Eleanor C. Browne
Associate Professor, Department of Chemistry
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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

Employment

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

Select Honors and Awards

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

Professional Training

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)

Research

Publications (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.; **Browne, E. C.**: Abiotic Production of Dimethyl Sulfide, Carbonyl Sulfide, and Other Organosulfur Gases via Photochemistry: Implications for Biosignatures and Metabolic Potential, *Astrophys. J. Lett.,* 973(2), L38, doi:10.3847/2041-8213/ad74da, 2024.
**CIRES write-up (also present at phys.org) **

37 Jansen, K. T.; **Browne, E. C.;** Tolbert, M. A.: Secondary Brown Carbon Aerosol Resists Bleaching by Ozone under Acidic Conditions, *J. Phys. Chem. A.,* 128(31), 6510-6520, doi:10.1021/acs.jpca.4c02356, 2024.

36 Schiffman, Z. R.; Jansen, K. T.; **Browne, E. C.;** Tolbert, M. A.: Methylglyoxal-Urea Brown Carbon Aerosol: A Loss Process for Urea, *ACS EST Air,* 1, 9, 1028-1036, doi:10.1021/acsestair.4c00047, 2024.

35* Alton, M. A.; Johnson, V. L.; Sharma, S.; **Browne, E.C.:** Volatile Methyl Siloxane Atmospheric Oxidation from Theoretical Perspective – How is the Siloxanol Formed?, *J. Phys. Chem. A*, 127, 10233–10242, doi:10.1021/acs.jpca.3c06287, 2023.

34* Reed, N. W.; Jansen, K. T.; Schiffman, Z. R.; Tolbert, M. A.; **Browne, E. C:** The Influence of Hydrogen Sulfide on the Optical Properties of Planetary Organic Hazes: Implications for Exoplanet Climate Modeling, *Astrophys. J. Lett.,* 954(2), L44 (8pp), doi:10.3847/2041-8213/acf1a2, 2023.

33* Alton, M. W.; Stark, H. J.; Canagaratna, M. R.; **Browne, E. C.**: Generalized Kendrick analysis for improved visualization of atmospheric mass spectral data, *Atmos. Meas. Tech*., 16, 3273–3282, doi:10.5194/amt-16-3273-2023, 2023.

32 Matthews, E.; Bannan, T. J.; Khan, M. A. H.; Shallcross, D.; Stark, H.; **Browne, E. C.**; Archibald, A. T.; Mehra, A.; Bauguitte, S.; Reed, C.; Thamban, N. M.; Wu, H.; Barker, P.; Lee, J.; Carpenter, L. J.; Bell, T. G.; Allen, G.; Jayne, J. T.; Percival, C. J.; McFiggans, G.; Gallagher, M.; Coe, H.: Airborne observations over the North Atlantic Ocean reveal the importance of gas-phase urea in the atmosphere, *Proc. Natl. Acad. Sci. U.S.A.*, 120(25), e2218127120, doi:10.1073/pnas.2218127120, 2023.

31* Katz, D. J.; Abdelhamid, A.; Stark, H. J.; Canagaratna, M. R.; Worsnop, D. R.; **Browne, E. C**.: Chemical Identification of new particle formation and growth precursors through positive matrix factorization of ambient ion measurements, *Atmos. Chem. Phys.*, 23, 5567–5585, doi:10.5194/acp-23-5567-2023, 2023.

30* Reed, N. W.; Wing, B. A.; Tolbert, M. A.; **Browne, E. C.**: 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.; **Browne, E. C.**: 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. ****Selected for inclusion in Rising Stars Special Issue****

28* Reed, N. W.; **Browne, E. C.**; Tolbert, M. A.: Impact of Hydrogen Sulfide on Photochemical Haze Formation in Methane/Nitrogen Atmospheres, *ACS Earth and Space Chem.,* 4(6), 897-904, doi: 10.1021/acsearthspacechem.0c00086, 2020.

27* Alton, M. W.; **Browne, E. C.**: Atmospheric Chemistry of Volatile Methyl Siloxanes: Kinetics and Products of Oxidation by OH Radicals and Cl Atoms, *Environ. Sci. Tech.,* 54(10), 5992-5999, doi: 10.1021/acs.est.0c01368, 2020.

26* Ugelow, M. S.; Berry, J. L.; **Browne, E.C.**; Tolbert, M. A.: The Impact of Molecular Oxygen on Anion Composition in a Hazy Archean Earth Atmosphere, *Astrobiology,* 20(5), 658-669, doi:10.1089/ast.2019.2145, 2020.

25* Berry, J. L.; Ugelow, M. S.; Tolbert, M. A.; **Browne, E.C.**: The Influence of Gas-phase Chemistry on Organic Haze Formation, *Astrophys. J. Lett.,* 885(1), L6 (7pp), doi:10.3847/2041-8213/ab4b5b, 2019.

24* **Browne, E. C.**; Zhang, X.; Franklin, J. P.; Ridley, K. B.; Kirchstetter, T. W.; Wilson, K. R.; Cappa, C. D.; Kroll, J. H.: Effect of heterogeneous oxidative aging on light absorption by biomass-burning organic aerosol, *Aerosol Sci. Technol.,* 53(6), 663-674, doi:10.1080/02786826.2019.1599321, 2019. ***Editorial Board Selection as a 2019 Notable Paper** Video describing the work*

23* Berry, J. L.; Ugelow, M. S.; Tolbert, M. A.; **Browne, E. C.:** Chemical Composition of Gas-Phase Positive Ions During Laboratory Simulations of Titan's Haze Formation, *ACS Earth and Space Chem.*, 3(2) 202-211, doi:10.1021/acsearthspacechem.8b00139, 2019. ***Selected for inclusion in J Phys Chem A/ACS Earth and Space Chem Virtual Issue on Astrochemistry, ACS Earth and Space Chem, 3(11), 2372-2372, 10.1021/acsearthspacechem.9b00259, 2019.**

22* Berry, J. L.; Day, D. A.; Elseberg, T.; Palm, B. B.; Hu, W.; Abdelhamid, A.; Schroder, J. C.; Karst, U.; Jimenez, J. L.; **Browne, E. C.:** Laser Ablation-Aerosol Mass Spectrometry-Chemical Ionization Mass Spectrometry for Ambient Surface Imaging, *Anal. Chem*., 90(6), 4046–4053, doi:10.1021/acs.analchem.7b05255, 2018.

