J. Jason West

Department of Environmental Sciences & Engineering
Gillings School of Global Public Health
The University of North Carolina at Chapel Hill
140 Rosenau Hall, CB 7431
Chapel Hill, NC 27599-7431
phone: 919-843-3928, fax: 919-966-7911
jasonwest@unc.edu, west.web.unc.edu, @ProfJasonWest

EDUCATION

Ph. D. — Carnegie Mellon University — 1998
Earned jointly between the Departments of Civil & Environmental Engineering and Engineering & Public Policy, satisfying requirements for both departments

M. Phil. — University of Cambridge (UK) — 1995
M. Phil. in Environment and Development, Department of Geography

M. S. — Carnegie Mellon University — 1994
Civil & Environmental Engineering

B. S. E. with honors — Duke University — 1993
Civil & Environmental Engineering, Magna Cum Laude

PROFESSIONAL EXPERIENCE

Professor — University of North Carolina, Chapel Hill — 2018-present
Associate Professor — 2014-2018
Assistant Professor — 2008-2013
Visiting Assistant Professor — 2007
Department of Environmental Science & Engineering, Gillings School of Global Public Health
Affiliate Professor — 2018-present
Affiliate Associate Professor — 2014-2018
Environment, Ecology and Energy Program (formerly Curriculum for the Environment & Ecology)

Associate Research Scholar — Princeton University — 2006-2007
Research Associate — 2004-2006
Program in Atmospheric & Oceanic Sciences, and Woodrow Wilson School of Public & International Affairs

AAAS Environmental Fellow — US EPA, Office of Air & Radiation — 2002-2004

Visiting Scientist — National Institute of Ecology (Mexico) — 2002

Postdoctoral Associate — Massachusetts Inst. of Technology — 1999-2002
Integrated Program on Urban, Regional, and Global Air Pollution: A Mexico City Case Study

Postdoctoral Fellow — Carnegie Mellon University — 1998-1999
Department of Engineering & Public Policy, and Center for Integrated Study of the Human Dimensions of Global Change

HONORS

Member of NASA Health and Air Quality Applied Sciences Team (2016-2020)
UNC Duke Energy Foundation Faculty Fellow (2015)
Airkeepers Award, Clean Air Carolina (2015)
Leopold Leadership Fellow, Stanford Woods Institute for the Environment (2015)
EPA 2013 Scientific and Technological Achievement Award for contributing to paper "Global Air Quality and Health Co-benefits of Mitigating Near-Term Climate Change through Methane and Black Carbon Emission Controls" by S. Anenberg et al. (2014)
Newton Underwood Award for Excellence in Teaching, UNC Environ. Sciences & Engineering (2009)
UNC Junior Faculty Development Award (2007)
UNC University Research Council Award (2007)
EPA/ORD Bronze Medal, for contributions to the NARSTO PM Assessment (2003)
Commission on Atmospheric Chemistry and Global Pollution – student travel grant (1998)
American Association for Aerosol Research – student travel grant (1997)
Winston Churchill Foundation Scholarship (1994) – supported one year at Univ. of Cambridge
National Science Foundation Graduate Fellowship (1993) – supported three years at Carnegie Mellon
American Society of Civil Engineers – North Carolina Scholarship (1993)
American Consulting Engineers Council Scholarship (1992)
Gulf Oil Engineering Scholarship (1991)
Pennwalt Foundation Scholarship (1989)

MEMBERSHIPS

Association of Environmental Engineering and Science Professors
American Geophysical Union
European Geosciences Union
International Society for Environmental Epidemiology
American Association for Aerosol Research

PUBLICATIONS

Name underlined = student or postdoc of Dr. West; * = Dr. West is corresponding author

ISI Total Citations = 4163, *h*-index = 32, *i-100* = 7, *i-10* = 56

Google Scholar Total Citations = 5883, *h*-index = 39, *i-100* = 13, *i-10* = 63

ISI ResearcherID: J-2322-2015, ORCID: orcid.org/0000-0001-5652-4987

Books and Chapters

Jacoby, H. D., A. C. Janetos, R. Birdsey, J. Buizer, K. Calvin, F. de la Chesnaye, D. Schimel, I. S. Wing, R. Detchon, J. Edmonds, L. Russell, and **J. West** (2014) Mitigation, Chapter 27, in *Climate Change Impacts in the United States: Third National Climate Assessment*, J. Melillo, T. C. Richmond, and G. W. Yohe, Eds., US Global Change Research Program, ncadac.globalchange.gov, p. 648-669, doi:10.7930/J0C8276J.

Willis, H. H., A. Cutright, G. Cecchine, Z. S. Farah, S. A. Geschwind, J. Hu, Y. Li, M. Moore, S. Olmstead, H. Salem, R. A. Shih, **J. J. West**, and J. M. Gibson (2013) Prioritizing environmental risks to health, Chapter 2 in *Environmental Burden of Disease Assessment: A case study in the United Arab Emirates*, Environmental Science and Technology Library 24, Springer, p. 19-49, doi: 10.1007/978-94-007-5925-1_2.

Books and Chapters (cont.)

Li, Y., G. Puggioni, P. Jat, M. Hasan, M. Serre, K. G. Sexton, **J. J. West**, S. Arunachalam, U. Shankar, W. Vizuete, M. Z. Farooqui, and J. M. Gibson (2013) Burden of disease from outdoor air pollution, Chapter 4 in *Environmental Burden of Disease Assessment: A case study in the United Arab Emirates*, Environmental Science and Technology Library 24, Springer, p. 109-132, doi: 10.1007/978-94-007-5925-1_2.

Andrews, R. N. L., L. Chinery, E. S. Harder, **J. J. West**, and J. M. Gibson (2013) Burden of disease from climate change, Chapter 7 in *Environmental Burden of Disease Assessment: A case study in the United Arab Emirates*, Environmental Science and Technology Library 24, Springer, p. 193-226, doi: 10.1007/978-94-007-5925-1_2.

Emberson, L. D., S. Anenberg, W. Collins, M. Flanner, K. Hicks, J. C. I. Kuylenstierna, N. Muller, V. Ramanathan, J. Schwartz, D. T. Shindell, R. Van Dingenen, C. Wang, M. Agrawal, D. de Condappa, F. Raes, S. I. Hasnain, V. Mehta, L. Mercado, P. Pearson, D. Purkey, S. Sitch, and **J. West** (2011) Impacts of black carbon and tropospheric ozone, Chapter 4 in *Integrated Assessment of Black Carbon and Tropospheric Ozone*, D. Shindell et al., United Nations Environment Programme and World Meteorological Organization, p. 90-157.

Johnson, T. M., S. Guttikunda, G. J. Wells, P. Artaxo, T. C. Bond, A. G. Russell, J. G. Watson, and **J. West** (2011) *Tools for Improving Air Quality Management: A Review of Top-down Source Apportionment Techniques and Their Application in Developing Countries*, World Bank Energy Sector Management Assistance Program, Formal Report 339/11, 220 p., The World Bank Group, Washington, DC.

West, J. J., L. Emberson, E. Ainsworth, S. C. Anenberg, S. Arnold, M. Ashmore, R. Atkinson, N. Bellouin, A. Cohen, B. Collins, P. Delmelle, R. Doherty, N. Farah, J. Fuhrer, K. Hicks, T. Holloway, K. Kobayashi, J. Liu, D. Mauzerall, L. Mercado, G. Mills, M. Sanderson, D. Shindell, S. Sitch, D. Stevenson, J-P Tuovinen, R. van Dingenen, J. Wang, H. Yu, and C. Zdanowicz (2010) Impacts on health, ecosystems, and climate, Chapter 5 in *Hemispheric Transport of Air Pollution: Part A: Ozone and Particulate Matter*, F. Dentener, T. Keating and H. Akimoto (Eds.), Air Pollution Studies No. 17, Economic Commission for Europe, Geneva, www.htap.org, p. 199-263.

Keating, T. J., **J. J. West**, and A. Farrell (2004) Prospects for international management of intercontinental air pollutant transport, in A. Stohl, Ed., *Intercontinental Transport of Air Pollution*, Springer, p. 295-320, doi: 10.1007/b94532.

Hidy, G., D. Niemi, T. Pace, **J. West**, and M. Kleeman (2003) Emission characterization, in P. H. McMurry, M. F. Shepard, and J. S. Vickery, Eds., *Particulate Matter Science for Policy Makers – A NARSTO Assessment*, Cambridge University Press, p. 127-157.

