

Emily V. Fischer

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Department of Atmospheric Science
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APPOINTMENTS

Assistant Professor

Department of Atmospheric Science, Colorado State University	Aug 2013 - present
NOAA Climate and Global Change Postdoctoral Fellow	
Harvard University Center for the Environment	2011 – 2013
Staff Scientist	
Mount Washington Observatory	2004 – 2006

EDUCATION

Ph.D. Atmospheric Sciences, University of Washington	2010
M.S. Earth Sciences, University of New Hampshire	2005
B.S. Atmospheric Science, University of British Columbia	2002

HONORS and AWARDS

AMS Special Award for Earth Science Women's Network Leadership Board	2017
NOAA Climate and Global Change Postdoctoral Fellowship	2011 - 2013
Harvard University Center for the Environment Postdoctoral Fellowship	2011 - 2013
Atmospheric Chemistry Colloquium for Emerging Senior Scientists (ACCESS)	2011
DISsertations initiative for the advancement of Climate Change ReSearch (DISCCRS)	2011
Department of Energy (DOE) Marvin L. Wesely Research Award	2009
American Geophysical Union Outstanding Student Paper	2008
American Meteorological Society Policy Colloquium	2008
DOE Graduate Research Environmental Fellowship (GREF)	2007-2010
UW Department of Atmospheric Sciences Top Scholar Entrance Award	2006

TEACHING

Instructor, CSU, A T S 681: <i>Interpreting Satellite Measurements of Atmospheric Composition</i>	2017
Instructor, CSU, A T S 680: <i>Global Nitrogen Cycle</i>	2015
Instructor, CSU, A T S 621: <i>Atmospheric Chemistry</i>	2013 - Present
Guest Lecturer, Harvard University, EPS 133: <i>Atmospheric Chemistry</i>	2012, 2013
Instructor, University of Washington, ATMS 358: <i>Fundamentals of Atmospheric Chemistry</i>	2010
Teaching Assistant, University of Washington, ATMS 301: <i>Introduction to Atmospheric Sciences</i>	2007
Instructor, University of Washington-Bothell, BIS 386: <i>Global Environmental Issues</i>	2007
Teaching Assistant, University of British Columbia, Department of Geography	2002

PROFESSIONAL ACTIVITIES

Geos-Chem Steering Committee; Carbon-Gases Working Group Co-Chair	May 2013 - present
Earth Science Women's Network Leadership Board	Jan 2013 - present
Mount Washington Observatory Science and Engineering Committee Member	2006 – 2016
Member of the American Geophysical Union (AGU) and American Meteorological Society (AMS)	

Regular Reviewer:

Grant Agencies: NSF, NASA, DOE Small Business Innovation Research (SBIR)

Journals: *Atmospheric Environment, Atmospheric Chemistry and Physics, Journal of Geophysical Research-Atmospheres, Geophysical Research Letters, and the Journal of the Air and Waste Management Association*

ATMOSPHERIC CHEMISTRY FIELD CAMPAIGNS

SONGNEX: Shale Oil and Natural Gas Nexus (PI for Measurements at BAO Ground Site)

2015: PAN, NO_x/NO_y, CO, CO₂, CH₄, HNO₃ fluxes, suite of VOCs by GC

FRAPPE: Front Range Air Pollution and Photochemistry Experiment (Ground Site PI)

2014: PAN (GC-ECD), CO, CO₂ and CH₄ (Cavity Ring Down Spectroscopy)

Mount Bachelor (Graduate Student)

2008 – 2010: PAN (GC-ECD) and Aerosol Optical Properties (TSI Nephelometer and PSAP)

CHAIOS: Chemistry of Halogens at the Isles of Shoals (Staff Scientist)

2004: Ion Chromatography of Aerosol and Mist Chamber Samples

PUBLICATIONS (Researcher ID K-7330-2015; 3/23/2017 H-index = 16)

* indicates CSU graduate student advisee, ** indicates CSU postdoctoral advisee, ***other CSU students