21 Lim, C. Y.; **Browne, E. C.**; Sugrue, R. A.; Kroll, J. H.: Rapid heterogeneous oxidation of organic coatings on submicron aerosols, *Geophys. Res. Lett.*, 44, 2949-2957, doi:10.1002/2017GL072585, 2017.

20 Brune, W. H.; Baier, B. C.; Thomas, J.; Ren, X.; Cohen, R. C.; Pusede, S. E.; **Browne, E.**; Goldstein, A. H.; Gentner, D. R.; Keutsch, F. N.; Thornton, J.; Harrold, S.; Lopez-Hilfiker, F.; Wennberg, P. O.: Ozone Production Chemistry in the Presence of Urban Plumes, *Faraday Discuss.,* 189, 169-189, doi:10.1039/C5FD00204D, 2016.

19 Pusede S. E.; VandenBoer T. C.; Murphy J. G.; Markovic M. Z.; Young C. J.; Veres P. R.; Roberts J. M.; Washenfelder R. A.; Brown S. S.; Ren X.; Tsai C.; Stutz J.; Brune W. H.; **Browne E. C.**; Wooldridge P. J.; Graham A. R.; Weber R.; Goldstein A. H.; Dusanter S.; Griffith S. M.; Stevens P. S.; Lefer B. L.; Cohen R. C.: An Atmospheric Constraint on the NO_2 Dependence of Daytime Near-

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

18 **Browne, E. C.**; 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.; **Browne**, **E. C.**; 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.

16 VandenBoer, T. C.; Markovic, M. Z.; Sanders, J. E.; Ren, X.; Pusede, S. E.; **Browne**, **E. C.**; Cohen, R. C.; Zhang, L.; Thomas, J.; Brune, W. H.; Murphy, J. G.: Evidence for a nitrous acid (HONO) reservoir at the ground surface in Bakersfield, CA, during CalNex 2010, *J. Geophys. Res, Atmos.,* 119(14), 9093-9106, doi:10.1002/2013JD020971, 2014.

15 Min, K.-E.; Pusede, S. E.; **Browne**, **E. C.**; LaFranchi, B. W.; Wooldridge, P. J.; Cohen, R. C.: Eddy covariance fluxes and vertical concentration gradient measurements of NO and NO_2 over a ponderosa pine ecosystem: observational evidence for within-canopy removal of NO_x, *Atmos. Chem. Phys.*, 14, 5495-5512, doi:10.5194/acp-14-5495-2014, 2014.

14 Pusede, S. E.; Gentner, D. R.; Wooldridge, P. J.; **Browne**, **E. C.**; Rollins, A. W.; Min, K.-E.; Russell, A. R.; Thomas, J.; Zhang, L.; Brune, W. H.; Henry, S. B.; DiGangi, J. P.; Keutsch, F. N.; Harrold, S. A.; Thornton, J. A.; Beaver, M. R.; St. Clair, J. M.; Wennberg, P. W.; Sanders, J.; Ren, X.; VandenBoer, T. C.; Markovic, M. Z.; Guha, A.; Weber, R.; Goldstein, A. H.; Cohen, R. C.: On the temperature dependence of organic reactivity, nitrogen oxides, ozone production, and the impact of emission controls in San Joaquin Valley California, *Atmos. Chem. Phys.,* 14, 3373-3395, doi:10.5194/acp-14-3373-2014, 2014.

13 **Browne**, **E. C.**; Wooldridge, P. J.; Min, K.-E.; Cohen, R. C.: On the role of monoterpene chemistry in the remote continental boundary layer, *Atmos. Chem. Phys.,* 14, 1225-1238, doi:10.5194/acp-14-1225-2014, 2014.

12 Worton, D. R.; Surratt, J. D.; LaFranchi, B. W.; Chan, A. W. H.; Zhao, Y.; Weber, R. J.; Park, J.-H.; Gilman, J. B.; de Gouw, J.; Park, C.; Schade, G.; Beaver, M.; St. Clair, J. M.; Crounse, J.; Wennberg, P.; Wolfe, G. M.; Harrold, S.; Thornton, J. A.; Farmer, D. K.; Docherty, K. S.; Cubison, M. J.; Jimenez, J. L.; Frossard, A. A.; Russell, L. M.; Kristensen, K.; Glasius, M.; Mao, J.; Ren, X.; Brune, W.; **Browne**, **E. C.**; Pusede, S. E.; Cohen, R. C.; Seinfeld, J. H.; Goldstein, A. H.: Observational insights into high- and low-NO_x aerosol formation from isoprene, *Environ. Sci. Tech.*, 47(20), 11403–11413, doi:10.1021/es4011064, 2013.

11 **Browne**, **E. C.**; Min, K.-E.; Wooldridge, P. J.; Apel, E.; Blake, D. R.; Brune, W. H.; Cantrell, C. A.; Cubison, M. J.; Diskin, G. S.; Jimenez, J. L.; Weinheimer, A. J.; Wennberg, P. O.; Wisthaler, A.; Cohen, R. C.: Observations of total $RONO_2$ over the boreal forest: NO_x sinks and HNO_3 sources, *Atmos. Chem. Phys.,* 13, 4543-4562, doi:10.5194/acp-13-4543-2013, 2013.