Seigneur, C., M. Moran, P. Amar, **J. West**, and R. Villasenor (2003) Chemical transport models, in P. H. McMurry, M. F. Shepard, and J. S. Vickery, Eds., *Particulate Matter Science for Policy Makers – A NARSTO Assessment*, Cambridge University Press, p. 283-323.

Vickery, J., B. Pun, C. Seigneur, M. Moran, J. Brook, S. Edgerton, **J. West**, H. Salgado, E. Vega, M. Kleeman, M. Hannigan, B. Thompson, B. Taylor, M. Leidner, K. McDonald, R. Dennis, and T. Russell (2003) Conceptual models of PM for North American regions, in P. H. McMurry, M. F. Shepard, and J. S. Vickery, Eds., *Particulate Matter Science for Policy Makers – A NARSTO Assessment*, Cambridge University Press, p. 355-413.

Molina, M. J., L. T. Molina, **J. J. West**, G. Sosa, C. Sheinbaum, F. San Martini, M. A. Zavala, and G. McRae (2002) Air pollution science in the MCMA: understanding source-receptor relationships through emissions inventories, measurements and modeling, in L. T. Molina and M. J. Molina (eds.) *Air Quality in the Mexico Megacity*, Kluwer, Boston, pp. 137-202.

West, J. J., and H. Dowlatabadi (1999) On assessing the economic impacts of sea level rise on developed coasts, in *Climate, Change and Risk*, T. E. Downing, A. J. Olsthoorn, and R. S. J. Tol (eds.), Routledge, London, pp. 205-220.

Books and Chapters (cont.)

Dowlatabadi, H., **J. J. West**, and A. Patwardhan (1998) Lessons from assessing impacts of sea level rise, in *The Assessment of Climate Change Damages*, International Energy Agency Greenhouse Gas R&D Program (SR6), 105-110.

Refereed Articles

Articles in preparation

78 Nawaz, O., Y. Zhang, D. Q. Tong, A. van Donkelaar, R. V. Martin, M. L. Serre, and **J. J. West** (in preparation) Benefits of reduced premature mortality from decreases in $PM_{2.5}$ and ozone in the United States from 1999 to 2016.

77 Liang, C. K., J. S. Fu, H.-C. Lai, D.-M. Tsai, L.-W. Lai, and **J. J. West** (in preparation) Sensitivity of geographically-distributed precursor emission reductions for mitigating $PM_{2.5}$ in the Kao-Ping air basin in Taiwan.

Articles submitted

76 Cleland, S. E., M. L. Serre, A. G. Rappold, and **J. J. West** (submitted) Evaluating risk assessment methods for estimating the excess hospital admissions attributable to smoke exposure during the October 2017 California Wildfires, *Environmental Health Perspectives*.

75 Glotfelty, T., D. Ramirez, A. Ghilardi, J. H. Bowden, and **J. J. West** (2020) Limitations of WRF land surface models for simulating land use and land cover change in Sub-Saharan Africa and development of an improved model (CLM-AF v. 1.0), *Geoscientific Model Development Discussions*, doi: 10.5194/gmd-2020-193.

74 Liang, C. K., J. S. Fu, H.-C. Lai, D.-M. Tsai, C.-T. Wang, L.-W. Lai, and **J. J. West** (submitted) The sensitivity and contributions of surface ozone over Taiwan's Kao-Ping air basin to regional anthropogenic VOC and NO_x emissions, *Atmospheric Environment*.

Articles published or in press

73 O'Neill, S, M. Diao, S. Raffuse, M. Al-Hamdan, M. Barik, Y. Jia, S. Reid, Y. Zou, D. Tong, **J. J. West**, J. Wilkins, A. Marsha, F. Freedman, J. Vargo, N. Larkin, E. Alvarado, P. Loesche (in press) A multi-analysis approach for estimating regional health impacts from the 2017 Northern California Wildfires, *Journal of the Air & Waste Management Association*.

72 DeLang, M. N., J. S. Becker, K.-L. Chang, M. L. Serre, O. R. Cooper, M. G. Schultz, S. Schroder, X. Lu, L. Zhang, M. Deushi, B. Josse, C. A. Keller, J.-F. Lamarque, M. Lin, J. Liu, V. Marecal, S. A. Strode, K. Sudo, S. Tilmes, S. Cleland, E. Collins, M. Brauer, and **J. J. West*** (in press) Mapping yearly fine resolution global surface ozone through the Bayesian Maximum Entropy data fusion of observations and model output for 1990-2017, *Environmental Science & Technology*.

71 Zhang, Y., **J. J. West**, L. K. Emmons, J. Flemming, J. E. Jonson, M. T. Lund, T. Sekiya, K. Sudo, A. Gaudel, K.-L. Chang, P. Nedelec, and V. Thouret (2021) Contributions of world regions to the global tropospheric ozone burden change from 1980 to 2010, *Geophysical Research Letters*, *48*, e2020GL089184, doi: 10.1029/2020GL089184.

70 GBD 2019 Risk Factor Collaborators (>100 authors including **J. J. West**, M. N. DeLang, J. S. Becker, K.-L. Chang) (2020) Global burden of 87 risk factors in 204 countries and territories, 1990-2019: a systematic analysis for the Global Burden of Disease Study 2019, *Lancet*, 396: 1223-49, doi: 10.1016/S0140-6736(20)30752-2.

Refereed Articles (cont.)

69 Hess, J. J., N. Ranadive, C. Boyer, L. Aleksandrowicz, S. C. Anenberg, K. Aunan, K. Belesova, M. L. Bell, S. Bickersteth, K. Bowen, M. Burden, D. Campbell-Lendrum, E. Carlton, G. Cisse, F. Cohen, H. Dai, A. D. Dangour, P. Dasgupta, H. Frumkin, P. Gong, R. J. Gould, A. Haines, S. Hales, I. Hamilton, T. Hasegawa, M. Hashizume, Y. Honda, D. E. Horton, A. Karambelas, H. Kim, S. E. Kim, P. L. Kinney, I. Kone, K. Knowlton, J. Lelieveld, V. S. Limaye, Q. Liu, L. Madaniyazi, M. E. Martinez, D. L. Mauzerall, J. Milner, T. Neville, M. Nieuwenhuijsen, S. Pachauri, F. Perera, H. Pineo, J. V. Remais, R. K. Saari, J. Sampedro, P. Scheelbeek, J. Schwartz, D. Shindell, P. Shyamsundar, T. J. Taylor, C. Tonne, D. Van Vuuren, C. Wang, N. Watts, **J. J. West**, P. Wilkinson, S. A. Wood, J. Woodcock, A. Woodward, Y. Xie, Y. Zhang, and K. L. Ebi (2020) Guidelines for modeling and reporting health effects of climate change mitigation actions, *Environmental Health Perspectives*, 128(11): 115001, doi: 10.1290/EHP6745.

68 Cleland, S. E., **J. J. West**, Y. Jia, S. Reid, S. Raffuse, S. O'Neill, and M. L. Serre (2020) Estimating wildfire smoke concentrations during the October 2017 California fires through BME space/time data fusion of observed, modeled, and satellite-derived $PM_{2.5}$, *Environmental Science & Technology*, 54(21): 13439-13447, doi: 10.1021/acs.est.0c03761.

67 Anenberg, S. C., M. Bindl, M. Brauer, J. J. Castillo, S. Cavalieri, B. N. Duncan, A. M. Fiore, R. Fuller, D. L. Goldberg, D. K. Henze, J. Hess, T. Holloway, P. James, X. Jin, I. Kheirbek, P. L. Kinney, Y. Liu, A. Mohegh, J. Patz, M. P. Jimenez, A. Roy, D. Tong, K. Walker, N. Watts, and **J. J. West** (2020) Using satellites to track indicators of global air pollution and climate change impacts: Lessons learned from a NASA-supported science-stakeholder collaborative, *GeoHealth*, 4: e2020GH000270, doi: 10.1029/2020GH000270.

66 Ou, Y., **J. J. West**, S. J. Smith, C. G. Nolte, and D. H. Loughlin (2020) Air pollution control strategies that directly limit future national health damages in the US, *Nature Communications*, 11: 957, doi: 10.1038/s41467-020-14783-2.

65 Ou, Y., S. J. Smith, **J. J. West**, C. G. Nolte, and D. H. Loughlin (2019) State-level drivers of future fine particulate matter mortality in the US, *Environmental Research Letters*, 14: 124071, doi: 10.1088/1748-9326/ab59cb.

