rausch, T.*, Jacobi, H.-W., Kahan, T. F., Thomas, J. L., Thomson, E.S., Abbatt, J. P. D. , Ammann, M., Blackford, J.R., Bluhm, H., Boxe, C., Domine, F., Frey, M.M., Gladich, I., Guzman, M.I., Heger, D., Huthwelker, T., Klan, P., Kuhs, W. F., Kuo, M.H., Maus, S., Moussa, S.G., **McNeill, V. F.**, Newberg, J.T., Pettersson, J.B.C., Roeselova, M., Sodeau, J. (2014) A review of air-ice chemical and physical interactions (AICI): liquids, quasi-liquids, and solids in snow. *Atmos. Chem. Phys.*, **14**, 1587-1633 (2014)
- 31) Drozd, G.T., McNeill, V.F.* Organic matrix effects on aqueous-phase secondary organic aerosol formation (2014) *Environ. Sci. Processes & Impacts*, **16** (4), 741-747
- 32) **McNeill, V. F.***, Sareen, N., Schwier, A.N. (2014) Surface-Active Organics in Atmospheric Aerosols. *Topics in Current Chemistry*, **339**, 201-259, doi:10.1007/128_2012_404.
- 33) Upshur, M.A., Strick, B.F., **McNeill, V.F.**, Thomson, R.J.*, Geiger, F.M.* (2014) Climate-relevant Physical Properties of Molecular Constituents Relevant for Isoprene-Derived Secondary Organic Aerosol Particles. *Atmos. Chem. Phys.*, **14** (19), 10731-10740