10 Rollins, A. W.; **Browne**, **E. C.**; Min, K.-E.; Pusede, S. E.; Wooldridge, P. J.; Gentner, D. R.; Goldstein, A. H.; Liu, S.; Day, D. A.; Russell, L. M.; Cohen, R. C.: Evidence for NO_x control over nighttime SOA formation, *Science*, 337, doi:10.1126/science.1221520, 1210-1212, 2012.

9 **Browne, E. C.**; 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.; **Browne**, **E. C.**; 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 speciated peroxynitrates: nitrogen fluxes and biogenic sources of peroxynitrates, *Atmos. Chem. Phys*., 12, 9763-9773, doi:10.5194/acp-12-9763-2012, 2012.

7 Ren, X.; Sanders, J. E.; Rajendran, A.; Weber, R. J.; Goldstein, A. H.; Pusede, S. E.; **Browne**, **E. C.**; Min, K.-E.; Cohen, R. C.: A relaxed eddy accumulation system for measuring vertical fluxes of nitrous acid, *Atmos. Meas. Tech*., 4, 2093-2103, doi:10.5194/amt-4-2093-2011, 2011.

6 Russell, A. R.; Perring, A. E.; Valin, L. C.; Hudman, R. C.; **Browne**, **E. C.**; Min, K.-E.; Wooldridge, P. J.; Cohen, R. C.: A high spatial resolution retrieval of NO_2 column densities from OMI: Method and Evaluation, *Atmos. Chem. Phys*., 11, 8543-8554, doi:10.5194/acp-11-8543-2011, 2011.

5 **Browne**, **E. C.**; Perring, A. E.; Wooldridge, P. J.; Apel, E.; Hall, S. R.; Huey, L. G.; Mao, J.; Spencer, K. M.; St. Clair, J. M.; Weinheimer, A. J.; Wisthaler, A.; Cohen, R. C.: Global and regional effects of the photochemistry of $CH_3O_2NO_2$: Evidence from ARCTAS, *Atmos. Chem. Phys*., 11, 4209-4219, doi:10.5194/acp-11-4209-2011, 2011.

4 Wolfe, G. M.; Thornton, J. A.; Bouvier-Brown, N. C.; Goldstein, A. H.; Park, J.-H.; McKay, M.; Matross, D. M.; Mao, J.; Brune, W. H.; LaFranchi, B. W.; **Browne**, **E. C.**; Min, K.-E.; Wooldridge, P. J.; Cohen, R. C.; Crounse, J. D.; Faloona, I. C.; Gilman, J. B.; Kuster, W. C.; de Gouw, J. A.; Huisman, A.; Keutsch, F. N.: The Chemistry of Atmosphere-Forest Exchange (CAFE) Model, Part II: Application to BEARPEX-2007 observations, *Atmos. Chem. Phys*., 11, 1269-1294, doi:10.5194/acp-11-1269-2011, 2011.

3 Alvarado, M. J.; Logan, J. A.; Mao, J.; Apel, E.; Riemer, D.; Blake, D.; Cohen, R. C.; Min, K.-E.; Perring, A. E.; **Browne**, **E. C.**; Wooldridge, P. J.; Diskin, G. S.; Sachse, G. W.; Fuelber, H.; Sessions, W. R.; Harrigan, D. L.; Huey, G.; Liao, J.; Case-Hanks, A.; Jimenez, J. L.; Cubison, M. J.; Vay, S. A.; Weinheimer, A. J.; Knapp, D. J.; Montzka, D. D.; Flocke, F. M.; Pollack, I. B.; Wennberg, P. O.; Kurten, A.; Crounse, J.; St. Clair, J. M.; Wisthaler, A.; Mikoviny, T.; Yantosca, R. M.; Carouge, C. C.; Le Sager, P.: Nitrogen oxides and PAN in plumes from boreal fires during ARCTAS-B and their impact on ozone: an integrated analysis of aircraft and satellite observations, *Atmos. Chem. Phys*., 10, 9739-9760, doi:10.5194/acp-10-9739-2010, 2010.

2 Ren, X.; Gao, H.; Zhou, X.; Crounse, J. D.; Wennberg, P. O.; **Browne**, **E. C.**; LaFranchi, B. W.; Cohen, R. C.; McKay, M.; Goldstein, A. H.; Mao, J.: Measurement of atmospheric nitrous acid at Blodgett Forest during BEARPEX2007**,** *Atmos. Chem. Phys*., 10, 6283-6294, doi:10.5194/acp-10-6283-2010, 2010.

1 LaFranchi, B. W.; Wolfe, G. M.; Thornton, J. A,; Harrold, S. A.; **Browne**, **E. C.**; Min, K.-E.; Wooldridge, P. J.; Gilman, J. B.; Kuster, W. C.; Goldan, P. D.; de Gouw, J. A.; McKay, M.; Goldstein, A. H.; Ren, X.; Mao, J.; Cohen, R. C.: Closing the peroxy acetyl nitrate budget: Observations of acyl peroxy nitrates (PAN, PPN, and MPAN) during BEARPEX 2007**,** *Atmos. Chem. Phys*., 9, 7623-7641, doi:10.5194/acp-9-7623-2009, 2009.

Reports (not peer reviewed)

3 **Browne, E. C.,** Dobson, B., Katz, D., Alton, M., Canagaratna, M., Stark, H., Worsnop, D., Kuang, C.: Boundary Layer Gradients in New Particle Formation Final Campaign Report. DOE/SC-ARM-23-045, doi:10.2172/2229898, December 2023.

2 **Browne, E. C.**, Dobson, B., Stark, H., Canagaratna, M., and Worsnop, D.: Characterizing New Particle Formation and Growth Field Campaign Report. DOE/SC-ARM-22-007, December 2022.

1 Smith, J., Stark, H., **Browne, E**., Hanson D.: HI-SCALE Nanoparticle Composition and Precursors Field Campaign Report, DOE/SC-ARM-17-023, June 2017.