64 Albuquerque, T. T. de A., **J. J. West**, M. de F. Andrade, R. Y. Ynoue, W. L. Andreao, F. S. dos Santos, F. M. Maciel, R. Pedruzzi, V. de O. Mateus, J. A. Martins, L. D. Martins, E. G. S. Nascimento, D. M. Moreira (2019) Analysis of $PM_{2.5}$ concentrations under pollutant emission controls strategies in the metropolitan area of Sao Paulo, Brazil, *Environmental Science and Pollution Research*, doi: 10.1007/s11356-019-06447-6.

63 Chang, K.-L., O. R. Cooper, **J. J. West**, M. L. Serre, M. G. Schultz, M. Lin, V. Marecal, B. Josse, M. Deushi, K. Sudo, J. Liu, and C. A. Keller (2019) A new method (M^3Fusion v1) for combining observations and multiple model output for an improved estimate of the global surface ozone distribution, *Geoscientific Model Development*, 12, 955-978, doi: 10.5194/gmd-12-955-2019.

62 GBD 2017 Risk Factor Collaborators (>100 authors including **J. J. West** and K.-L. Chang) (2018) Global, regional, and national comparative risk assessment of 84 behavioural, environmental and occupational, and metabolic risks of clusters of risks for 195 countries and territories, 1990-2017: a systematic analysis for the Global Burden of Disease Study 2017, *Lancet*, 392: 1923-1994.

61 Zhang, Y., **J. J. West**, R. Mathur, J. Xing, C. Hogrefe, S. J. Roselle, J. O. Bash, J. E. Pleim, C.-M. Gan, D. C. Wong (2018) Long-term trends in the ambient $PM_{2.5}$- and O_3-related mortality burdens in the United States under emission reductions from 1990 to 2010, *Atmospheric Chemistry & Physics*, 18: 15003-15016, doi: 10.5194/acp-18-15003-2018.

Refereed Articles (cont.)

60 Liang, C.-K., **J. J. West***, R. A. Silva, H. Bian, M. Chin, Y. Davila, F. J. Dentener, L. Emmons, J. Flemming, G. Folberth, D. Henze, U. Im, J. E. Jonson, T. J. Keating, T. Kucsera, A. Lenzen, M. Lin M. T. Lund, X. Pan, R. J. Park, R. B. Pierce, T. Sekiya, K. Sudo, and T. Takemura (2018) HTAP2 multi-model estimates of premature human mortality due to intercontinental transport of air pollution and emission sectors, *Atmospheric Chemistry & Physics*, 18: 10497-10520, doi: 10.5194/acp-18-10497-2018.

59 Im, U., J. Brandt, C. Geels, K. M. Hansen, J. H. Christensen, M. S. Andersen, E. Solazzo, I. Kioutsioukis, U. Alyuz, A. Balzarini, R. Baro, R. Bellasio, R. Bianconi, J. Bieser, A. Colette, G. Curci, A. Farrow, J. Flemming, A. Fraser, P. Jimenez-Guerrero, N. Kitwiroon, C. K. Liang, U. Nopmongcol, G. Pirovano, L. Pozzoli, M. Prank, R. Rose, R. Sokhi, P. Tuccella, A. Unal, M. G. Vivanco, **J. J. West**, G. Yarwood, C. Hogrefe, and S. Galmarini (2018) Assessment and economic valuation of air pollution impacts on human health over Europe and the United States as calculated by a multi-model ensemble in the framework of AQMEII3, *Atmospheric Chemistry & Physics*, 18, 5967-5989, doi: 10.5194/acp-18-5967-2018.

58 Ou, Y., W. Shi, S. J. Smith, C. M. Ledna, **J. J. West**, C. G. Nolte, and D. H. Loughlin (2018) Estimating environmental co-benefits of U.S. low-carbon pathways using an integrated assessment model with state-level resolution, *Applied Energy*, 216: 482-493, doi: 10.1016/j.apenergy.2018.02.122.

57 Shaddick, G., M. L. Thomas, A. Green, M. Brauer, A. van Donkelaar, R. Burnett, H. H. Chang, A. Cohen, R. Van Dingenen, C. Dora, S. Gumy, Y. Liu, R. Martin, L. A. Waller, **J. J. West**, J. V. Zidek, and A. Pruss-Ustun (2018) Data Integration Model for Air Quality: A Hierarchical Approach to the Global Estimation of Exposures to Ambient Air Pollution, *Journal of the Royal Statistical Society Series C (Applied Statistics)*, 67(1): 231-253, doi: 10.1111/rssc.12227.

56 Zhang, Y., S. J. Smith, J. H. Bowden, Z. Adelman, and **J. J. West*** (2017) Co-benefits of global, domestic, and sectoral greenhouse gas mitigation for US air quality and human health in 2050, *Environmental Research Letters*, 12: 114033, 11 p., doi: 10.1088/1748-9326/aa8f76.

55 Silva, R. A., **J. J. West***, J.-F. Lamarque, D. T. Shindell, W. J. Collins, G. Faluvegi, G. Folberth, L. W. Horowitz, T. Nagashima, V. Naik, S. Rumbold, K. Sudo, T. Takemura, D. Bergmann, P. Cameron-Smith, R. M. Doherty, B. Josse, I. A. MacKenzie, D. S. Stevenson, and G. Zeng (2017) Future global mortality from changes in air pollution attributable to climate change, *Nature Climate Change*, 7: 647-652, doi: 10.1038/NCLIMATE3354.

54 Woody, M. C., H.-W. Wong, **J. J. West**, and S. Arunachalam (2016) Multiscale predictions of aviation-attributable $PM_{2.5}$ for U.S. airports modeled using CMAQ with plume-in-grid and an aircraft-specific 1-D emission model, *Atmospheric Environment*, 147: 384-394, doi: 10.1016/j.atmosenv.2016.10.016.

53 Zhang, Y., O. R. Cooper, A. Gaudel, A. M. Thompson, P. Nedelec, S.-Y. Ogino, and **J. J. West*** (2016) Tropospheric ozone change from 1980 to 2010 dominated by equatorward redistribution of emissions, *Nature Geoscience*, 9: 875-879, doi: 10.1038/NGEO2827.

52 Silva, R. A., **J. J. West***, J.-F. Lamarque, D. T. Shindell, W. J. Collins, S. Dalsoren, G. Faluvegi, G. Folberth, L. W. Horowitz, T. Nagashima, V. Naik, S. Rumbold, R. Skeie, K. Sudo, T. Takemura, D. Bergmann, P. Cameron-Smith, I. Cionni, R. M. Doherty, V. Eyring, B. Josse, I. A. MacKenzie, D. Plummer, M. Righi, D. S. Stevenson, S. Strode, S. Szopa, and G. Zeng (2016) The effect of future ambient air pollution on human premature mortality to 2100 using output from the ACCMIP model ensemble, *Atmospheric Chemistry & Physics*, 16: 9847-9862, doi: 10.5194/acp-16-9847-2016.

51 Zhang, Y., J. H. Bowden, Z. Adelman, V. Naik, L. Horowitz, S. J. Smith, and **J. J. West*** (2016) Co-benefits of global and regional greenhouse gas mitigation for US air quality in 2050, *Atmospheric Chemistry & Physics*, 16: 9533-9548, doi: 10.5194/acp-16-9533-2016.

Refereed Articles (cont.)

50 Silva, R. A., Z. Adelman, M. M. Fry, and **J. J. West*** (2016) The impact of individual anthropogenic emission sectors on the global burden of human mortality due to ambient air pollution, *Environmental Health Perspectives*, 124(11): 1776-1784, doi: 10.1289/EHP177.

49 **West*, J. J.**, A. Cohen, F. Dentener, B. Burnekreef, T. Zhu, B. Armstrong, M. L. Bell, M. Brauer, G. Carmichael, D. L. Costa, D. W. Dockery, M. Kleeman, M. Krzyzanowski, N. Künzli, C. Liousse, S. C. C. Lung, R. V. Martin, U. Pöschl, C. A. Pope III, J. M. Roberts, A. G. Russell, and C. Wiedinmyer (2016) What we breathe impacts our health: improving understanding of the link between air pollution and health, *Environmental Science & Technology*, 50: 4895-4904, doi: 10.1021/acs.est.5b03827.

48 Couzo, E., J. B. McCann, W. Vizuete, S. Blumsack, and **J. J. West*** (2016) Modeled response of ozone to electricity generation emissions in the northeastern United States using three sensitivity techniques, *Journal of the Air & Waste Management Association*, 66(5): 456-469, doi: 10.1080/10962247.2016.1143412.