- 34) Kuo, M.-H., Moussa, S.G., McNeill, V. F.* (2014) Surface Disordering and Film Formation on Ice Induced by Formaldehyde and Acetaldehyde *J. Phys. Chem. C.*, 118 (50), 29108-29116
- 35) Sumner, A.J., Woo, J.L., McNeill, V.F.* (2014) Model Analysis of Secondary Organic Aerosol Formation by Glyoxal in Laboratory Studies: The Case for Photoenhanced Chemistry. *Environ. Sci. Technol.*, 48 (20), 11919-11925.
- 36) Haakinen, S.A.K., McNeill, V.F.*, Riipinen, I.* (2014) Organic salt formation by dicarboxylic acids in atmospheric aerosols: Impact on aerosol volatility. *Environ. Sci. Technol.*, 48 (23), 13718-13726.
- 37) **McNeill, V.F.*** (2015) Aqueous organic chemistry in the atmosphere: Sources and chemical processing of organic aerosols (Feature) *Environ. Sci. Technol.* 49 (3) 1237-1244
- 38) Woo, J.L., McNeill, V.F.* (2015) simpleGAMMA v1.0 - A reduced model of secondary organic aerosol formation in the aqueous aerosol phase (aaSOA). *Geosci. Model. Dev.* 8 (6), 1821-1829
- 39) S.H. Budisulistiorini, X. Li, S.T. Bairai, J. Renfro, Y. Liu, Y.J. Liu, K.A. McKinney, S.T. Martin, **V.F. McNeill**, H.O.T. Pye, A. Nenes, M.E. Neff, E.A. Stone, S. Mueller, C. Knote, S.L. Shaw, Z. Zhang, A. Gold, and J.D. Surratt* (2015) Examining the effects of anthropogenic emissions on isoprene-derived secondary organic aerosol formation during the 2013 Southern Oxidant and Aerosol Study (SOAS) at the Look Rock, Tennessee, ground site. *Atmos. Chem. Phys.*, 15 (15), 8871-8888 (2015)
- 40) E.A. Marais*, D. J. Jacob, J. L. Jimenez, P. Campuzano-Jost, D. A. Day, W. Hu, J. Krechmer, L. Zhu, P.S. Kim, C.C. Miller, J.A. Fisher, K. Travis, K. Yu, T.F. Hanisco, G.M. Wolfe, H. L. Arkinson, H. O. T. Pye, K. D. Froyd, J. Liao, and **V.F. McNeill** Aqueous-phase mechanism for secondary organic aerosol formation from isoprene: application to the southeast United States and co-benefit of SO₂ emission controls. *Atmos. Chem. Phys.*, 16, 1603-1618 (2016)
- 41) Li, J., Mao, J.*, Min, K.-E., Washenfelder, R.A., Brown, S.S., Kaiser, J., Keutsch, F.N., Volkamer, R., Wolfe, G.M., Hanisco, T.F., Pollack, I.B., Ryerson, T.B., Graus, M., Gilman, J.B., Lerner, B.M., Warneke, C., de Gouw, J., Middlebrook, A.M., Liao, J., Welti, A., Henderson, B.H., **McNeill, V. F.**, Hall, S., Ullmann, K., Donner, L.J., Paulot, F., and Horowitz, L.W. Observational constraints on glyoxal production from isoprene oxidation and its contribution to organic aerosol over the Southeast United States, *JGR-Atmospheres*, 121 (16) 9849-9861 (2016)
- 42) Ortiz-Montalvo, D.L., Schwier, A.N., Lim, Y.B., **McNeill, V. F.**, Turpin, B.J.* "Volatility of Methylglyoxal Cloud SOA Formed through OH Radical Oxidation and Droplet Evaporation" *Atmos. Environ.* 130,145-152 (2016)
- 43) Wu, Y., Li, W.-Y., Xu, B., Li, X., Wang, H., **McNeill, V.F.***, Rao, Y.*, and Dai, H.-L. "Observation of Organic Molecules at the Aerosol Surface" *J. Phys. Chem. Lett.*, 7(12), 2294-2297 (2016).
- 44) Li, W.-Y., Li, X., Jockusch, S., Wang, H., Xu, B., Wu, Y., Tsui, W.G., Dai, H.-L., **McNeill, V.F.***, Rao, Y.*, Photoactivated Production of Secondary Organic Species from Isoprene in Aqueous Systems, *J. Phys. Chem. A.*, 120(45) 9042-9048 (2016)
- 45) Budisulistiorini, S. H., Nenes, A., Carlton, A. M. G., Surratt, J. D., **McNeill, V.F.***, Pye, H. O. T*. Simulating Aqueous-Phase Isoprene-Epoxydiol (IEPOX) Secondary Organic Aerosol Production During the 2013 Southern Oxidant and Aerosol Study (SOAS) *Environ. Sci. Technol.*, 51(9) 5026-5034 (2017)
- 46) Burkholder, J.B., Abbatt, J.P.D., Barnes, I., Roberts, J.M., Melamed, M.L., Ammann, M., Bertram, A.K., Cappa, C.D., Carlton, A.M.G., Carpenter, L.J., Crowley, J.N., Dubowski, Y., George, C. Heard, D.E., Herrmann, H., Keutsch, F.N., Kroll, J.H., **McNeill, V.F.**, et al. "The Essential Role for Laboratory Studies in Atmospheric Chemistry" *Environ. Sci. Technol.* 51(5), 2519-2528 (2017).
- 47) **McNeill, V.F.***, "Atmospheric Aerosols: Clouds, Chemistry, and Climate" *Annu. Rev. Chem. Biomolec. Eng.* 8, 427-444 (2017).
- 48) Tsui, W.G., Rao, Yi, Dai, Hai-Lung, **McNeill, V.F.***, "Modeling Photosensitized Secondary Organic Aerosol Formation in Laboratory and Ambient Aerosols" *Environ. Sci. Technol.* 51(13), 7496-7501 (2017).

