Associate Professor, Department of Chemistry
Fellow, Cooperative Institute for Research in the Environmental Sciences
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Education

2012	Ph.D., Department of Chemistry, University of California, Berkeley
2006	B.S., *Summa cum Laude,* The College of William and Mary

Professional Experience

2024-Current	Associate Professor, Department of Chemistry University of Colorado, Boulder
2015-Current	Fellow, Cooperative Institute for Research in Environmental Science (CIRES) University of Colorado, Boulder
2015-2024	Assistant Professor, Department of Chemistry University of Colorado, Boulder
2012-2015	NOAA Climate and Global Change Postdoctoral Fellow Department of Civil and Environmental Engineering Massachusetts Institute of Technology
2006-2012	Graduate Research Assistant University of California, Berkeley, Department of Chemistry

Awards and Honors

2022	American Chemical Society Environmental Au 2022 Rising Star in Environmental Research
2022	University of Colorado Boulder Provost Faculty Achievement Award
2019	American Society for Mass Spectrometry Research Award
2013	ACCESS XII invited participant Atmospheric Chemistry Colloquium for Emerging Senior Scientists Brookhaven National Laboratory, Upton, NY
2012-2014	NOAA Climate and Global Change Postdoctoral Fellowship
2010-2012	NASA Earth Systems Science Fellowship
2009	NASA Group Achievement Award for efforts during the Arctic Research of the Composition of the Troposphere from Aircraft and Satellite Experiment (ARCTAS) February 2008-July 2008
2005	Inducted into Phi Beta Kappa

2019	Certification in Mental Health First Aid by National Council for Behavioral Health (CU Boulder)
2018	Introductory Leadership Workshop (CU Boulder)
2013	Path of Professorship Workshop (MIT)
2011	Summer Institute for Preparing Future Faculty (UC Berkeley)

(peer reviewed; advisees underlined; *indicates Browne as corresponding author)

Field Conventions: First, last, and corresponding authors are the main contributors.

Published

38* Reed, N. W.; Shearer, R. L.; McGlynn, S. E.; Wing, B. A.; Tolbert, M. A.; : Abiotic Production of Dimethyl Sulfide, Carbonyl Sulfide, and Other Organosulfur Gases via

30* Reed, N. W.; Wing, B. A.; Tolbert, M. A.; : Trace H_2S Promotes Organic Aerosol Production and Organosulfur Compound Formation in Archean Analog Haze Photochemistry Experiments, *Geophys. Res. Lett.*, 49, e2021GL097032, doi:10.1029/2021GL097032, 2022.

29* Alton, M. W.; : Atmospheric degradation of cyclic volatile methyl siloxanes: Radical chemistry and oxidation products, *ACS Environmental Au,* doi:10.1021/acsenvironau.1c00043, 2, 3, 263-274, 2022.

28* Reed, N. W.; ; Tolbert, M. A.: Impact of Hydrogen Sulfide on Photochemical Haze Formation in Methane/Nitrogen Atmospheres, *ACS Earth and Space Chem.,* 4(6), 897-c 0 Tw ()0.5 ( )]TJEMC ETBT/Li

Surface Nitrous Acid (HONO), *Environ. Sci. Tech.,* 49(21), 12774-81, doi:10.1021/acs.est.5b02511, 2015.

18 ; Franklin, J. P.; Canagaratna, M. R.; Massoli, P.; Kirchstetter, T. W.; Worsnop, D. R.; Wilson, K. R.; Kroll, J. H.: Changes to the chemical composition of soot from heterogeneous oxidation reactions, *J. Phys. Chem. A*, 119(7), 1154-1163, doi:10.1021/jp511507d, 2015.

17 Canagaratna, M. R.; Massoli, P.; , ; Franklin, J. P.; Wilson, K. R.; Onasch, T. B.; Kirchstetter, T. W.; Fortner, E. C.; Kolb, C. E.; Jayne, J. T.; Kroll, J. H.; Worsnop, D. R.: Chemical compositions of black carbon particle cores and coatings via soot particle aerosol mass spectrometry with photoionization and electron ionization, *J. Phys. Chem. A,* 119(19), 4589–4599, doi: 10.1021/jp510711u, 2015.

t 16 VandenBoer, T. C.; Markovic, M. Z.; Sanders, J. E.; Ren, X.; Pusede, S(.)-4.9-1P,atT

9 ; Cohen, R.C.: Effects of biogenic nitrate chemistry on the NO_x lifetime in remote continental regions, *Atmos. Chem. Phys*., 12, 11917-11932, doi:10.5194/acp-12-11917-2012, 2012.

8 Min, K.-E.; Pusede, S. E.; , ; LaFranchi, B. W.; Wooldridge, P. J.; Wolfe, G. M.; Harrold, S. A.; Thornton, J. A.; Cohen, R. C.: Observations of atmosphere-biosphere exchange of total and

Funding to supervised undergraduate students

Ebenezer Solomon	Undergraduate Research Opportunities Program (UROP)	5/24-8/24	$3,000
Jared Schlenker	UROP	5/22-8/22	$3,000

6 National Center for Atmospheric Research, 31 August 2020 (remote).

5 Department of Chemistry and Biochemistry, University of Texas El Paso, El Paso, TX, 27 September 2019.

4 Department of Chemistry, University of Denver, Denver, CO, 3 May 2018.

3 NOAA ESRL Chemical Sciences Division, Boulder, CO, 8 June 2016.

2 National Center for Atmospheric Research, Boulder, CO, 8 February 2016.

1 Department of Chemistry and Biochemistry, University of Colorado Boulder, Boulder, CO, 13 February 2014.

Invited Presentations *(Browne as presenter; since 2015)*

14 Atmospheric Chemical Mechanisms Plenary Speaker, Davis, CA, December 2024. (Invited Plenary Speaker)

13 Environmental Molecular Sciences Laboratory (EMSL) User Meeting. Keyonte Speaker in "Fundamental studies on aerosol processes and heterogeneous chemistry", Richland, WA, October 2024. (Invited Keynote Speaker)