47 Tinling, M. A., **J. J. West**, W. E. Cascio, V. Kilaru, and A. G. Rappold (2016) Repeating cardiopulmonary health effects in rural North Carolina population during a second large peat wildfire, *Environmental Health*, 15: 12, doi: 10.1186/s12940-016-0093-4.

46 Kleinman, M. T., J. D. Bachman, H. J. Feldman, D. McCabe, **J. J. West**, and A. F. Fiore (2015) Connecting Air Quality and Climate Change, *Journal of the Air & Waste Management Association*, 65(11): 1283-1291, doi: 10.1080/10962247.2015.1095599.

45 Woody, M. C., **J. J. West**, S. H. Jathar, A. L. Robinson, and S. Arunachalam (2015) Estimates of non-traditional secondary organic aerosols from aircraft SVOC and IVOC emissions using CMAQ, *Atmospheric Chemistry & Physics*, 15, 6929-6942, doi: 10.5194/acp-15-6929-2015.

44 Chambliss, S. E., R. Silva, **J. J. West**, M. Zeinali, and R. Minjares (2014) Estimating source-attributable health impacts of ambient particulate matter exposure: global premature mortality from surface transportation emissions in 2005, *Environmental Research Letters*, 9, 104009, 10 p., doi: 10.1088/1748-9326/9/10/104009.

43 Cameron, C., W. Yelverton, R. Dodder, and **J. J West** (2014) Strategic responses to CO_2 emission reduction targets drive shift in U.S. electric sector water use, *Energy Strategy Reviews*, 4, 16-27, doi: 101016/j.esr.2014.07.003.

42 Anenberg, S. C., **J. J. West**, H. Yu, M. Chin, M. Schulz, D. Bergmann, I. Bey, H. Bian, T. Diehl, A. Fiore, P. Hess, E. Marmer, V. Montanaro, R. Park, D. Shindell, and T. Takemura (2014) Impacts of intercontinental transport of aerosols on human mortality, *Air Quality, Atmosphere and Health*, 7(3), 369-379, doi: 10.1007/s11869-014-0248-9.

41 Fry, M. M., M. D. Schwarzkopf, Z. Adelman, and **J. J. West*** (2014) Air quality and radiative forcing impacts of volatile organic compound emissions from ten world regions, *Atmospheric Chemistry & Physics*, 14, 523-535, doi: 10.5194/acpd-14-523-2014.

40 **West*, J. J.**, S. J. Smith, R. A. Silva, V. Naik, Y. Zhang, Z. Adelman, M. M. Fry, S. Anenberg, L. W. Horowitz, and J.-F. Lamarque (2013) Co-benefits of global greenhouse gas mitigation for future air quality and human health, *Nature Climate Change*, 3, 885-889, doi: 10.1038/NCLIMATE2009.

39 Rissman, J., S. Arunachalam, M. Woody, **J. J. West**, T. BenDor, and F. Binkowski (2013) A plume-in-grid approach to characterize air quality impacts of aircraft emissions at the Hartsfield-Jackson Atlanta International Airport, *Atmospheric Chemistry & Physics*, 13, 9285-9302, doi: 10.5194/acp-13-9285-2013.

38 Rissman, J., S. Arunachalam, T. BenDor, and **J. J. West** (2013) Equity and health impacts of aircraft emissions at the Hartsfield-Jackson Atlanta Airport, *Landscape and Urban Planning*, 120, 234-247, doi: 10.1016/j.landurbplan.2013.07.010.

Refereed Articles (cont.)

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Other Publications and Reports (cont.)

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West, J. J. (1996) Consumer choices and citizen voices: intergenerational obligations and discounting in cost-benefit analysis, *9th International Conference of Student Pugwash USA*, June, 1996, Madison, WI, estimated 8 p.

West, J. J. (1995) *The Policy Implications of Aerosols for Global Climate Change*, M. Phil. Thesis, University of Cambridge, Cambridge, UK, estimated 90 p.

West, J. J. (1994) *Evaluation of Non-structural Coastal Management under Uncertain Physical Conditions: A Case Study at Duck, NC*, M. S. Thesis, Carnegie Mellon University, Pittsburgh, PA, 15213, 261 p.

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West, J. J., Y. Zhang, S. J. Smith, R. A. Silva, J. H. Bowden, V. Naik, Y. Li, D. Gilfillan, Z. Adelman, M. M. Fry, S. C. Anenberg, L. W. Horowitz, J.-F. Lamarque (2017) Co-benefits of global and domestic greenhouse gas emission mitigation for air quality and human health, AWMA conference Finding Common Ground on Climate Mitigation and Adaptation, Extended Abstract #CC41.

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West, J. J., M. Zavala, G. Sosa, F. San Martini, and J. L. Arriaga-Colina (2003) Modeling ozone chemistry and sensitivity to emissions of NO_X and VOCs in Mexico City, in *Proceedings of Better Air Quality 2003*, estimated 2 p.

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West, J. J., A. S. Ansari, and S. N. Pandis (1999) Marginal $PM_{2.5}$: nonlinear aerosol mass response to sulfate reductions in the eastern US, *Proceedings Air & Waste Management Association Annual Meeting*, Paper 99-927, estimated 6 p.

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West, J. J. (2020) Climate change and COVID-19, *Raleigh News & Observer*, Apr. 20, 2020, www.newsobserver.com/opinion/letters-to-the-editor/article242131961.html.

West, J. J., and Y. Ou (2020) Air pollution kills thousands of Americans every year – here's a low-cost strategy to reduce the toll, *The Conversation*, theconversation.com/air-pollution-kills-thousands-of-americans-every-year-heres-a-low-cost-strategy-to-reduce-the-toll-131875.

West, J. J. (2019) Why carbon dioxide has such outsized influence on Earth's climate, *The Conversation*, Sept. 13, 2019, theconversation.com/why-carbon-dioxide-has-such-outsized-influence-on-earths-climate-123064.

West, J. J., and B. J. Turpin (2019) As air pollution increases in some US cities, the Trump administration is weakening clean air regulations, *The Conversation*, May 2, 2019, theconversation.com/as-air-pollution-increases-in-some-us-cities-the-trump-administration-is-weakening-clean-air-regulations-115975.

West, J. J. (2018) Climate change is making storms worse. The media needs to report that, *Raleigh News & Observer*, Sept. 13, 2018, www.newsobserver.com/opinion/article218319885.html.

Patz, J., and **J. J. West** (2018) The Paris Agreement could save lives in China, *Lancet Planetary Health*, 2(4): e147-e148.

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Zeng, G. and **J. J. West** (2017) Climate change set to increase air pollution deaths by hundreds of thousands by 2100, *The Conversation*, July 31, 2017, theconversation.com/climate-change-set-to-increase-air-pollution-deaths-by-hundreds-of-thousands-by-2100-81830.

West, J. J. (2012) Connecting global air pollution with health outcomes, *IGAC Newsletter*, August 2012, 47: 7-11.

Invited Conference Presentations

West, J. J. 'Connecting air quality and health with management: Progress from the UNC HAQAST team', NASA Health and Air Quality Applied Sciences Team Final Showcase, July, 2020, Washington, DC (online).

West, J. J. 'Global air quality and health', NASA Health and Air Quality Applied Sciences Team Final Showcase, July, 2020, Washington, DC (online).

West, J. J. 'Mapping yearly fine resolution surface ozone through data fusion to support the Global Burden of Disease' HTAP meeting, April, 2020, Edinburgh, UK (online).

Invited Conference Presentations (cont.)

DeLang, M., S. Cleland, J. Becker, M. Serre, **J. J. West** 'Pollutant concentration mapping to support health impact assessment: global ozone concentrations and PM from California wildfires', NASA HAQAST webinar, March, 2020.

West, J. J. 'Using atmospheric modeling to assess human health impacts', Workshop on New Applications in the Use of Satellite Data Monitoring for Public Health, University of Alabama in Huntsville, October, 2019, Huntsville, AL.

West, J. J. 'Using atmospheric models to assess human health', FASCINATE workshop, National Center for Atmospheric Research, September, 2019, Boulder, CO.

West, J. J. 'Connecting climate change and air quality with human health', Chemistry-Climate Model Initiative Workshop, August, 2019, Hong Kong. (invited keynote lecture)

West, J. J. 'Connecting air quality and health with management: Progress from the UNC HAQAST team', NASA Health and Air Quality Applied Sciences Team meeting, July, 2019, Pasadena, CA.