- 49) Xu, J., Wang, Q., Deng, C., **McNeill, V.F.**, Fankhauser, A., Wang, F., Fu, J.S., Huang, K.*, Zhuang, G. "Insights into the characteristics and sources of primary and secondary organic carbon: High time resolution observation in urban Shanghai" *Environ. Pollution* 233, 1177-1187 (2018)
- 50) Mao, J.*, Carlton, A., Cohen, R.C., Brune, W.H., Brown, S.S., Wolfe, G.M., Jimenez, J.L., Pye, H.O.T., Ng, N.L., Xu, L., **McNeill, V.F.**, Tsigaridis, K., McDonald, B.C., Warneke, C., Guenther, A., Alvarado, M.J., de Gouw, J., Mickley, L.J., Liebenschperger, E.M., Mathur, R., Nolte, C.G., Portmann, R.W., Unger, N., Tosca, M., Horowitz, L.W. "Southeast Atmosphere Studies: learning from model-observation syntheses." *Atmos. Chem. Phys.* 18, 2615-2651 (2018).
- 51) Tsui, W.G., **McNeill, V.F.*** "Modeling photosensitized secondary organic aerosol production by Humic-like Substances (HULIS)" *Environ. Sci. Technol. Lett.* 5 (5) 255-259 (2018)
- 52) Xu, J., Cui, T., Fowler, B., Fankhauser, A.M., Yang, K., Surratt, J., **McNeill, V.F.*** "Aerosol Brown Carbon Formation from Dark Reactions of Syringol in Aqueous Aerosol Mimics" *ACS Earth Space Chem.* 2 (6) 608-617 (2018)
- 53) Curry, L.A., Tsui, W.G., **McNeill, V.F.*** "Technical Note: Recommended reactive uptake coefficients for uptake of glyoxal and methylglyoxal by atmospheric aerosols and cloud droplets" *Atmos. Chem. Phys.* 18, 9823-9830 (2018)
- 54) **McNeill, V.F.*** "Addressing the global air pollution crisis: Chemistry's role". *Trends Chem.* 1(1), 5-8 (2019)
- 55) Shrivastava, M.K.*, Andreae, M.O., Artaxo, P., Barbosa, H., Berg, L.K., Brito, J., Ching, J., Easter, R.C., Fan, J., Fast, J.D., Feng, Z., Fuentes, J.D., Glasius, M., Goldstein, A.H., Gomes, E.A., Gomes, H., Gu, D., Guenther, A., Jathar, S.H., Kim, S., Liu, Y., Lou, S., Martin, S.T., **McNeill, V.F.**, Medeiros, A., de Sa, S.S., Shilling, J.E., Springston, S.R., Souza, R.F., Thornton, J.A., Isaacman-VanWertz, G., Yee, L., Ynoue, R., Zaveri, R., Zelenyuk, A., Zhao, C. "Urban pollution greatly enhances formation of natural aerosols over the Amazon rainforest". *Nature Comm.* 10:1046 doi:10.1038/s41467-019-08909-4 (2019)
- 56) Woo, J.L.*, Sareen, N., Schwier, A.N., **McNeill, V.F.***, Concept for an electrostatic focusing device for continuous ambient pressure aerosol concentration. *Atmos. Meas. Tech.* 12(6), 3395-3402 (2019)
- 57) Fankhauser A.M., Antonio D.D., Krell A.M., Alston S.J., Banta S., **McNeill V.F.*** Constraining the impact of bacteria on the aqueous atmospheric chemistry of small organic compounds. *ACS Earth Space Chem* 3(8) 1485-1491(2019)
- 58) Wang, Shunyao, Zhou, Shouming, Tao, Ye, Tsui, William, Ye, Jianhuai, Yu, Jian Zhen, Murphy, Jennifer, **McNeill V.F.**, Abbatt, Jonathan, Chan, Arthur* Organic Peroxides and Sulfur Dioxide in Aerosol: Source of Particulate Sulfate. *Environ. Sci. Technol.* 53 (18) 10695-10704 (2019)
- 60) Tsui W.G., Woo J.L., **McNeill V.F.*** Impact of Aerosol-Cloud Cycling on Aqueous Secondary Organic Aerosol Formation. *Atmosphere* 10(11) 666 (2019)
- (61) Thomas, J.L., Stutz, J.P., Frey, M.M., Bartels-Rausch, T., Altieri, K., Baladima, F., Browse, J., Dall'Osto, M., Marelle, L., Mouginot, J., Murphy, J.G., Nomura, D., Pratt, K.A., Willis, M.D., Zieger, P., Abbatt, J.P.D., Douglas, T.A., Facchini, M.C., France, J., Jones, A.E., Kim, K., Matrai, P.A., **McNeill, V.F.**, Saiz-Lopez, A., Shepson, P., Steiner, J., Law, K.S., Arnold, S.R., Delille, B., Schmale, J., Sonke, J.E., Dommergue, A., Voisin, D., Melamed, M.L., Gier, J.(2019) Fostering multidisciplinary research on interactions between chemistry, biology, and physics within the coupled cryosphere-atmosphere system *Elem. Sci. Anth.* 7(1) 58 <https://doi.org/10.1525/elementa.396>
- (62) Pye H.O.T., Nenes A., Alexander B., Ault A.P., Barth M.C., Clegg S.L., Collett J.L., Fahey K.M., Hennigan C.J., Herrmann H., Kanakidou M., Kelly J.T., Ku I.-T., **McNeill V.F.**, Riemer N., Schaefer T., Shi G., Tilgner A., Walker J.T., Wang T., Weber R., Xing J., Zaveri R.A., Zuend A. "The acidity of atmospheric particles and clouds" *Atmos. Chem. Phys.* 20(8) 4809-4888 (2020)