48. Hernandez, P.R., B. Bloodhart**, R. T. Barnes, A. S. Adams, S. M. Clinton, I. Pollack, E. Godfrey, M. Burt and **E. V. Fischer** (in review), Promoting professional identity, motivation, and persistence: Benefits of an informal mentoring program for female undergraduate students, *PLOS ONE*. m.s. no: b146155637ab70f2.
47. Emerson, E. W.***, **E. V. Fischer**, I. B. Pollack, A. Abeleria***, R. Roscioli, S. Herndon, J. Lindaas*, and D. K. Farmer (in review), Impact of Different VOC Sources on Organic Nitrates and the Reactive Nitrogen Oxide Budget, *J. Geophys. Res.* m.s. no: 2017JD026705R.
46. Jiang, Z. H. Worden, J. Worden, D. Henze, D. Jones, A. Arellano, **E. V. Fischer**, L. Zhu**, K. Miyazaki, F. Boersma, and V. Payne (in quick review), Tropospheric nitrogen oxides over the United States from non-local sources, *Atmos. Chem. Phys. Discuss.*, m.s. no: acp-2017-382.
45. **Fischer, E.V.**, L. Zhu**, V. Payne, J. Worden, Z. Jiang, S. Kulawik, S. Brey*, K. Travis, A. Hecobian, D. Gombos, K. Cady-Pereira, and F. Flocke (in quick review), The contribution of fires to TES observations of Free Tropospheric PAN over North America in July, *Atmos. Chem. Phys. Discuss.*, m.s. no: acp-2017-399.
44. Pratt, J. R.***, Gan, R. W., B. Ford, S. Brey*, J. Pierce, **E. V. Fischer**, and S. Magzamen (in review), A National Burden Assessment of Estimated Pediatric Asthma Emergency Department Visits that May be Attributed to Elevated Ozone Levels Associated with the Presence of Smoke, *Environmental Monitoring and Assessment*, in review.
43. A. G. Tevlin, Y. Li, J. L. Collett, E. E. McDuffie, **E. V. Fischer**, and J. G. Murphy (in review), Vertical profiles and diurnal trends of ammonia in the Colorado Front Range, *J. Geophys. Res. Atmos.*, in review.
42. R. W. Gan, B. Ford, W. Lassman***, G. Pfister, A. Vaidynathan, **E. V. Fischer**, J. Volckens, J. R. Pierce, S. Magzamen (2017), A comparison of smoke estimation methods and their association with wildfire smoke and cardiopulmonary-related hospital admissions during the 2012 Washington wildfires, *GeoHealth*, in press.
41. Lassman, W.***, B. Ford, R. W. Gan, G. Pfister, S. Magzamen, **E. V. Fischer**, J. R. Pierce (2017), Spatial and Temporal Estimates of Population Exposure to Wildfire Smoke during the Washington State 2012

Wildfire Season Using Blended Model, Satellite, and In-Situ Data, *GeoHealth*, in press.