West, J. J. 'HAQAST research at UNC', NASA Health and Air Quality Applied Sciences Team meeting, January, 2019, Phoenix, AZ.

West, J. J. 'Quantifying the health effects of air pollution globally', IGAC School of Atmospheric Measurements in Latin America and the Caribbean, Nov., 2018, San Juan, Puerto Rico. (invited keynote lecture)

West, J. J. 'Health benefits of decreases in $PM_{2.5}$ and ozone in the United States, 1990-2015', NASA Health and Air Quality Applied Sciences Team meeting, July, 2018, Madison, WI.

West, J. J. 'Understanding global ozone and its impacts on human health' AGU Fall Meeting, December 2017, New Orleans, LA.

Zhang, Y., **J. J. West**, R. Mathur, J. Xing, C. Hogrefe, S. J. Roselle, J. O. Bash, J. E. Pleim, C.-M. Gan, D. C. Wong 'Significantly reduced health burden from ambient air pollution in the US under emission reductions from 1990 to 2010' AGU Fall Meeting, December 2017, New Orleans, LA. (Zhang is invited speaker).

Duncan, B. N., and **J. J. West** 'HAQAST Tiger Team: Demonstration of the Efficacy of Environmental Regulations in the Eastern US' NASA Health and Air Quality Applied Sciences Team meeting, December, 2017, Palisades, NY.

West, J. J. 'The effects of climate change on human health through changes in air quality" Statistical and Applied Mathematical Sciences Institute, Climate Opening Workshop, August 2017, Research Triangle Park, NC.

West, J. J. 'Research connecting air quality, climate change, energy, policy and health' NASA Health and Air Quality Applied Sciences Team meeting, November, 2016, Atlanta, GA.

West, J. J. 'Co-benefits of global greenhouse gas mitigation for US air quality and health' Workshop on Health Co-benefits of Climate Change Mitigation Policies, University of Washington, September 2016, Seattle, WA.

West, J. J. 'Connecting air pollution, climate change, energy, and health' NC BREATHE Conference, April 2016, Charlotte, NC. (invited keynote lecture)

West, J. J. 'Co-benefits of global greenhouse gas mitigation for US air quality and health' NASA AQAST Meeting, January 2016, Research Triangle Park, NC.

West, J. J. 'Emissions to exposure: Applications of impact functions for global human health' Climate Change Impacts and Integrated Assessment Workshop, Stanford Energy Modeling Forum, July 2015, Snowmass, CO.

West, J. J. 'Comments on "Air Quality and Climate Connections" AWMA 2015 Critical Review' Air & Waste Management Association Annual Meeting, June 2015, Raleigh, NC.

Invited Conference Presentations (cont.)

West, J. J. 'Using modeling to inform policy: Linking air quality, climate change, and human health' EPA Council for Regulatory Environmental Modeling meeting on The Future of Environmental Modeling, April 2014, Research Triangle Park, NC. (invited keynote lecture)

West, J. J., S. J. Smith, R. Silva, V. Naik, Y. Zhang, Z. Adelman, M. M. Fry, S. Anenberg, L. W. Horowitz, J.-F. Lamarque, L. K. Emmons 'Co-benefits of global greenhouse gas mitigation for future air quality and human health via two mechanisms' AGU Fall Meeting, December 2012, San Francisco, CA.

West, J. J. 'Connecting climate, air quality, and human health: application using global atmospheric models' Genetics Environmental Mutagenesis Society, November 2012, Chapel Hill, NC.

West, J. J., S. J. Smith, R. A. Silva, Z. Adelman, M. M. Fry, S. C. Anenberg, L. W. Horowitz, V. Naik, J.-F. Lamarque, L. Emmons, P. Kyle 'Co-benefits of global greenhouse gas mitigation for air quality and human health via two mechanisms' Climate Change Impacts and Integrated Assessment Workshop, Stanford Energy Modeling Forum, August 2012, Snowmass, CO.

West, J. J. 'Linking climate change and air pollution: in search of strategies to address two important problems' IV International Symposium on Climatology: Impacts of Climate Change on Urban Areas, Brazilian Meteorological Society, October, 2011, Joao Pessoa, Brazil. (invited keynote lecture, in Spanish)

West, J. J. 'Using global atmospheric models to assess human health effects' Workshop on Atmospheric Chemistry and Health: current knowledge and future directions, Health Effects Institute, October, 2011, Boston, MA.

West, J. J. 'Addressing the Human Health Benefits of Global Emissions Strategies' EPA Mid-Atlantic Climate Change Mitigation and Co-benefits Workshop, March 2011, Philadelphia, PA.

West, J. J. 'Assessing links between air pollution, climate change, and public health using atmospheric chemical transport models', Environmental Mutagen Society Annual Meeting, October 2008, Rio Grande, Puerto Rico.

West, J. J., V. Naik, L. W. Horowitz, A. M. Fiore 'Effect of NO_x emission controls on the long-range transport of ozone air pollution and human mortality' Atmospheric Chemistry, Climate, and Transboundary Air Pollution Workshop, Task Force on Hemispheric Transport of Air Pollution, June 2008, Washington, DC.

West, J. J., J. Arnold 'PM and Climate' at US EPA Workshop to Initiate Evaluation of Key Policy-Relevant Science and Inform Development of Integrated PM NAAQS Review Plan, July, 2007, Chapel Hill, NC.

West, J. J., A. M. Fiore, V. Naik, L. W. Horowitz, M. D. Schwarzkopf, D. L. Mauzerall 'Ozone air quality and radiative forcing consequences of changes in ozone precursor emissions' AGU Joint Assembly, May, 2007, Acapulco, Mexico.

West, J. J., A. M. Fiore, L. W. Horowitz, D. L. Mauzerall 'Abating global ozone pollution with methane emission controls: costs and global health benefits' UN ECE Hemispheric Transport of Air Pollutants Meeting, June 2006, Moscow, Russia.

Fiore, A. M., **J. J. West**, L. W. Horowitz 'Abating global ozone pollution with methane emission controls' UN ECE Hemispheric Transport of Air Pollutants Meeting, June 2006, Moscow, Russia.

West, J. J., A. M. Fiore, L. W. Horowitz, D. L. Mauzerall 'Ozone air quality management through methane emission reductions: global health benefits' US Climate Change Science Program Workshop, November 2005, Arlington, VA.

West, J. J., A. M. Fiore, L. W. Horowitz, D. L. Mauzerall 'Control of methane emissions for ozone air quality purposes,' Air Pollution as a Climate Forcing, A Second Workshop, April 2005, Honolulu, HI.

West, J. J., P. Osnaya, I. Laguna, J. Martinez, A. Fernandez 'Co-control of urban air pollutants and greenhouse gases in Mexico City,' Workshop on Local Pollution and Climate: The Importance of Co-benefits, November 2003, Beijing, China.

Invited Conference Presentations (cont.)

West, J. J., P. Osnaya, I. Laguna, J. Martinez 'Co-control of urban air pollutants and greenhouse gases in Mexico City,' Workshop of the UNECE Task Force on Integrated Assessment Modelling on Linkages and Synergies of Regional and Global Emission Control, January 2003, Laxenburg, Austria.

West, J. J., F. San Martini, G. Sosa, M. Zavala, G. McRae, L. T. Molina, M. J. Molina **'**Analysis and modeling of air quality for informing decisions' Seminario Internacional sobre Dispersión y Caracteración de Contaminantes Atmosféricos, CENICA, September 2001, Mexico City.

Invited Presentations

West, J. J. 'Understanding global climate change and how it affects air pollution and human health' NIEHS Global Environmental Health webinar, June 2020.

West, J. J. 'Connecting air pollution, climate change, energy and human health' Yale University, September 2019, New Haven CT.

West, J. J. 'Using satellites, ground observations & models to inform air quality and health analyses' Association of Air Pollution Control Agencies, 2019 Fall Business Meeting, August 2019, Raleigh, NC.

West, J. J. 'Connecting air pollution, climate change, energy and human health' Association of Air Pollution Control Agencies, 2016 Fall Business Meeting, September 2016, Raleigh, NC.

West, J. J. 'Assessing the health effects of ambient air pollution globally and in the US: Future scenarios, impacts of climate change, and co-benefits of greenhouse gas mitigation' Environmental Protection Agency, October 2015, Research Triangle Park, NC.

West, J. J. 'Connecting climate change, air pollution, and human health' Washington State University, October 2014, Pullman, WA.