Research Funding at CU

$2.8 million in external funding as PI ($2.25 million to Browne); ~$140k to Browne in external funding as co-I; $30k in internal funding to Browne

Title	Agency	Award	Duration	Role
Bridging the Gap between Measurements and Models of Habitable World Atmospheres: Investigating Radical Chain Chemistry as a Control on Organic Haze	NASA Habitable Worlds	$542,693 ($505,587 to Browne) 80NSSC23K1526	8/24/23-8/23/26	PI
Boundary Layer Gradients in New Particle Formation and Growth at Southern Great Plains	Department of Energy Atmospheric Systems Research	$586,690 ($369,703 to Browne) DE-SC0023533	1/1/23-12/31/25	PI
Feasibility Studies for determining Dimethylsilanediol (DMSD) Oxidation Rate Constants	CES – Silicones Europe	$10,412	11/1/22-12/16/22	PI
Laser induced acoustic desorption for aerosol chemical characterization	Cooperative Institute for Research in Environmental Sciences	$30,000	5/21-11/22	PI
Collaborative Research: Photochemical Silicon Aerosols: Establishing Atmospheric Sources and Significance *Collaborator: University of Iowa*	National Science Foundation Atmospheric Chemistry	$217,400 ($217,400 to Browne) AGS-2029017	2/1/21-1/31/25	PI
Impact of Sulfur on Planetary Haze: Implications for Habitability	NASA Habitable Worlds	$444,323 ($385,506 to Browne) 80NSSC20K0232	11/5/19-11/4/24	PI
Constraining the Chemistry of Particle Formation and Growth in the Southern Great Plains	Department of Energy Atmospheric Systems Research	$637,190 ($387,253 to Browne) DE-SC0020175	8/15/19-8/14/24	PI
Development of a Novel Method for Aerosol Chemical Characterization	American Society for Mass Spectrometry	$35,000 Research Award 2019	7/1/19-6/30/23	PI

Title	Agency	Award	Duration	Role
Constraining the Degradation Pathways of Siloxanes in the Atmosphere	National Science Foundation Environmental Chemical Sciences & Atmospheric Chemistry	$341,312 CHE-1808606	8/15/18-7/31/22	PI
Development of a Chemical Ionization Time-of-flight Mass Spectrometer for Characterizing the Role of Organic Amines in New Particle Formation	Department of Energy SBIR	$1,200,225 ($139,758 to Browne) DE-SC0011218	4/6/15-4/5/18	Co-I

Funding to supervised graduate students

External $338,200; Internal ~$154,000

Student	Award	Duration	Amount
Daniel Katz	CIRES Graduate Student Research Award	8/24-5/25	~$39,000
Daniel Katz	Department of Chemistry Ekeley and Sharrah Fellowships	1/24-8/24	~$18,000
Bri Dobson	Department of Energy Office of Science Graduate Student Research (SCGSR) Fellowship	1/24-12/24	$43,200
Hanalei Lewine	NASA Future Investigators in NASA Earth and Space Science and Technology (FINESST) Fellowship	1/24-12/26	$150,000
Nathan Reed	Department of Chemistry Sharrah Fellowship	5/22-8/22	~$9,500
Bri Dobson	Nature, Environment, Science & Technology (NEST) Studio for the Arts Graduate Summer Fellowship	5/22-8/22	$10,000 (~$4,000 to Bri)
Mitchell Alton	CIRES Graduate Student Research Award	8/21-5/22	$30,761
Nathan Reed	Department of Chemistry Sharrah Fellowship	5/20-8/20	$6,500
Aroob Abdelhamid	NSF Graduate Research Opportunities Worldwide (research at University of Eastern Finland)	7/19-6/20	$5,000
Jennifer Berry	CIRES Graduate Student Research Award	8/18-5/19	$30,761
Jennifer Berry	Department of Chemistry Fellowship	5/18-8/18	$10,000
Aroob Abdelhamid	William Robert Findley Graduate Chemistry Scholarship	8/16-5/17	$2,000
Aroob Abdelhamid	NSF Graduate Research Fellowship	6/16-5/20	$138,000

Funding to supervised undergraduate students

Student	Award	Duration	Amount
Ebenezer Solomon	Undergraduate Research Opportunities Program (UROP)	5/24-8/24	$3,000
Jared Schlenker	UROP	5/22-8/22	$3,000
McKenzie Larson	UROP	8/21-5/22	$1,500
McKenzie Larson	UROP	5/20-8/20	$3,000

Field Research Experience

2023 Boundary Layer Gradients in New Particle Formation, Lamont, OK (Principal Investigator)

2021, 2022 Characterizing New Particle Formation and Growth, Lamont, OK (Principal Investigator)

2016 HISCALE – Holistic Interactions of Shallow Clouds, Aerosols, and Land-Ecosystems, Lamont, OK

2013 TCAP – Two Column Aerosol Project, Truro, MA

2010 CalNex – California Research at the Nexus of Air Quality and Climate Change, Bakersfield, CA.

2008 ARCTAS – Arctic Research of the Composition of the Troposphere from Aircraft and Satellite, Palmdale, CA, Fairbanks, AK, Cold Lake, Canada.

2007, 2009 BEARPEX – Biosphere Effects of Aerosols and Photochemistry Experiment, Blodgett Forest, CA.