40. Lindaas, J.* , D. K. Farmer, I. B. Pollack, A. Abeleira, J. Zaragoza, F. Flocke, R. Roscioli, S. Herndon, and **E. V. Fischer** (2017 in review for ACP), The impact of aged wildfire smoke on atmospheric composition and ozone in the Colorado Front Range in summer 2015, *Atmos. Chem. Phys. Discuss.*, doi:10.5194/acp-2017-171.
39. Brey, S.* , M. Ruminiski, S. Atwood and **E. V. Fischer** (in quick review), Connecting smoke plumes to sources using Hazard Mapping System (HMS) smoke and fire location data over North America, *submitted to Atmospheric Chemistry and Physics*, m.s. no: acp-2017-245.
38. Abeleira, A.***, Pollack, I. B., Sive, B., Zhou, Y., **Fischer, E. V.**, and Farmer, D. K. (2017), Source Characterization of Volatile Organic Compounds in the Colorado Northern Front Range Metropolitan Area during Spring and Summer 2015, *J. Geophys. Res. Atmos.*, 122, doi:10.1002/2016JD026227.
37. Zhu, L.** , V. Payne, T. Walker, J. Worden, Z. Jiang, S. S. Kulawik, and **E. V. Fischer** (2017), PAN in the Eastern Pacific Free Troposphere: A Satellite View of the Sources, Seasonality, Interannual Variability and Timeline for Trend Detection, *J. Geophys. Res. Atmos.*, 122, doi:10.1002/2016JD025868.
36. Payne, V. H., **Fischer, E. V.**, Worden, J. R., Jiang, Z., Zhu** , L., Kurosu, T. P., Kulawik, S. S. (2017), Spatial variability in tropospheric peroxyacetyl nitrate in the tropics from infrared satellite observations in 2005 and 2006. *Atmos. Chem. Phys.*, 1-21. doi:10.5194/acp-2016-1047 (accepted for ACP).
35. Tzompa-Sosa, Z. A.* , E. Mahieu, B. Franco, C. A. Keller, A. Turner, D. Helmig, A. Fried, D. Richter, P. Weibring, J. Walega, T. I. Yacovich, S. C. Herndon, D. R. Blake, F. Hase, J. W. Hannigan, S. Conway, K. Strong, M. Schneider, and **E. V. Fischer** (2017), Revisiting global fossil fuel and biofuel emissions of ethane, *J. Geophys. Res. Atmos.*, 122, doi:10.1002/2016JD025767.
34. Brewer, J. F.* , M. Bishop, M. Kelp, C. Keller, A. R. Ravishankara, and **E. V. Fischer** (2017), A sensitivity analysis of key natural factors in the modeled global acetone budget, *J. Geophys. Res. Atmos.*, 122, doi:10.1002/2016JD025935.
33. Jiang, Z., Worden, J. R., Payne, V. H., Zhu, L.** , **Fischer, E. V.**, Walker, T., Jones, D. B. A. (2016). Ozone export from East Asia: The role of PAN. *J. Geophys. Res. Atmos.*, 121(11), 6555-6563.
32. McDuffie, E. E., Edwards, P. M., Gilman, J. B., Lerner, B. M., Dubé, W. P., Trainer, M., Wolfe, D. E., Angevine, W. M., deGouw, J., Williams, E. J., Tevlin, A. G., Murphy, J. G., **Fischer, E. V.**, McKeen, S., Ryerson, T. B., Peischl, J., Holloway, J. S., Aikin, K., Langford, A. O., Senff, C. J., Alvarez, R. J., Hall, S. R., Ullmann, K., Lantz, K. O., Brown, S. S. (2016). Influence of oil and gas emissions on summertime ozone in the Colorado Northern Front Range. *J. Geophys. Res. Atmos.*, 121(14), 8712-8729.
31. Franco, B., E. Mahieu, L. Emmons, Z. Tzompa-Sosa*, **E. V. Fischer**, K. Sudo, B. Bovy, S. Conway, D. Briffin, J. Hannigan, K. Strong, and K. Walker (2016), Evaluating ethane and methane emissions associated with the development of oil and natural gas extraction in North America, *Environ. Res. Lett.*, 11, 044010.
30. Brey, S.* and **E. V. Fischer** (2016), Smoke in the City: How often and where does smoke impact summertime ozone in the United States, *Environ. Sci Tech.*, DOI:10.1021/acs.est.5b05218.
29. Zhu, L.** , **E. V. Fischer**, V. Payne, J. Worden and Z. Jiang (2015), TES Observations of the Interannual Variability of PAN over Northern Eurasia and the Relationship to Springtime Fires, *Geophys. Res. Lett.*, DOI:10.1002/2015GL065328.
28. Franco, B., W. Badger, G. C. Toon, C. Bray, A. Perrin, **E. V. Fischer**, K. Sudo, C. D. Boone, B. Bovy, B.