West, J. J. 'Co-benefits of global greenhouse gas mitigation for future air quality and human health' Columbia University, March 2014, New York, NY.

West, J. J. 'Connecting climate change, air pollution, and human health', Lafayette College, March 2014, Easton, PA.

West, J. J. 'Co-benefits of global greenhouse gas mitigation for future air quality and human health' National Oceanic & Atmospheric Administration, April 2013, Boulder, CO.

West, J. J. 'Effects of continental emissions on air quality, human health, and climate' Environmental Protection Agency, May 2012, Research Triangle Park, NC.

West, J. J. 'Toward a coordinated strategy on ozone: reducing air pollution, long-range transport, and climate forcing' University of Cambridge, June 2010, Cambridge, UK.

West, J. J. 'Toward a coordinated strategy on ozone: reducing air pollution, long-range transport, and climate forcing' North Carolina State University, January 2010, Raleigh, NC.

West, J. J. 'Interrelationships between air quality, climate change, and health: applications using global chemical transport models' Statistical and Applied Mathematical Sciences Institute, November 2009, Research Triangle Park, NC.

West, J. J. 'Win-win solutions for climate change and air quality: reducing emissions of ozone precursors and black carbon' Environmental Protection Agency, October 2009, Research Triangle Park, NC.

West, J. J. 'Viewing ozone air pollution from a global perspective: methane as an ozone precursor, intercontinental transport, and links with climate change' Air & Waste Management Association, Triangle chapter, May 2009, Research Triangle Park, NC.

West, J. J. 'Linking air pollution, climate change, and human health: management of ozone air pollution by reducing methane emissions' Carnegie Mellon University, February 2008, Pittsburgh, PA.

West, J. J. 'Linking air pollution, climate change, and human health: management of ozone air pollution by reducing methane emissions' Duke University, September 2007, Durham, NC.

Invited Presentations (cont.)

West, J. J. 'Relationships between precursor emissions, air quality, and climate forcing: controlling methane emissions for ozone air quality' Environmental Protection Agency, June 2007, Research Triangle Park, NC.

West, J. J. 'Ozone air quality management through methane emission reductions: global health benefits' University of North Carolina, April 2006, Chapel Hill, NC.

West, J. J. 'Ozone air quality management through methane emission reductions: global health benefits' Johns Hopkins University, February 2006, Baltimore, MD.

West, J. J. 'Ozone air quality management through methane emission reductions: global health benefits' NASA Goddard Space Flight Center, February 2006, Columbia, MD.

West, J. J. 'Management of ozone air quality by reducing methane emissions' Environmental Defense, November 2005, New York, NY.

West, J. J. 'Linking urban and global air pollution: Control of urban ozone in Mexico City, and control of global ozone through methane emission reductions' Rutgers University, March 2005, New Brunswick, NJ.

West, J. J. 'Studies in urban air pollutant and greenhouse gas control in Mexico City' Princeton University / Geophysical Fluid Dynamics Laboratory, August 2004, Princeton, NJ.

West, J. J. 'Local and global air quality management: Challenges and analytical methods for developing nations' National Renewable Energy Laboratory, July 2004, Golden, CO.

West, J. J. 'Air pollution & US interests' US Foreign Services Institute, July 2004, Arlington, VA.

West, J. J. 'Sensitivity of ozone to NOx and VOCs in the Mexico City Metropolitan Area' University of Maryland, June 2004, College Park, MD.

West, J. J. 'Sensitivity of ozone to NO_x and VOCs in the Mexico City Metropolitan Area' Harvard University, April 2004, Cambridge, MA.

West, J. J. 'Studies in urban air pollutant and greenhouse gas control in Mexico City' Johns Hopkins University, April 2004, Baltimore, MD.

West, J. J. 'Studies in urban air pollutant and greenhouse gas control in Mexico City' Carnegie Mellon University, April 2004, Pittsburgh, PA.

West, J. J. 'Air quality management in the US and Mexico' Department of Environment, Philippines, December 2003, Manila, Philippines.

West, J. J. 'Ozone and particulate modeling for air quality management in the United States and Mexico' Tsinghua University, November 2003, Beijing, China.

West, J. J. 'Co-control of urban air pollutants and greenhouse gases in Mexico City' Resources for the Future, June 2003, Washington, DC.

West, J. J. 'Co-control of urban air pollutants and greenhouse gases in Mexico City' Pacific Northwest National Laboratory, March 2003, College Park, MD.

West, J. J. 'Co-control of urban air pollutants and greenhouse gases in Mexico City' Massachusetts Institute of Technology, March 2003, Cambridge, MA.

Other invited presentations

National Autonomous University of Mexico (May 2002)

Tellus Institute (April 2002)

World Resources Institute (April 2002)

The World Bank (April 2002)

Mexican Petroleum Institute (January 2002)

Harvard School of Public Health (October 2000)

University of Wisconsin, Madison (August 2000)

Carnegie Mellon Univ. (2000, 2003)

Rutgers University (March 1999)

Univ. of California, Santa Barbara (March 1999)

Massachusetts Institute of Technology (December 1998)

University of Iowa (October 1998)

University of Colorado, Boulder (October 1997)

Conference Presentations

Glotfelty, T., D. Ramirez-Mejia, A. Ghilardi, A. Bittner, A. Grieshop, R. Bailis, **J. J. West** 'Impacts of changing land use, land cover, and emissions on regional air quality and climate in Sub-Saharan Africa' American Meteorological Society, Jan. 2021 (online)

West, J. J., Y. Zhang, L. K. Emmons, J. Flemming, J. E. Jonson, M. T. Lund, T. Sekiya, K. Sudo, A. Gaudel, K.-L. Chang, P. Nedelec, V. Thouret 'Contributions of ten world regions to the global tropospheric ozone burden change from 1980 to 2010: high sensitivity to emissions from South and Southeast Asia' AGU Fall Meeting, Dec. 2020 (online)

Malashock, D., S. Anenberg, M. DeLang, J. Becker, M. L. Serre, **J. J. West**, K.-L. Chang, O. Cooper 'Evaluating ozone trends and attributable mortality in urban areas worldwide' AGU Fall Meeting, Dec. 2020 (online).

Cleland, S. E., **J. J. West**, Y. Jia, S. Reid, S. Raffuse, S. O'Neill, A. Rappold, M. Serre 'Using space/time data fusion to estimate $PM_{2.5}$ concentrations and quantify the acute health impacts of smoke exposure during the 2017 California wildfires' AGU Fall Meeting, Dec. 2020 (online).

Kunwar, S. B., J. H. Bowden, G. Mily, M. Previdi, A. M. Fiore, **J. J. West** 'Dynamical downscaling for a global chemistry-climate model to study the influence of climate change and variability on mid-21st century US $PM_{2.5}$' AGU Fall Meeting, Dec. 2020 (online).

Becker, J. S., M. N. DeLang, K.-L. Chang, M. L. Serre, O. R. Cooper, M. G. Schultz, S. Schroder, X. Lu, L. Zhang, M. Deushi, B. Josse, C. A. Keller, J.-F. Lamarque, M. Lin, J. Liu, V. Marecal, S. A. Strode, K. Sudo, S. Tilmes, S. Cleland, E. Collins, M. Brauer, **J. J. West** 'Mapping yearly fine resolution global surface ozone through Regionalized Air Quality Model Performance corrections and Bayesian Maximum Entropy data fusion of observations and model output for 1990-2017' AGU Fall Meeting, Dec. 2020 (online).

Cleland, S. E., **J. J. West**, Y. Jia, S. Reid, S. Raffuse, S. O'Neill, A. Rappold, M. Serre 'A space/time data fusion method for estimating smoke concentrations and associated health impacts of the 2017 California wildfires' CMAS Conference, Oct. 2020 (online).

Becker, J. S., M. N. DeLang, K.-L. Chang, M. L. Serre, O. R. Cooper, M. G. Schultz, S. Schroder, X. Lu, L. Zhang, M. Deushi, B. Josse, C. A. Keller, J.-F. Lamarque, M. Lin, J. Liu, V. Marecal, S. A. Strode, K. Sudo, S. Tilmes, S. Cleland, E. Collins, M. Brauer, **J. J. West** 'Mapping yearly global surface ozone through Regionalized Air Quality Model Performance corrections and Bayesian Maximum Entropy data fusion of observations and model output for 1990-2017' CMAS Conference, Oct. 2020 (online).