Research Seminars & Presentations (advisees underlined, undergraduates in italics, *presenting author)

Seminars *(Browne as presenter)*

18 Department of Chemistry, University of Michigan, Ann Arbor, MI, 28 March 2024.

17 MIT Atmospheric Chemistry Colloquium, Cambridge, MA, 21 November 2023 (remote).

16 NOAA Chemical Science Laboratory, Boulder, CO, 15 November 2023.

15 Department of Chemistry, University of California Berkeley, Berkeley, CA, 31 October 2023

14 Department of Chemistry, Pennsylvania State University, State College, PA, 9 November 2022.

13 Departments of Atmospheric Science & Chemistry, University of Wyoming, Laramie, WY, 11 October 2022.

12 Department of Chemistry, University of California San Diego, 18 May 2021 (remote).

11 Department of Chemistry, University of North Carolina, Chapel Hill, 12 April 2021 (remote).

10 Department of Chemistry, University of California Irvine, 30 March 2021 (remote).

9 Frontiers in Atmospheric Chemistry seminar series, Online, 4 December 2020 (314 attendees).

8 Department of Geology Colloquium, University of Colorado Boulder, 21 October 2020 (remote).

7 Department of Chemistry, University of Iowa, 9 October 2020 (remote).

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 **Browne, E. C.;** 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 **Browne, E. C.**; 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 **Browne, E. C.;** VOC and Reactive N Chemistry in an Agricultural Environment, *New Insights into Gas Phase Atmospheric Chemistry Workshop,* Telluride, CO, July 2024. (Invited oral presentation)

10 **Browne, E. C.:** *SciX 2023* (Conference of the Federation of Analytical Chemistry and Spectroscopy Societies), Reno, NV, October 2023. (Invited oral presentation; invitation declined; unable to attend)

9 **Browne, E. C.:** *Canadian Chemistry Conference and Exhibition*, Vancouver, British Columbia, Canada, June 2023. (Invited oral presentation; invitation declined; unable to attend)

8 **Browne, E. C.:** *American Chemical Society National Meeting,* Indianapolis, IN, March 2023. (Invited oral presentation; invitation declined; unable to attend)

7 ***Browne, E. C.**; Reed, N. W.; Tolbert, M. A.; Sulfur and Planetary Atmospheres, *Tracing Sulfur from Molecular Clouds to the Origin of Life,* Lorentz Center Workshop, Leiden, Netherlands, September 2022. (Invited oral presentation)

6 ***Browne, E. C.** and Alton, M. W.: Atmospheric Fate of Volatile Methyl Siloxanes, *Expert Workshop to Review Potential Mechanisms of Degradation of Siloxanes/Silanols in the Atmosphere*, hosted by Dow Chemical and the Global Silicones Council, Virtual, August 2021. (Invited oral presentation).

5 **Browne, E. C.:** *American Chemical Society National Meeting,* San Francisco, CA, August 2020. (Invited oral presentation; symposium withdrawn by organizers due to pandemic)

4 ***Browne, E. C.;** Stark, H.; Abdelhamid, A.; Nowak, J. B.; Kimmel, J. R.; Smith, J.; Jayne, J. T.; Worsnop, D. R.: Chemistry of organic reduced nitrogen in a rural environment, *American Chemical Society National Meeting*, San Diego, CA, August 2019. (Invited oral presentation)

3 ***Browne, E. C.;** Alton, M.; Abdelhamid, A.; Berry, J.: Detection of novel organic nitrogen compounds with protonated ethanol cluster chemical ionization mass spectrometry, *Atmospheric Chemical Mechanisms Conference*, Davis, CA, December 2018. (Invited oral presentation)

2 Abdelhamid, A.; Stark, H.; Worsnop, D.; ***Browne, E. C.**: Chemical Composition of Ambient Ions: Role of Nitrogen Compounds, *Canadian Chemistry Conference and Exhibition*, Edmonton, Alberta, Canada, May 2018. (Invited oral presentation)

1 ***Browne, E. C.**: Reactive nitrogen at high altitude sites in Colorado: towards understanding the relative contributions of inorganic and organic nitrogen species, *ACS Regional Meeting: Young Talent in Colorado and Beyond*, Fort Collins, CO, August 2016. (Invited oral presentation)

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

10 ***Browne, E. C.;** Reed, N. W.; Jansen, K. T.; Schiffman, Z. R.; Wing, B. A.; Tolbert, M. A.: Impact of Sulfur on Planetary Haze: Implications for Habitability, *American Geophysical Union Fall Meeting,* San Francisco, CA, December 2023. (Poster presentation).

9 ***Browne, E. C.;** Berry, J. L.; Dobson, B.; Katz, D.: Comprehensive Analysis of Particle Growth Rates at an Agricultural Site, *American Association for Aerosol Research 41st Annual Conference,* Portland, OR, October 2023. (Oral presentation)

8 ***Browne, E. C.;** Dobson, B.; Katz, D.; Alton, M.; Canagaratna, M.; Krechmer, J.; Stark, H.; Worsnop, D.; Kuang, C.: New Particle Formation and Growth in the Southern Great Plains: Seasonal Differences and Vertical Gradients, *Department of Energy Atmospheric System Research/Atmospheric Radiation Measurement PI meeting*, Virtual, August 2023. (Poster presentation)

7 ***Browne E. C.**; Reed, N. W.; Wing, B. A.; Tolbert M.A.: Trace H_2S Promotes Organic Aerosol Production and Organosulfur Compound Formation in Planetary Haze Photochemistry Experiments, *Atmospheric Chemical Mechanisms Conference,* Davis, CA, December 2022. (Poster presentation)

6 ***Browne, E. C.;** Dobson, B.; Canagaratna, M.; Krechmer, J.; Stark, H.; Worsnop, D.; Kuang, C.: New Particle Formation and Growth in the Southern Great Plains: Seasonal Differences and Vertical Gradients, *Department of Energy Atmospheric System Research/Atmospheric Radiation Measurement PI meeting*, Rockville, MD, October 2022. (Poster presentation)

5 ***Browne, E. C.;** Berry, J. L.; Katz, D.; Dobson, B.; Abdelhamid, A.; Stark, H.; Krechmer, J.; Canagaratna, M.; Worsnop, D.: Comprehensive Analysis of Particle Growth Rates at an Agricultural Site, *Molecular Level Understanding of Atmospheric Aerosols Meeting,* Lake Arrowhead, CA, May 2022. (Poster presentation)