- Lejeune, C. Servais, and E. Mahieu (2015), Retrieval of ethane from ground-based FTIR solar spectra using improved spectroscopy: recent burden increase above Jungfraujoch, *J. Quant. Spectro. Rad. Transfer*, 150, 36-49.
27. Alvarado, M.J., C. R. Lonsdale, R. J. Yokelson, S. K. Akagi, H. Coe, J. S. Craven, **E. V. Fischer**, G. R. McMeeking, J. H. Seinfeld, T. Soni, J. W. Taylor, D. R. Weise, and C. E. Wold (2015), Investigating the Links Between Ozone and Organic Aerosol Chemistry in a Biomass Burning Plume from a Prescribed Fire in California Chaparral, *Atmos. Chem. Phys.* 15, 6667-6688, doi:10.5194/acp-15-6667-2015.
 26. Payne, V. H., Alvarado, M. J., Cady-Pereira, K. E., Worden, J. R., Kulawik, S. S., and **Fischer, E. V.** (2014), Satellite observations of peroxyacetyl nitrate from the Aura Tropospheric Emission Spectrometer, *Atmos. Meas. Tech.*, 7, 3737-3749, doi:10.5194/amtd-7-3737-2014.
 25. **Fischer, E. V.**, Jacob, D. J., Yantosca, R. M., Sulprizio, M. P., Millet, D. B., Mao, J., Paulot, F., Singh, H. B., Roiger, A., Ries, L., Talbot, R.W., Dzepina, K., and Pandey Deolal, S. (2014), Atmospheric peroxyacetyl nitrate (PAN): a global budget and source attribution, *Atmos. Chem. Phys.*, 14, 2679-2698, doi:10.5194/acp-14-2679-2014.
 24. Hu, L. Millet, D. B. Millet, S. Y. Kim, K. C. Wells, T. J. Griffis, **E. V. Fischer**, D. Helming, J. Hueber, and A. Curtis (2013), North American acetone sources determined from tall tower measurements and inverse modeling, *Atmos. Chem. Phys.* 13, 3379-3392.
 23. Mackey, K. R. M., D. Hunter, **E.V. Fischer**, Y. Jiang, B. Allen, Y. Chin, A. Liston, J. Reuter, G. Schladow and A. Payton (2013), Aerosol-induced picoplankton growth in Lake Tahoe (2013), *J. Geophys. Res. - Biogeosciences*, 118, doi:10.1002/jgrg.20084.
 22. **Fischer, E. V.**, K. R. M. Mackey, D. F. Cusack, L. R. G. DeSantis, L. Hartzell-Nichols, J. A. Lutz, J. Melbourne-Thomas, R. Meyer, D. A. Riveros-Iregui, C. J. Sorte, J. R. Taylor and S. A. White (2012), Is pretenure interdisciplinary research a career risk?, *Eos*, 93, No 32, 311-312.
 21. **Fischer, E. V.**, D. J. Jacob, D. B. Millet, B. M. Yantosca & J. Mao (2012), The role of the ocean in the global atmospheric budget of acetone, *Geophys. Res. Lett.*, Vol 39, L01807, doi:10.1029/2011GL050086.
 20. **Fischer, E. V.**, K. D. Perry, and D. A. Jaffe (2011), Optical and chemical properties of aerosols transported to Mount Bachelor during spring 2010, *J. Geophys. Res.*, 116, D18202, doi:10.1029/2011JD015932.
 19. E. Andrews, J.A. Ogren, P. Bonasoni, A. Marinoni, E. Cuevas, S. Rodríguez, J.Y. Sun, D.A. Jaffe, **E.V. Fischer**, U. Baltensperger, E. Weingartner, M. Collaud Coen, S. Sharma, A. M. Macdonald, W.R. Leitch, N.-H. Lin, P. Laj, T. Arsov, I. Kalapov, A. Jefferson, and P. Sheridan (2011), Climatology of aerosol radiative properties in the free troposphere, *Atmos. Res.*, 102(4), 365-393.
 18. **Fischer, E. V.**, D. A. Jaffe, and E. C. Weatherhead (2011), Free tropospheric peroxyacetyl nitrate (PAN) and ozone at Mount Bachelor: Potential causes of variability and timescale for trend detection, *Atmos. Chem. Phys.*, 11, 1-14.
 17. Reidmiller, D. R., D. A. Jaffe, **E. V. Fischer**, and B. Finley (2010), Nitrogen oxides in the boundary layer and free troposphere at the Mt. Bachelor Observatory, *Atmos. Chem. Phys.*, 10, 6043-6062.
 16. **Fischer, E.V.**, D. A. Jaffe, N. A. Marley, J. S. Gaffney, and A. Marchany-Rivera (2010), Optical properties of aged Asian aerosols observed over the U.S. Pacific Northwest, *J. Geophys. Res.*, 115, D20209, doi:10.1029/2010JD013943.