Kunwar, S. B., J. H. Bowden, G. Mily, M. Previdi, A. M. Fiore, **J. J. West** 'Studying the influence of climate change and variability on mid-21st century US $PM_{2.5}$ by dynamical downscaling' CMAS Conference, Oct. 2020 (online).

Glotfelty, T., D. Ramirez-Mejia, J. Bowdent, A. Ghilardi, Y. Ou, A Bittner, A. Grieshop, R. Bailis, P. Jagger, **J. J. West** 'Representing the impact of residential energy choice and land use change on the climate and air quality of Sub-Saharan Africa' CMAS Conference, Oct. 2020 (online).

Kunwar, S. B., J. H. Bowden, G. Milly, M. Previdi, A. M. Fiore, **J. J. West** 'Dynamical downscaling of a global chemistry-climate model to study the influence of climate change and variability on mid-21st century PM2.5 in the continental US' American Association for Aerosol Research, October, 2020 (online).

Conference Presentations (cont.)

Cleland, S. E., **J. J. West**, Y. Jia, S. Reid, S. Raffuse, S. O'Neill, A. Rappold, M. L. Serre 'A data fusion approach for evaluating smoke exposure: estimating PM2.5 during the 2017 California wildfires' International Society for Exposure Science, September, 2020 (online).

Malashock, D., S. Anenberg, M. DeLang, J. Becker, M. Serre, **J. J. West**, K.-L. Chang, O. Cooper, M. Brauer 'Estimates of ozone-attributable burden of disease in urban areas worldwide' International Society of Environmental Epidemiology, August, 2020 (online).

Cleland, S. E., **J. J. West**, Y. Jia, S. Reid, S. Raffuse, S. O'Neill, M. L. Serre 'A space/time data fusion method for estimating smoke concentrations during the October 2017 California fires to inform population-level exposure' International Society of Environmental Epidemiology, August, 2020 (online).

Quevedo, D., D. Goldberg, R. Carp, J. J. West 'Investigating the effects of Cyclone Amphan on tropospheric NO_2 with TROPOMI' NASA Health and Air Quality Applied Sciences Team Final Showcase, July, 2020, Washington, DC (online).

Cleland, S. E., **J. J. West**, Y. Jia, S. Reid, S. Raffuse, S. O'Neill, M. L. Serre 'Estimating $PM_{2.5}$ through data fusion & evaluating the health impact of the 2017 California Wildfires' NASA Health and Air Quality Applied Sciences Team Final Showcase, July, 2020, Washington, DC (online).

DeLang, M., J. Becker, K.-L. Chang, O. Cooper, M. Schultz, S. Schroder, X. Lu, L. Zhang, S. Cleland, M. Serre, **J. J. West**, CCMI & NASA modelers 'Mapping global surface ozone 1990-2017 for Global Burden of Disease' NASA Health and Air Quality Applied Sciences Team Final Showcase, July, 2020, Washington, DC (online).

Xu, T. R., J. Wu, J. Liu, C. A. Keller, **J. J. West** 'The effect of grid resolution on the global mortality burden of fine particulate matter and ozone' NASA Health and Air Quality Applied Sciences Team Final Showcase, July, 2020, Washington, DC (online).

O. Nawaz, Y. Zhang, D. Q. Tong, A. Van Donkelaar, R. Martin, M. L. Serre, **J. J. West** 'Health benefits of decreases in PM2.5 and ozone in the United States, 1990-2016' NASA Health and Air Quality Applied Sciences Team Final Showcase, July, 2020, Washington, DC (online).

Cleland, S. E., **J. J. West**, M. L. Serre 'Evaluating the acute health impact of $PM_{2.5}$ exposure during the October 2017 California wildfires' 3rd International Smoke Symposium, Apr. 2020, Raleigh, NC.

Glotfelty, T., D. Ramirez, A. Ghilardi, J. Bowden, **J. J. West** 'Impacts of changing land use and land cover on regional climate in Sub-Saharan Africa' American Meteorological Society annual meeting, Jan. 2020, Boston, MA.

Glotfelty, T., D. Ramirez, A. Ghilardi, J. Bowden, **J. J. West** 'Understanding the impacts of land use and land cover change on regional climate in Sub-Saharan Africa: a cautionary tale for regional climate modeling' CMAS meeting, Oct. 2019, Chapel Hill, NC.

DeLang, M., J. Becker, K.-L. Chang, O. Cooper, S. Cleland, M. Schultz, S. Schoder, **J. J. West**, M. Serre, CCMI & NASA modelers 'Mapping global surface ozone concentrations through the statistical fusion of observations and models' CMAS meeting, Oct. 2019, Chapel Hill, NC.

Cleland, S., M. Serre, J. Becker, M. DeLang, **J. J. West** 'Fusing CMAQ with observations to estimate air quality and health impacts of Oct. 2017 California wildfires' CMAS meeting, Oct. 2019, Chapel Hill, NC.

Ou, Y., **J. J. West**, S. J. Smith, C. G. Nolte, D. H. Loughlin 'Air pollution control strategies directly limiting national health damages in the US' CMAS meeting, Oct. 2019, Chapel Hill, NC.

Kunwar, S., J. H. Bowden, G. Milly, M. Previdi, A. M. Fiore, J. J. West 'Dynamical downscaling of a global chemistry-climate model to study the influence of climate change on mid-21st century $PM_{2.5}$ and O_3 distribution in the continental US' CMAS meeting, Oct. 2019, Chapel Hill, NC.

Cleland, S., M. Serre, J. Becker, M. DeLang, **J. J. West** 'Estimating the hospital admissions attributable to the 2017 California wildfires' Triangle Global Health Conference, Oct. 2019, Durham, NC.

Conference Presentations (cont.)

Ou, Y., W. Shi, S. J. Smith, **J. J. West**, C. G. Nolte, D. H. Loughlin 'State-level contributors to present and future fine particulate matter health costs in the United States' FASCINATE workshop, National Center for Atmospheric Research, Sept. 2019, Boulder, CO.

Kunwar, S., J. H. Bowden, G. Milly, M. Previdi, A. M. Fiore, J. J. West 'Dynamical downscaling of meteorology from a global model by WRF towards resolving US $PM_{2.5}$ and O_3 distributions for the mid 21st century' FASCINATE workshop, National Center for Atmospheric Research, Sept. 2019, Boulder, CO.

Cleland, S., M. Serre, J. Becker, M. DeLang, **J. J. West** 'Mapping the air quality and health impacts of the 2017 California wildfires' NASA Health and Air Quality Applied Sciences Team meeting, July, 2019, Pasadena, CA.

Becker, J., M. DeLang, K.-L. Chang, O. Cooper, S. Cleland, E. Collins, M. Serre, **J. J. West** 'Mapping global surface ozone concentrations through the statistical fusion of observations and models' NASA Health and Air Quality Applied Sciences Team meeting, July, 2019, Pasadena, CA.

Mulvaney, K. M., S. J. Smith, H. C. McJeon, **J. J. West** 'Air pollution and health co-benefits of the Paris Agreement on Climate Change: Methodology and preliminary precursor emissions results' AGU Fall Meeting, Dec. 2018, Washington, DC.

Ou, Y., W. Shi, S. J. Smith, **J. J. West**, C. G. Nolte, D. H. Loughlin 'State-level contributors to present and future fine particulate matter health costs in the United States' CMAS Conference, Oct. 2018, Chapel Hill, NC.

Mulvaney, K. M., S. J. Smith, H. C. McJeon, **J. J. West** 'Air pollution and health co-benefits of the Paris Agreement on Climate Change: Methodology and preliminary precursor emissions results' CMAS Conference, Oct. 2018, Chapel Hill, NC.

Glotfelty, T. W., D. Ramirez, A. Ghilardi, J. H. Bowden, R. Bailis, **J. J. West** 'Impacts of changing land use and land cover on regional climate in Sub-Saharan Africa' CMAS Conference, Oct. 2018, Chapel Hill, NC.

Kunwar, S. B., J. H. Bowden, G. Milly, M. Previdi, A. M. Fiore, **J. J. West** 'Modeling the effects of climate change on US mid 21st century $PM_{2.5}$ and O_3 by dynamical downscaling of meteorology and chemistry from a global model' CMAS Conference, Oct. 2018, Chapel Hill, NC.

Ou, Y., S. J. Smith, **J. J. West**, C. G. Nolte, D. H. Loughlin 'State-level determinants of fine particulate matter mortality change between 2015 and 2050' JGCRI GCAM Community Modeling Meeting, Oct. 2018, College Park, MD.