4 ***Browne, E. C.;** Berry, J. L.: Characterization of Particle Formation and Growth Rates at the Department of Energy Atmospheric Radiation Measurement Southern Great Plains Site, *American Geophysical Union Fall Meeting*, Virtual, December 2021. (Poster presentation)

3 ***Browne, E. C**.; Berry, J.; Katz, D.; Canagaratna, M.; Krechmer, J.; Stark, H.; Worsnop D.: Characterization of New Particle Formation and Growth at the DOE ARM Southern Great Plains Site, *Department of Energy Atmospheric System Research/Atmospheric Radiation Measurement PI meeting*, Virtual, June 2021. (Poster presentation)

2 ***Browne, E. C.;** Alton, A.: A Novel Mass Spectrometric Method to Measure Siloxanes, *American Society for Mass Spectrometry Annual Conference,* Atlanta, GA, June 2019. (Poster presentation)

1 ***Browne, E. C.;** Abdelhamid, A.; Berry, J.; Alton, M.: Demonstration of Laser Induced Acoustic Desorption – Chemical Ionization Mass Spectrometry (LIAD-CIMS) for Fragment-Free Measurements of Organic Aerosol Molecular Composition, *American Geophysical Union Fall Meeting,* New Orleans, LA, December 2017. (Poster presentation)

***Invited Presentations** (Supervised graduate student as presenter)*

1 *Reed.; N. W.; Wing, B. A.; Tolbert, M. A.; **Browne, E. C.:** The Role of Hydrogen Sulfide in Planetary Organic Haze Chemistry, *Prebiotic Chemistry and Early Earth Environments (PCE3) NASA Astrobiology Seminar Series,* Virtual, March 2022. (Invited oral presentation)

***Contributed Presentations** (Supervised graduate student as presenter)*

32 *Katz, D. J.; Abdelhamid, A.; Stark, H.; Canagaratna, M.; Worsnop, D. R.; **Browne, E. C.:** Measurements of Ambient Ionic Clusters Reveal the Chemical Identity of New Particle Formation and Growth Precursors, *Molecular and Ionic Clusters Gordon Research Conference*, Ventura, CA, February 2024. (Selected for Hot-Topic oral presentation, poster presentation)

31 *Katz, D. J.; Abdelhamid, A.; Stark, H.; Canagaratna, M.; Worsnop, D. R.; **Browne, E. C.:** Chemical Identification of New Particle Formation and Growth Precursors through Positive Matrix Factorization of Ambient Ion Measurements, *American Association for Aerosol Research 41st Annual Conference,* Portland, OR, October 2023. (Oral presentation)

30 *Dobson, B.; Stark, H.; Katz, D. J.; Krechmer, J.; Kuang, C.; Canagaratna, M. R.; Worsnop, D. R.; **Browne, E. C.**: Chemical and Meteorological Controls on New Particle Formation in the Southern Great Plains, *American Association for Aerosol Research 41st Annual Conference,* Portland, OR, October 2023. (Oral presentation)

29 *Dobson, B.; Stark, H.; Katz, D. J.; Krechmer, J.; Kuang, C.; Canagaratna, M. R.; Worsnop, D. R.; **Browne, E. C.**: Chemical and Meteorological Controls on New Particle Formation in the Southern Great Plains, *CIRES Rendezvous,* Boulder, CO, May 2023. (Poster presentation)

28 *Katz, D. J.; Abdelhamid, A.; Stark, H. J.; Canagaratna, M. R.; Worsnop, D. R.; **Browne, E. C**.: Chemical Identification of new particle formation and growth precursors through positive matrix factorization of ambient ion measurements, *Aerodyne Chemical Ionization Mass Spectrometry user meeting*, Virtual, May 2023. (Oral presentation)

27 *Reed, N. W.; Jansen, K.; Schiffman, Z.; Tolbert, M. A.; **Browne, E. C**.: The Effect of Trace H_2S on Organic Haze Optical Properties, *American Geophysical Union Fall Meeting,* Chicago, IL, December 2022. (Poster presentation)

26 *Reed, N. W.; Jansen, K.; Schiffman, Z.; Schearer, R.; Tolbert, M. A.; **Browne, E. C**.: The Effect of Trace H_2S on CH_4-Planetary Haze Chemistry, *Tracing Sulfur from Molecular Clouds to the Origin of Life,* Lorentz Center Workshop, Leiden, Netherlands, September 2022. (Poster presentation)

25 *Reed, N.; Wing, B. A.; Tolbert, M. A.; **Browne, E. C.**: Trace H_2S Promotes Organic Aerosol Production and Oxidized Organosulfur Formation in Archean Organic Haze Chemistry. *CIRES Rendezvous,* Boulder, CO, May 2022. (Poster presentation)

24 *Katz, D.; **Browne, E. C.:** Identification of chemical trends in ambient ion composition using Positive Matrix Factorization and Resolution-Enhanced Kendrick Mass Defect Analysis. *CIRES Rendezvous,* Boulder, CO, May 2022. (Poster presentation)

23 *Alton, M. W.; Stark, H.; Canagaratna, M.; Katz, D.; **Browne, E. C.:** 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.; **Browne, E. C.**: 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.; **Browne, E. C.**: 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.; **Browne, E. C.**: Real-time Detection and Identification of Volatile Methyl Siloxane Oxidation Products using Chemical Ionization to Better Understand Atmospheric Oxidation Mechanism, *American Society for Mass Spectrometry Conference on Mass Spectrometry and Allied Topics,* Philadelphia, PA, November 2021. (Poster presentation)

19 *Reed, N. W.; Tolbert, M. A.; **Browne, E. C.**: The Role of Hydrogen Sulfide in Archean Organic Haze Chemistry. *CIRES Rendezvous,* Boulder, CO, May 2021. (Poster presentation)