15. **Fischer, E. V.**, D. A. Jaffe, D. R. Reidmiller, and L. Jaeglé (2010), Meteorological controls on observed peroxyacetyl nitrate at Mount Bachelor during the spring of 2008, *J. Geophys. Res.*, 115, D03302, doi:10.1029/2009JD012776.
14. W. C. Keene, M. S. Long, A. A. P. Pszenny, R. Sander, J. R. Maben, A. J. Wall, T. L. O'Halloran, Kerkweg, **E. V. Fischer**, and O. Schrems (2009), Latitudinal variation in the multiphase chemical processing of inorganic halogens and related species over the eastern North and South Atlantic Oceans, *Atmos. Chem. Phys.*, 9, 7361-7385.
13. **Fischer, E. V.**, N. C. Hsu, D. A. Jaffe, M.-J. Jeong, and S. L. Gong (2009), A decade of dust: Asian dust and springtime aerosol load in the U.S. Pacific Northwest, *Geophys. Res. Lett.*, 36, L03821, doi:10.1029/2008GL036467.
12. Zhao, Z., Tian, L., **Fischer, E.V.**, Li, Z, and Jiao, K., (2008), Study of chemical composition of precipitation at an alpine site and a rural site in the Urumqi River valley, Eastern Tien Shan, China, *Atmos. Environ.*, Volume 42, Issue 39, 8934-8942. (**31 citations**)
11. **Fischer, E.V.**, L.D Ziemba, R.W. Talbot, J.E. Dibb, R.J. Griffin, L. Husain, and A.N. Grant (2007), The aerosol major ion record at Mount Washington, *J. Geophys. Res.*, 112, D02303, doi:10.1029/2006JD007253.
10. Pszenny, A.A.P., **E. V. Fischer**, R.R. Russo, B.C. Sive, and R.K. Varner (2007), Estimates of Cl atom concentrations and hydrocarbon kinetic reactivity in surface air at Appledore Island, ME during ICARTT/CHAIOS, *J. Geophys. Res.*, 112, D10S13, doi:10.1029/2006JD007725.
9. Keene, W.C., J. Stutz, A. A. P. Pszenny, J. R. Maben, **E. Fischer**, A.M. Smith, R. von Glasow, S. Pechetl, B. C. Sive, and R. K. Varner (2007), Inorganic chlorine and bromine in coastal New England air during summer, *J. Geophys. Res.*, 112, D10S12, doi:10.1029/2006JD007689.
8. Ziemba, L.D., **E. Fischer**, R.J. Griffin, and R.W. Talbot (2007), Aerosol acidity in rural New England: Temporal trends and source region analysis, *J. Geophys. Res.*, 112, D10S22, doi:10.1029/2006JD007605.
7. Smith, A. M., W.C. Keene, J.R. Maben, A.A.P. Pszenny, **E. Fischer**, and A. Stohl (2007) Ammonia sources, transport, transformation and deposition in coastal New England during summer, *J. Geophys. Res.*, 112, D10S08, doi:10.1029/2006JD007574.
6. Russell, L.M., A.A. Mensah, **E.V. Fischer**, B.C. Sive, R.K. Varner, W.C. Keene, J. Stutz, and A.A. Pszenny (2007), Nanoparticle growth following photochemical α and β -pinene oxidation at Appledore Island during ICARTT/CHAIOS 2004, *J. Geophys. Res.*, 112, D10S21, doi:10.1029/2006JD007736.
5. **Fischer, E.**, A. Pszenny, W. Keene, J. Maben, A. Smith, A. Stohl, and R. Talbot (2006), Nitric acid phase partitioning and cycling in the New England coastal atmosphere, *J. Geophys. Res.*, 111, D23S09, doi:10.1029/2006JD007328.
4. **Fischer, E.**, and R. Talbot, Regional NO_3^- events in the northeastern United States related to seasonal climate anomalies (2005), *Geophys. Res. Lett.*, 32, L16804, doi:10.1029/2005GL023490.
3. Grant, A.N., A.A.P. Pszenny and **E.V. Fischer**, The 1935-2003 air temperature record from the summit of Mount Washington, New Hampshire, USA, (2005), *J. Climate*, 18, 21, 4445-4453.
2. **Fischer, E.V.**, R.W. Talbot, J.E. Dibb, J.L. Moody, and G.L. Murray (2004), Summertime ozone at Mount Washington: Meteorological controls at the highest peak in the northeast, *J. Geophys. Res.*, 109, D24303, doi:10.1029/2004JD004841.
1. DeBell, L.J., R.W. Talbot, J.E. Dibb, J.W. Munger, **E.V. Fischer**, and S.E. Frolking (2004), A major

regional air pollution event in the northeastern United States caused by extensive forest fires in Quebec, Canada, *J. Geophys. Res.*, 109, D19305, doi:10.1029/2004JD004840.

CONFERENCE PRESENTATIONS (as presenter only since 2013)

Fischer, E. V. L. Zhu, V. Payne, J. Worden, Z. Jiang, S. Kulawik, S. Brey, K. Travis, A. Hecobian, D. Gombos, K. Cady-Pereira, and F. Flocke, Rights and wrongs with the GEOS-Chem PAN simulation, The 8th International GEOS-Chem Meeting, Cambridge, MA (5/1/2017).

Fischer, E. V., A. Abeleira, E. Emerson, I. Pollack, D. K. Farmer, J. Lindaas, F. Flocke, J.R. Roscioli and S. C. Herndon, Exploring the Influence of Oil and Gas Emissions on Photochemistry in the Northern Colorado Front Range During Summer 2015, American Meteorological Society Annual Meeting, Seattle, WA (1/24/2017).

Fischer, E. V., L. Zhu, V. H. Payne, J. Worden, Z. Jiang, S. Kulawik, and S. J. Brey, New Constraints on the Sources Contributing to PAN in the North American Free Troposphere from TES Observations and GEOS-Chem Simulations, American Meteorological Society Annual Meeting, Seattle, WA (1/24/2017).