- 63) Huynh, H., **McNeill V.F.**, Heterogeneous Chemistry of CaCO₃ Aerosols with HNO₃ and HCl, *J. Phys. Chem. A* 124 (19) 3886-3895 (2020)
- 64) Fankhauser A.M., Bourque, M., Alamazan, J., Marin, D., Fernandez, L., Hutheesing, R., Ferdousi, N., Tsui, W.G., **McNeill V.F.*** Impact of environmental conditions on Secondary Organic Aerosol Production from Photosensitized Humic Acid Environ. Sci. Technol. 54(9) 5385-5390 (2020)
- 65) Ault, A.P., Grassian, V.H., Carslaw, N., Collins, D.B., Destailats, H., Donaldson, D.J., Farmer, D.K., Jimenez, J.L., **McNeill, V.F.**, Morrison, G.C., O'Brien, R.E., Shiraiwa, M., Vance, M.E., Wells, J.R., Xiong, W., Indoor Surface Chemistry: Developing a Molecular Picture of Reactions on Indoor Interfaces, *Chem*, 6 (12) 3203-3218 2020
- 66) Cox, R.A., Ammann, M., Crowley, J.N., Herrmann, H., Jenkin, M.E., McNeill, V.F., Mellouki, A., Troe, J., Wallington, T.J., Evaluated kinetic and photochemical data for atmospheric chemistry: Volume VII- Criegee Intermediates. *Atmos. Chem. Phys.* 20 (21) 13497-13519 (2020)
- 67) Mellouki, A., Ammann, M., Crowley, J.N., Herrmann, H., Jenkin, M.E., McNeill, V.F., Troe, J., Wallington, T.J., Evaluated kinetic and photochemical data for atmospheric chemistry: Volume VIII- gas phase reactions of organic species with four, or more, carbon atoms ($\geq C_4$). *Atmos. Chem. Phys.*, 21, 4797-4808 (2021)
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- 97) Huang, R.-J., Li, Y.J., Chen, Q., Zhang, Y., Lin, C., Chan, C.K., Yu, J.Z., de Gouw, J., Tong, S., Jiang, J., Wang, W., Ding, X., Wang, X., Ge, M., Zhou, W., Worsnop, D., Boy, M., Bilde, M., Dusek, U., Carlton, A.G., Hoffmann, T., **McNeill, V.F.**, Glasius, M. Secondary organic aerosol in urban China: A distinct chemical regime for air pollution studies. *Science* 389 (6763) eadq2840 (2025)
- 98) Ward, R., Hack, M., **McNeill, V.F.** A low-cost solid aerosol generator of high stability, *Aerosol Sci. Technol.* 60 (1), 70-79 (2025)
- 99) Hack, M., Wagner, G., Steingart, D. **McNeill, V.F.** Engineering and logistical concerns add practical limitations to stratospheric aerosol injection strategies. *Sci. Rep.* 15 (1) 14635 (2025)
- 100) Tam, A., Gong, K., Young, M., **McNeill, V.F.**, Grassian, V.H.* Evolution of the composition and pH of single aqueous aerosols produced from bulk aqueous sulfite solutions. *J. Phys. Chem. A* in press (2026)
- 101) Swaminathan, S., Agrawal, P., **McNeill, V.F.***, Rengaswamy, R., Agent-based framework for modeling hyperlocal urban air quality. *NPJ Clean Air* in press (2026)

II. Conference Proceedings

Yinon, L., Themelis, N. J., **McNeill, V. F.*** "Ultrafine Particle Formation by WTE and Other Combustion Sources" in *NAWTEC 18 Proceedings*, ASME International, Tampa, FL (May 2010)
McNeill, V.F.*, Barakat, J. M. "Ultrafine particle emissions from waste transportation averted as a result of WTE: A case study of the New York metropolitan area," WtERT USA, New York, NY (October 2010)

III. Books Edited or Co-Edited

Advances in Atmospheric Chemistry, Topics in Current Chemistry vol. 339 (Springer), ISBN: 978-3-642-41214-1 (2014)

IV. Editorials and other non peer-reviewed publications

McNeill, V.F. "Hartmut Herrmann Festschrift" *ACS Earth Space Chem* 9(8) 1958-1959 (2026)