18 *Alton, M.; **Browne, E. C.**: Investigation of the Volatile Methyl Siloxane Oxidation Mechanism in Urban and Remote Atmospheric Conditions. *CIRES Rendezvous,* Boulder, CO, May 2021. (Poster presentation)

17 *Reed, N.; **Browne, E. C.:** Tolbert, M.A.: The Role of Hydrogen Sulfide in Organic Haze Chemistry, *American Geophysical Union Fall Meeting*, Virtual, December 2020. (Oral presentation)

16 *Alton, M.; **Browne, E. C.**: Laboratory Investigation of Multigenerational Siloxane Oxidation Chemistry, *American Geophysical Union Fall Meeting*, Virtual, December 2020. (Oral presentation)

15 *Berry, J.; **Browne, E. C.**: Characterization of New Particle Formation in a Rural Agricultural Site. *CIRES Rendezvous*, Boulder, CO, August 2020. (Poster presentation)

14 *Abdelhamid, A.; Buchholz, A.; Pullinen, I.; Schobesberger, S.; Virtanen, A.; **Browne, E. C.**: Nitrogen Incorporation in Biogenic Aerosol and its Effect on Aerosol Volatility. *CIRES Rendezvous*, Boulder, CO, August 2020. (Poster presentation)

13 *Berry, J.; Ugelow, M.; Tolbert, M.; **Browne, E. C.:** Haze Formation in Planetary Atmospheres: Investigating the Role of Gas-phase Organic Nitrogen Chemistry, *American Geophysical Union Fall Meeting,* San Francisco, CA, December 2019. (Oral presentation)

12 *Berry, J.; Ugelow, M.; Tolbert, M.; **Browne, E. C.**: Probing the Evolution of Gas-phase Chemistry during Laboratory Simulations of Planetary Haze Formation, *American Geophysical Union Fall Meeting,* San Francisco, CA, December 2019. (Oral presentation)

11 *Alton, M.; **Browne, E. C.**: Atmospheric Lifetime of Volatile Methyl Siloxanes: Is Chlorine Important?, *American Geophysical Union Fall Meeting*, San Francisco, CA, December 2019. (Oral presentation)

10 *Berry, J.; **Browne, E. C.**: Sensitive and Selective Organic Nitrogen Measurements: Applications of Ethanol Chemical Ionization Mass Spectrometry, *National Atmospheric Deposition Program Science Symposium and Fall Meeting*, Boulder, CO, November 2019. (Poster presentation)

9 *Reed, N. W.; Tolbert, M. A.; **Browne, E. C.**: Laboratory Studies of Early Earth Organic Haze. *Astrobiology Graduate Conference 2019*, Salt Lake City, UT, July 2019. (Poster presentation)

8 *Berry, J.; Ugelow, M.; Tolbert, M.; **Browne, E. C.**: 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.; **Browne, E. C.**: 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.; **Browne, E. C.:** 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.; **Browne, E. C.**: 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.; **Browne, E. C.**: 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.; **Browne, E. C.**: 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.; **Browne, E. C.**: 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 2017. (Poster presentation)

1 *Berry, J.; Ugelow, M.; Tolbert, M.; **Browne, E. C.**: Chemical composition of ions during laboratory simulations of Titan's haze formation. *American Association for Aerosol Research 36th Annual Conference*, Rayleigh, NC, October 2017. (Oral presentation)

Contributed Presentations *(Supervised undergraduate student as presenter)*

3 **Lemus, K*.; **Browne, E. C.**; Dobson, B.: Multiphase Chemistry of Urea: Implications for Brown Carbon and Aerosol Mass, *American Geophysical Union Fall Meeting,* Virtual, December 2022. (Poster presentation)

2 **Larson, M.;* **Browne, E. C.**: Investigating Wintertime Sources of Organic Aerosols in Cape Code, Massachusetts. *CIRES Rendezvous,* Boulder, CO, May 2021. (Poster presentation)

1 **Larson, M.;* **Browne, E. C.**: Investigating Wintertime Sources of Organic Aerosols in Cape Code, Massachusetts, *American Geophysical Union Fall Meeting*, Virtual, December 2020. (Poster presentation)

Mentoring

Current

Ph.D. Students Jeffrey Price: Fall 2023 – Expected graduation 2028/2029

Maxwell Lee: Fall 2023 – Expected graduation 2028/2029

Jim Hall: Fall 2023 – Expected graduation 2028/2029

Hanalei Lewine: Fall 2021 – Expected graduation 2026/2027

	Bri Dobson: Fall 2020 – Expected graduation 2025/2026
	Daniel Katz: Fall 2019 – Expected graduation May 2025
Postdoctoral	Dr. Nathan Reed: October 2023 – May 2024
Undergraduate	Ebenezer Solomon (CU Boulder; McNair Scholar): Fall 2022 – current

Alumni

Ph.D. Students	Dr. Nathan Reed: Fall 2017 – May 2023 (joint with Prof. Margaret Tolbert)
	Dr. Mitchell Alton: Fall 2016 – May 2022
	Dr. Aroob Abdelhamid: Fall 2015 – December 2020
	Dr. Jennifer Berry: Fall 2015 – May 2020
Undergraduate	Karla Lemus Community College of Denver; McNair Scholar): Summer 2022
	Jared Schlenker (CU Boulder; Honors Thesis student): Fall 2021 – Fall 2022
	Samuel Beaudry (CU Boulder): Fall 2021 – Summer 2022
	McKenzie Larson (CU Boulder): Fall 2019-Spring 2022
	Natalie LeMessurier (McGill University): Summer 2019
	Katherine Thompson (Pikes Peak Community College): Summer 2019
	Tyler Kukuchka (CU Boulder): Summer 2018
	Davin Duke (Pikes Peak Community College): Summer 2018
	Armaan Dhillon (CU Boulder): Fall 2017 – Spring 2019
	Nagam Gill (CU Boulder): Fall 2017 – Fall 2018
High School	Joseph Brodsky (East High School, Denver): Summer 2017
Visiting Scholar	Dr. Andris Skromulis (Rezekne Academy of Technologies, Latvia): Sept. 2021 – Sept. 2022
Sabbatical	Prof. Shawn McGlynn (Tokyo Institute of Technology): Sept 2024 – current