Fischer, E. V., A. Adams, R. Barnes, B. Bloodhart, C. Bowker, M. A. Burt, S. M. Clinton, E. S. Godfrey, H. Henderson, P. Hernandez, L. Sample McMeeking, I. Pollack and J. Sayers, PROGRESS: PROMoting Geoscience Research Education and Success Through Deliberate Mentoring, American Meteorological Society Annual Meeting, Seattle, WA (1/25/2017).

Fischer, E. V., Farmer, D. K., Pollack, I. B., Abeleira, A. J., Lindaas, J., Tzompa Sosa, Z. A., Zaragoza, J., Emerson, E., Flocke, F., Roscioli, J., Herndon, S., Following emissions from non-traditional oil and gas development through their impact on tropospheric ozone (**INVITED**) American Chemical Society, Philadelphia, PA (8/22/2016).

Fischer, E. V., Breakout Session: Beyond the Weather: Tools of the Trade (**INVITED**), American Meteorological Society, New Orleans, LA, United States. (1/10/2016).

Fischer, E. V., Conversations with Professionals (**INVITED**), American Meteorological Society, New Orleans, LA, United States. (1/10/2016).

Fischer, E. V., Zhu, L., Payne, V. H., Worden, J. R., Jiang, Z., Kulawik, S. S., Brey, S., EOS Aura Science Team Meeting, Summertime free tropospheric PAN over the U.S. as observed by TES and simulated by GEOS-Chem, NASA, KNMI, Rotterdam, N/A, Netherlands. (8/30/2016).

Fischer, E. V., Pollack, I. B., Adam, A., Barnes, R., Burt, M. A., Clinton, S., Godfrey, E., Hernandez, P., Bloodhart, B. P., Donaldson, L., Henderson, H., Sample McMeeking, L. B., Bowker, C. L., Sayers, J., AAAS/NSF Envisioning the Future of Undergraduate STEM Education (EnFUSE), Exploring deliberate mentoring approaches aimed at improving the recruitment and persistence of undergraduate women in the geosciences, AAAS/NSF, Washington, DC, District of Columbia, United States. (4/27/2016).

Fischer, E. V., J. Pierce, B. Ford, W. Lassman, G. Pfister, J. Volckens, R. Gan, S. Magzamen, E. Barnes, and S. Brey, Seeing through the Smoke: A collaborative, multidisciplinary effort to address the interplay between wildfire, climate, air quality, and health (**INVITED**), GC51A-1076, AGU Fall Meeting, San Francisco, CA (12/18/15).

Fischer, E. V., V. Payne, L. Zhu, J. Worden, Z. Jiang, S. Kulawik, S. Brey, Using New Observations from TES to Evaluate the Contribution of Fires to Peroxyacetyl Nitrate (PAN) over North America and Asia (**INVITED**), A14B-05, AGU Fall Meeting, San Francisco, CA (12/18/15).

Fischer, E. V. Observational constraints on the impact of oil and gas exploration on ozone production in the Front

Range: Preliminary Results from surface measurements during FRAPPÉ (INVITED), Rocky Mountain Air and Waste Management Association Meeting, Denver, CO (10/30/14).

Fischer, E., V. Payne, J. Zaragoza, L. Zhu, Z. Jiang, J. Worden, B. Sive, Y. Zhou, M. Alvarado, A. Abeleira, S. Callahan and D. Farmer (2014) Fresh Insights into the Sources and Distribution of Peroxyacetyl Nitrate (PAN) from New In Situ and Satellite Observations, AGU Fall Meeting, San Francisco, CA (12/2014).

Fischer, E. V., D. J. Jacob, R. M. Yantosca, and M. Sulprizio, The GEOS-Chem PAN simulation, The 6th International GEOS-Chem Meeting (IGC6), Cambridge, MA (5/9/13).

Fischer, E. V., D. J. Jacob, R. M. Yantosca, and M. Sulprizio, The role of peroxyacetyl nitrate (PAN) in global tropospheric composition, Atmospheric Chemistry Gordon Research Conference, Mt. Snow, VT (8/20/13).

Fischer, E. V., D. J. Jacob, R. M. Yantosca, and M. Sulprizio, The Effect of Peroxyacetyl Nitrate (PAN) Chemistry on Global Oxidant Distributions, American Geophysical Union, San Francisco, CA (12/10/13).