Pye, H.O.T., Schwantes, R.H., Barsanti, K.C., **McNeill, V.F.**, Wolfe, G.M. Leveraging Scientific Community Knowledge for Air Quality Model Chemistry Parameterizations. *EM: The Magazine for Environmental Managers*. (2024)

McNeill, V.F. and Thornton, J.A. "How wildfires deplete ozone in the stratosphere" *Nature* 615 (7951) 219-221 (2023)

Sethuraman, S., Das, Y., **McNeill, V.F.** "India's Air Pollution by the Numbers: 2019-2020 Analysis" *Medium*, October 8, 2021

Geiger, FM, **McNeill VF** "Mario Molina (1943-2020)" *J. Phys. Chem. A*. 124 (52) 10921-10922 (2020)

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Geiger, FM, **McNeill, VF**, Orr-Ewing, AJ "Virtual Issue in Atmospheric Chemistry Research " *ACS Earth and Space Chemistry* 4(7) 958-960 (2020)

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Cox RA, Ammann M, Crowley JN, Herrmann H, Jenkin ME, **McNeill VF**, Mellouki AW, Rossi MJ, Troe J, Wallington TJ "IUPAC in the (real) clouds," *Chemistry International* 40(4) 10-13 (2018)

McNeill VF, Nunes JK "India's Air Pollution Crisis: By the Numbers," *Huffpost India*, October 26, 2017 (2017)

Nunes JK, **McNeill VF** "Tips on How to Pick and Optimise the Use of Air Sensors, Air Purifiers, and Masks," *HuffPost India*, October 14, 2017 (2017)

Nunes JK, **McNeill VF** "No, You Do Not Become "Immune" to Air Pollution. Yes, It Can Kill You!," *HuffPost India*, October 13, 2017 (2017)

Blum, J., **McNeill, VF**, Herbst, E., Liu, C., Chakraborty, S. "Welcome to ACS Earth and Space Chemistry" *ACS Earth and Space Chemistry* 1 (1),1-2 (2017)

Surratt, J. D., Szmigielski, R., **McNeill, V.F.** (2016) Special issue: Chemical characterization of secondary organic aerosol – Dedication to Professor Magda Claeys. *Atmos. Environ.*, 130, 1-4

McNeill, V. F., Prather, K., Geiger, F.M., Bertram A., Volkamer, R. (2015). A Tribute to Mario Molina. *J. Phys. Chem. A*. 119 (19) 4277-4278

McNeill, V. F., Ariya, P.A. (2014). Atmospheric and Aerosol Chemistry: Preface. *Topics in Current Chemistry*.

McNeill, V. F., Hastings, M. G. (2008). Ice in the Environment: Connections to Atmospheric Chemistry. *Environ. Res. Lett.*, 3, 045004.

H. Select Invited Presentations

1. Keynote Speaker and Discussion Leader, AICI-HiT-WCRP International Workshop, "Surface and Bulk Properties of Ices and Clouds," British Antarctic Survey, Cambridge, UK. (June 2008).
2. Faraday Discussion 165 "Tropospheric Aerosol - Formation, Transformation, Fate and Impacts." Leeds, UK (June 2013)
3. Keynote Speaker, Goldschmidt Conference 2013; Atmospheric aerosol in air quality and climate: The science and solutions, Session on "Organics in the Mix: Multicomponent Aerosol Processes," Florence, Italy (August 2013)

4. Plenary Speaker, Annual Meeting of the Nordic Society for Aerosol Research, Stockholm, Sweden (January 2014)
5. Speaker, Atmospheric Chemistry Gordon Conference, Waterville Valley, New Hampshire (August 2015)
6. Plenary Speaker, International Aerosols Modeling Algorithms Conference, Davis, CA (December 2017)
7. Mellichamp Lecturer, U.C. Santa Barbara Department of Chemical Engineering (February 2018)
8. Plenary Lecture, 11th International Conference on Chemical Kinetics, Orleans, France (June 2019)
9. Keynote speaker, Community Multiscale and Analysis System (CMAS) conference, Chapel Hill, NC (October 2022)
10. Discussion Leader, GRC Atmospheric Chemistry, Sunday River, Maine (August 2023)
11. Keynote speaker, India Clean Air Summit, Bangalore, India August 2023, August 2024
12. Plenary speaker, Bunsen-Tagung, Leipzig, Germany, March 2025
13. Plenary speaker, 12th Annual International GEOS-Chem Meeting (IGC12), St. Louis, MO, June 2025