Awards to supervised graduate students

Daniel Katz	American Association for Aerosol Research 41st Annual Conference 2023 Student Platform Presentation award winner, October 2023
Bri Dobson	NSF Graduate Research Fellowship Honorable Mention 2022
Mitchell Alton	CIRES Environmental Chemistry Division Best Student Paper Award 2020
Jennifer Berry	CIRES Environmental Chemistry Division Best Student Paper Award 2018
Jennifer Berry	Outstanding Student Presentation Award, American Geophysical Union Fall 2018 Conference, January 2018 (Awarded to top 2-5% of presenters)
Jennifer Berry	Top Poster Presenter, CU Boulder Research and Innovation Week, October 2018
Jennifer Berry	Best Poster Presentation in Atmospheric Chemistry category, CU Boulder Atmospheric and Ocean Sciences Earth System & Space Science Poster Conference, December 2017
Jennifer Berry	NSF Graduate Research Fellowship Honorable Mention 2016

Teaching

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: Promoting Independence (12/2/23)

2019 FTEP Natural Sciences early career faculty meeting on Reappointment, Tenure, and Promotion (4/29/19), Understanding and Addressing Student Mental Health Concerns in the Classroom (9/25/19), FTEP Natural Sciences early career faculty meeting on Grant Funding (10/24/19)

2018 Getting around Student Pushback & Passiveness in Active Learning Classrooms (1/18/18)

2017 FTEP Natural Sciences early career faculty meetings on Undergraduate teaching (1/26/17) and Graduate Student Mentoring and Advising (11/14/17)

2016 New Assistant Professor Program Academic Year Conclusion Event (4/15/16), Filling Out the FRPA (1/21/15)

2015 Addressing Challenging Situations in the Classroom (9/24/15), Designing and Grading Assessments and Exams (10/15/15), Doing it all: The first seven years (11/4/15), Teaching Large Classes (11/12/15)

Presentations related to teaching

1 *__Browne, E. C.__: A Conversation on Addressing Mismatches between Student and Professor Perception of "Difficult Material," *New Assistant Professor Program Concluding Event*, Boulder, CO, April 2016 (Invited oral presentation)

Service, Outreach, and Leadership

To the profession

Member of American Association for Aerosol Research (AAAR), American Chemical Society (ACS), American Geophysical Union (AGU), European Geosciences Union (EGU)

Reviewer for Journals: *ACS Earth and Space Chemistry, Aerosol Science & Technology, Atmospheric Chemistry and Physics, Atmospheric Environment*, *Atmospheric Measurement Techniques, Chemosphere, Elementa: Science of the Anthropocene, Environmental Science: Atmospheres, Environmental Science: Processes & Impacts*, *Environmental Science & Technology, Environmental Science & Technology: Air, International Journal of Chemical Kinetics, Journal of Physical Chemistry A, The Planetary Science Journal, Scientific Reports*

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 American Chemical Society National Meeting "Physical Chemistry of Atmospheric Processes"

2015-current Co-editor of *Atmospheric Chemistry and Physics* (Journal of the European Geosciences Union; Clarivate 5-year impact factor 6.7 as of October 2023)

2014 Co-organizer of MIT atmospheric chemistry student/postdoc research seminar

2013 New England Atmospheric Chemistry Symposium Program Committee Member

To the Department, CIRES, University (years denote academic years unless otherwise noted)

2023-current Faculty Mentor in the Native & Indigenous Mentorship Program (STEM Routes)

2022-current Department of Chemistry Director of Graduate Studies

2022-current Department of Chemistry Graduate Advising/Scholastic Committee (Chair 2022-current)

2022-2023 Department of Chemistry Program Assessment Committee

Fall 2022 Panelist on the "Thriving in the First Year: What I Wish I Had Known" workshop as part of the "Thriving at CU: Supporting Faculty in their First 3 years" Series (9/15/22)

Summer 2022 Panel for Candidate Interviews: Department of Chemistry Graduate Program Coordinator Hire

Spring 2022 CIRES Innovative Research Program Selection Committee

Spring 2022 Department of Chemistry Graduate Admissions Committee

Fall 2021 Department of Chemistry Graduate Advising/Scholastic Committee

Spring 2021 CIRES Graduate Student Research Award Committee

Summer 2020 Panel for Candidate Interviews: Department of Chemistry Director of Finance and Business Operations Hire

2019-2022 Department of Chemistry Graduate Fellowships Selection Committee

2018-current	Department of Chemistry General Chemistry Coordination Committee
2018-2022	Department of Chemistry Undergraduate Curriculum Committee (Chair 2020-2021)
Summer 2018	Internal Reviewer for CU's Research & Innovation Office
Spring 2017	CIRES Graduate Student Research Award Committee
2016-2018	Department of Chemistry Graduate Admissions Committee
2016-2017	Department of Chemistry Academic Review and Planning Self-Study committee Headed *Enhancing Graduate Education* and *Mentoring* questions
2015-current	CIRES Council of Fellows
2015-2017	Department of Chemistry Safety & Waste Committee

Outreach Presentations

2 ***Browne, E. C.:** My Science Journey & the Atmospheric Chemistry of Titan, *CU Boulder Undergraduate (B)CHEM club,* February 2022.

1 *__Browne, E. C.:__ My Science Journey & Planetary Haze Chemistry, *CU Boulder Undergraduate (B)CHEM club,* October 2019.