Prior to August 2013: GEIA Conference (Boulder, CO, June 2014), Fall AGU Meeting (San Francisco, CA, December 2013), (Atmospheric Chemistry Gordon Research Conference (Mt Snow, VT, July 2013), GEOS-Chem Users Meeting (May 2013), Fall AGU Meeting (San Francisco, CA, December 2012), Biogenic Hydrocarbon Gordon Research Conference (Lewiston, ME, June 2012), Fall AGU (INVITED, San Francisco, CA, December 2011), Atmospheric Chemistry Gordon Research Conference (Mt Snow, VT, July 2011), Fall AGU Meeting (San Francisco, CA, December 2010), Symposium on Atmospheric Chemistry and Physics at Mountain Sites, (Interlaken, Switzerland, June 2010), Fall AGU Meeting (San Francisco, CA, December 2009), Fall AGU Meeting (San Francisco, CA, December 2008), Fall AGU Meeting (San Francisco, CA, December 2007), Fall AGU Meeting (San Francisco, CA, December 2005), ICARTT Data Analysis Workshop (Durham, NH, August 2005), AMS Atmospheric Sciences and Air Quality Conference (San Francisco, CA April 2005), AMS 11th Conference on Mountain Meteorology (Bartlett, NH, June 2004), Fall AGU Meeting (San Francisco, CA, December 2003)

Invited Seminars

Fischer, E. V., Downwind and Dilute: Investigating the Impact of Wildfires on U.S. Air Quality, University of Washington, Seattle, WA (5/12/2017).

Fischer, E.V., Downwind of the Flames: Investigating the Impact of Wildfires on U.S. Air Quality, Harvard University, Cambridge, MA (2/21/2017).

Fischer, E. V., Abeleira, A. J., Lindaas, J., Tzompa-Sosa, Z. A., Zaragoza, J., Emerson, E. W., Brey, S. J., Farmer, D. K., Pollack, I. B., Flocke, F., Roscioli, J., Herndon, S., Zhou, Y., Sive, B., Things I've Learned Lately: Insights into O₃ in the Front Range from New Surface Observations of O₃ and its Precursors, University of Colorado at Boulder, Boulder, CO (12/2/2016).

Fischer, E. V., The Keeper of Atmospheric Reactive Nitrogen: An Introduction to PAN using Recent Research, University of North Carolina Charlotte Department of Geography and Earth Sciences Seminar University of North Carolina Charlotte, Charlotte, NC (11/4/2016).

Fischer, E., V. Fresh Insights into the Sources and Distribution of Peroxyacetyl Nitrate (PAN) from New In Situ and Satellite Observations, NCAR Seminar, Boulder, CO (1/12/2015).

Fischer, E., V. Fresh Insights into the Sources and Distribution of Peroxyacetyl Nitrate (PAN) from New In Situ and Satellite Observations, University of Wyoming Department of Atmospheric Science, Laramie, WY, 4

November 2014.

Fischer, E., V. Fresh Insights into the Sources and Distribution of Peroxyacetyl Nitrate (PAN) from New In Situ and Satellite Observations, NOAA/ESRL, Boulder, CO, 3 December 2014.

Fischer, E. V. Peroxyacetyl Nitrate (PAN): Global Sources and Significance, Department of Mechanical Engineering, University of Colorado, Boulder, CO, 17 April 2014.

Fischer, E. V. Peroxyacetyl Nitrate (PAN): Global Sources and Significance, Department of Mechanical Engineering, University of Colorado, Boulder, CO, (4/17/14).

Fischer, E., V. Fresh Insights into the Sources and Distribution of Peroxyacetyl Nitrate (PAN) from New In Situ and Satellite Observations, University of Wyoming Department of Atmospheric Science, Laramie, WY (11/4/14).

Fischer, E., V. Fresh Insights into the Sources and Distribution of Peroxyacetyl Nitrate (PAN) from New In Situ and Satellite Observations, NOAA/ESRL, Boulder, CO (12/3/2014).

Panel: University of Wisconsin, Weston Roundtable Series, Building Communities to Build Careers – Lessons from the Earth Science Women's Network (11/22/14).

Panel: Colorado State University, SoGES / Ripple Effect Speaker Series, Exploring the Influence of Gender in Science and the Environment (11/6/2014).

Panel: Colorado State University, Managing the Planet Series, Bridging the Gap Between Science and Policy – The Scientist's Responsibility in a Changing World (9/24/14).