12 ; Alton, M. W.; Johnson, V.; Sharma, S.: Experimental and theoretical insights into the atmospheric chemistry of volatile methyl siloxanes., *American Chemical Society National Meeting,* Denver, CO, August 2024. (Invited oral presentation)

11 VOC and Reactive N

3 Alton, M.;2024

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23 *Alton, M. W.; Stark, H.; Canagaratna, M.; Katz, D.; Improved Visualization Methods for Mass Spectra of Complex Mixtures, *Aerodyne Chemical Ionization Mass Spectrometry user meeting,* Virtual, May 2022. (Oral presentation)

22 *Reed, N.; Wing, B. A.; Tolbert, M. A.; : Trace H_2S Promotes Organic Aerosol Production and Oxidized Organosulfur Formation in Archean Organic Haze Chemistry, *American Geophysical Union Fall Meeting*, New Orleans, LA, December 2021. (Poster presentation)

21 *Alton, M.; Johnson, V.; Sharma, S.; : Experimental and Theoretical Investigation into Volatile Methyl Siloxane Oxidation Mechanism, *American Geophysical Union Fall Meeting*, New Orleans, LA, December 2021. (Poster presentation)

20 *Alton, M.; : Real-time Detection and Identification of Volatile Methyl Siloxane

8 *Berry, J.; Ugelow, M.; Tolbert, M.; : The Influence of Gas-phase Chemistry on Organic Haze Formation. *Astrobiology Graduate Conference 2019*, Salt Lake City, UT, July 2019. (Poster presentation)

7 *Berry, J.; Ugelow, M.; Tolbert, M.; : Chemical composition of ions during laboratory simulations of Titan's haze formation. *CIRES Rendezvous*, Boulder, CO, May 2019. (Poster presentation)

6 *Berry, J.; Ugelow, M.; Tolbert, M.; Influence of Positive Ions during Laboratory Simulations of Titan's Haze Formation. *American Geophysical Union Fall Meeting*, Washington, D.C., December 2018. (Oral Presentation)

5 *Berry, J.; Ugelow, M.; Tolbert, M.; : Chemical composition of ions during laboratory simulations of Titan's haze formation. *CU Boulder Research and Innovation Week*, Boulder, CO, October 2018. (Poster presentation)

4 *Berry, J.; Ugelow, M.; Tolbert, M.; : Chemical composition of ions during laboratory simulations of Titan's haze formation. *Astrobiology Graduate Conference 2018*, Atlanta, GA, June 2018. (Poster presentation)

3 *Abdelhamid, A.; Stark, H.; Kuang, C.; Bullard, R.; Worsnop, D.; Nowak, J.; : Measurements of Positive Ambient Ions in Lamont OK as Part of the Holistic Interaction of Shallow Clouds Aerosols and Land Ecosystems (HISCALE II) Field Campaign, *American Geophysical Union Fall Meeting*, New Orleans, LA, December 2017. (Poster presentation)

2 *Berry, J.; Ugelow, M.; Tolbert, M.; : Chemical composition of ions during laboratory simulations of Titan's haze formation. *CU Boulder Atmospheric and Oceanic Sciences (ATOC) Earth System & Space Science Poster Conference*, Boulder, CO, December-0.7 (ulpc)0.8 (0c)0.8 (1c)0.8 (7c)0.8 (.238 ((()33

Courses (*indicates new courses developed by Browne)

*CHEM 2100	Chemical Energetics and Dynamics/Foundations of Chemistry 2 (4 credit hours; undergraduate; course name change in 2021) Spring 2018, Spring 2019, Spring 2020, Spring 2021, Spring 2022, Spring 2023
CHEM 4171	Instrumental Analysis 1 (3 credit hours; undergraduate) Fall 2017, Fall 2020, Fall 2022, Fall 2024
*CHEM 5131	Computer Programming & Data Analysis (3 credit hours; graduate) Fall 2015, Fall 2016, Fall 2019, Fall 2021, Spring 2024

Participation in Faculty Teaching Excellence Program (FTEP)/Center for Teaching & Learning (CTL) Events

2023	Inclusive Research Mentoring for Faculty: Maintaining Effective Communication (9/29/23), Inclusive Research Mentoring for Faculty:

Reviewer for Agencies: American Chemical Society Petroleum Research Foundation, Canada Foundation for Innovation, Department of Energy Atmospheric Systems Research, Department of Energy Small Business Innovation Research/Small Business Technology Transfer, National Science Foundation, Netherlands Organisation for Scientific Research, NOAA Atmospheric Chemistry, Carbon Cycle, & Climate (AC4)

2024-current PCE_3, Prebiotic Chemistry and Early Earth Environments NASA Research Coordination Network, Steering Committee member

2024 Special Symposium chair "Planetary Aerosols: From Earth to Exoplanets," *American Association for Aerosol Research 42nd Annual Conference,* Albuquerque, NM, October 2024.

2024 Discussion leader for the "Clusters in the Atmosphere and in Outer Space" session of the *Molecular and Ionic Clusters Gordon Research Conference,* Ventura, CA, February 2024.

2022 Technical Program Committee, *Atmospheric Chemical Mechanisms Conference*, Davis, CA, December 2022.

2021-2022 Member of search committee for National Center for Atmospheric Research (NCAR) Senior Scientist position

2016 Symposium Co-organizer, Fall SympiMe Cmpla9ia t 0.0022 yelTw -14.8p951 -1.76022ec7 EMC /P sA.2 2P