Prior to August 2013: Penn State, Department of Meteorology (April 2013), Emerson College (October 2012), University of British Columbia, Department of Chemistry (September 2012), University of New Hampshire, Department of Chemistry (November 2011), MIT, (April 2011), Geophysical Fluid Dynamics Lab (GFDL), (September 2010), Harvard University, School of Engineering and Applied Sciences (September 2010)

Advising

Major Advisor for the Following Students:

Steven Brey, MS Plan A, Atmospheric Science
Zitely Tzompa, PhD, Atmospheric Science
Jakob Lindaas, MS Plan A, Atmospheric Science

Co-Major Advisor for the Following Students:

Jared Brewer, PhD, Atmospheric Science (with A.R. Ravishankara)

Katelyn O'Dell, MS Plan A, Atmospheric Science (with J. Pierce)

Graduate Committee Assignments:

PhD (Andrew Alberia, Chemistry)
MS (William Lassman, Atmospheric Science)
MS (Noel Hilliard, Atmospheric Science)
MS (Derek Weber, Atmospheric Science)
MS (Betsy Farris, Mechanical Engineering)
PhD (Ali Akherati, Mechanical Engineering)

Graduate Student Advisees Who Graduated Within the Past Two Semesters:

MS (Jake Zaragoza, Atmospheric Science, MS Plan A)

Other Persons Supervised:

Liye Zhu (Postdoctoral Researcher)
Bonne Ford (Postdoctoral Researcher – with Jeffrey Pierce)

Ilana Pollack (Research Scientist)
Brittany Bloodhart (Postdoctoral Researcher)

External Grant Funding (Total CSU External Funding as lead PI only: \$4,669,446)

1. 2/1/14 – 1/31/15: Observational constraints on the impact of oil and gas exploration on O₃ production in the Northern Colorado Front Range Metro Area as part of FRAPPE, Sponsor: Colorado Department of Public Health and Environment, PI: Delphine Farmer, co-PI: Emily Fischer, Amount: \$174,826.
2. 3/1/14 – 2/28/17: Fresh constraints on the global ozone budget through the analysis of new peroxyacetyl nitrate (PAN) observations from TES, Sponsor: NASA, PI: Emily Fischer, co-PI: Vivienne Payne (JPL), CSU Amount: \$288,846.
3. 10/01/2014 – 09/30/2019: Collaborative Research: Improving the recruitment and persistence of women in the Geosciences: Exploring deliberate mentoring approaches aimed at undergraduate students, Sponsor: NSF, PI: Emily Fischer, CoPIs: Paul Hernandez, Manda Adams, Rebecca Barnes, Sandra Clinton, CSU Amount: \$1,411,731.
4. 7/21/14 – 1/30/15: Air Quality in Rocky Mountain, Sponsor: NPS, PI: Emily Fischer, Amount: \$23,000
5. 8/1/14 – 7/31/17: Following Emissions from Non-Traditional Oil and Gas Development Through their Impact on Tropospheric Ozone, Sponsor: NOAA, PI: Emily Fischer, CoPI: Delphine Farmer, Amount: \$546,241.
6. 09/02/14 - 09/01/17: Assimilation and Analysis of Terra Observations of Amazonian Biomass Burning Emissions, Sponsor: NASA, PI: Maria Val Martin, Co-PI: Emily Fischer, Amount: \$122,410
7. 01/01/15 – 12/31/17: Downwind of the Flames: Assessing and predicting wildfire smoke related morbidity using satellites, in-situ measurements and models, Sponsor: NASA, PI: Jeffrey Pierce, co-PIs: Emily Fischer, Sheryl Magzamen, Gabi Pfister, John Volckens, Amount: \$1,165,626.00
8. 11/01/15 – 10/31/18: Planning for an Unknown Future: Incorporating Meteorological Uncertainty into Predictions of the Impact of Fires and Dust on US Particulate Matter, PI: Emily Fischer, co-PIs: Jeffrey Pierce and Elizabeth Barnes, Sponsor: EPA, Amount: \$349,969.
9. 03/01/16 – 02/28/19: Time to Revisit: Using Space-based and In-Situ Observations to Constrain the Global Budgets of Acetone and other Abundant Ketones, PI: Emily Fischer, CoPIs: none, Sponsor: NASA, Amount \$272,646.
10. 04/01/17 – 03/30/20: *Collaborative Research: Western wildfire Experiment of Cloud Chemistry, Aerosol absorption and Nitrogen (WE-CAN)*, PI: Emily Fischer, co-PIs: Jeffrey Collett, Paul DeMott, Shane Murphy, Susan van den Heever, Darin Toohey, Lu Hu, Amy Sullivan, and Joel Thornton, Sponsor: National Science Foundation Atmospheric Chemistry, Amount: \$1,800,013 (CSU portion)