West, J. J., Y. Zhang, O. Nawaz, D. Tong, A. van Donkelaar, R. Martin 'Changes in air pollution-related deaths in the United States since 1990' IGAC / iCACGP meeting, September 2018, Takamatsu, Japan.

Mulvaney, K. M., S. J. Smith, H. C. McJeon, **J. J. West** 'Air pollution and health co-benefits of the Paris Agreement on Climate Change', NASA Health and Air Quality Applied Sciences Team meeting, July, 2018, Madison, WI.

Nawaz, O., Y. Zhang, D. Q. Tong, A. van Donkelaar, R. V. Martin, **J. J. West** 'Health benefits of decreases in $PM_{2.5}$ and ozone in the United States, 1990-2015' NASA Health and Air Quality Applied Sciences Team meeting, July, 2018, Madison, WI.

West, J. J., 'Links between climate change and air pollution, including the air pollution and health co-benefits of greenhouse gas mitigation' IPCC Cities Conference, March 2018, Edmonton, Canada.

Nawaz, O., Y. Zhang, D. Q. Tong, **J. J. West** 'Health benefits of decreases in PM2.5 and ozone in the United States from 1990 to 2015' AGU Fall Meeting, December 2017, New Orleans, LA.

Kunwar, S. B., J. H. Bowden, G. Milly, M. Previdi, A. M. Fiore, **J. J. West** 'Dynamical downscaling of meteorology from a global model by WRF toward resolving US $PM_{2.5}$ distributions for the mid 21st century' AGU Fall Meeting, December 2017, New Orleans, LA.

Conference Presentations (cont.)

Nawaz, O., Y. Zhang, D. Q. Tong, **J. J. West** 'Health benefits of decreases in PM2.5 and ozone in the United States from 1990 to 2015' CMAS Conference, October 2017, Chapel Hill, NC.

Kunwar, S. B., J. H. Bowden, G. Milly, M. Previdi, A. M. Fiore, **J. J. West** 'Dynamical downscaling of meteorology from a global model by WRF toward resolving US $PM_{2.5}$ distributions for the mid 21st century' CMAS Conference, October 2017, Chapel Hill, NC.

Ou, Y., W. Shi, S. J. Smith, **J. J. West**, C. G. Nolte, D. H. Loughlin 'Estimating environmental co-benefits of US GHG reduction pathways using the GCAM-USA Integrated Assessment Model.' CMAS Conference, October 2017, Chapel Hill, NC.

Liang, C. K., **J. J. West**, J. S. Fu, H.-C.Lai, D.-M. Tsai, L.-W. Lai 'The sensitivity of surface ozone concentration to geographically-distributed VOC and NO_x emissions over the Kao-Ping air basin in Taiwan' CMAS Conference, October 2017, Chapel Hill, NC.

Zhang, Y., **J. J. West**, R. Mathur, J. Xing, C. Hogrefe, S. J. Roselle, J. O. Bash, J. E. Pleim, C.-M. Gan, D. C. Wong 'Significantly reduced health burden from ambient air pollution in the US under emission reductions from 1990 to 2010' CMAS Conference, October 2017, Chapel Hill, NC.

Liang, C. K., **J. J. West**, J. S. Fu, H.-C.Lai, D.-M. Tsai, L.-W. Lai 'Sensitivity of geographically-distributed precursor emission reductions for mitigating $PM_{2.5}$ in the Kao-Ping air basin in Taiwan' 36th American Association for Aerosol Research Conference, October 2017, Raleigh, NC.

Zhang, Y., **J. J. West**, R. Mathur, J. Xing, C. Hogrefe, S. J. Roselle, J. O. Bash, J. E. Pleim, C.-M. Gan, D. C. Wong 'Significantly reduced health burden from ambient air pollution in the US under emission reductions from 1990 to 2010' 36th American Association for Aerosol Research Conference, October 2017, Raleigh, NC.

West, J. J., Y. Zhang, S. J. Smith, R. A. Silva, J. H. Bowden, V. Naik, Y. Li, D. Gilfillan, Z. Adelman, M. M. Fry, S. C. Anenberg, L. W. Horowitz, J.-F. Lamarque 'Co-benefits of global and domestic greenhouse gas emission mitigation for air quality and human health' AWMA conference Finding Common Ground on Climate Mitigation and Adaptation, October 2017, Arlington, VA.

Ou, Y., W. Shi, S. J. Smith, **J. J. West**, C. G. Nolte, D. H. Loughlin 'Estimating environmental co-benefits of US GHG reduction pathways using the GCAM-USA Integrated Assessment Model.' AWMA conference Finding Common Ground on Climate Mitigation and Adaptation, October 2017, Arlington, VA.

Liang, C. K., **J. J. West**, J. S. Fu, H.-C.Lai, D.-M. Tsai, L.-W. Lai 'Sensitivity of geographically-distributed precursor emission reductions for mitigating $PM_{2.5}$ in the Kao-Ping air basin in Taiwan' 24th International Conference on Aerosol Science & Technology – 2017 Forum on Fine Particulate Matter (PM2.5) and Climate Change, September 2017, Taichung City, Taiwan.

Liang, C. K., R. A. Silva, **J. J. West**, L. Emmons, J. E. Jonson, H. Bian, X. Pan, M. Chin, D. Henze, M. T. Lund, K. Sudo, T. Sekiya, T. Takemura, J. Flemming, J. R. Park, M. Lin, R. B. Pierce, A. Lenzen, 'Multi-model estimates of premature human mortality due to intercontinental transport of air pollution' HTAP2 Workshop, April 2017, Research Triangle Park, NC.

Ou, Y., W. Shi, D. Loughlin, C. Nolte, S. Smith, C. Ledna, **J. West** 'Estimating environmental co-benefits of US GHG reduction pathways using the GCAM-USA Integrated Assessment Model' CMAS Conference, October 2016, Chapel Hill, NC.

Zhang, Y., O. R. Cooper, A. Gaudel, A. M. Thompson, P. Nedelec, S.-Y. Ogino, **J. J. West** 'Equatorward redistribution of emissions dominates the 1980 to 2010 tropospheric ozone change' CMAS Conference, October 2016, Chapel Hill, NC.

Zhang, Y., O. R. Cooper, A. Gaudel, A. M. Thompson, P. Nedelec, S.-Y. Ogino, **J. J. West** 'Equatorward redistribution of emissions dominates the 1980 to 2010 tropospheric ozone change' International Global Atmospheric Chemistry 2016 Science Conference, September 2016, Breckenridge, CO.

Conference Presentations (cont.)

West, J. J. 'Health implications of intercontinental air pollutant transport' HTAP2 Workshop – Assessing the impacts of future global air pollution scenarios, February 2016, Potsdam, Germany.

Zhang, Y., O. R. Cooper, **J. J. West** 'Southward redistribution of emissions dominates the 1980 to 2010 tropospheric ozone change' NASA AQAST Meeting, January 2016, Research Triangle Park, NC.

Zhang, Y., J. H. Bowden, Z. Adelman, V. Naik, L. Horowitz, S. J. Smith, **J. J. West** 'Co-benefits of global and regional greenhouse gas mitigation on US air quality and human health in 2050' NASA AQAST Meeting, January 2016, Research Triangle Park, NC.

Liang, C. K., R. A. Silva, **J. J. West**, K. Sudo, M. T. Lund, L. Emmons, T. Takemura, H. Bian 'Multimodel estimates of premature human mortality due to intercontinental transport of air pollution' NASA AQAST Meeting, January 2016, Research Triangle Park, NC.

Silva, R. A., **J. J. West**, et al. 'Global mortality impacts of present and future ozone and PM2.5 ambient air pollution' NASA AQAST Meeting, January 2016, Research Triangle Park, NC.

Liang, C. K., R. A. Silva, **J. J. West**, K. Sudo, M. T. Lund, L. Emmons, T. Takemura, H. Bian 'Multimodel estimates of premature human mortality due to intercontinental transport of air pollution' AGU Fall Meeting, December 2015, San Francisco, CA.

Zhang, Y., O. R. Cooper, **J. J. West** 'Shifting emissions to low latitudes had a greater influence on global tropospheric ozone than changing emission magnitude, 1980-2010' AGU Fall Meeting, December 2015, San Francisco, CA.

Liang, C. K., R. A. Silva, **J. J. West**, K. Sudo, M. T. Lund, L. Emmons, T. Takemura, 'Multimodel estimates of premature human mortality due to intercontinental transport of air pollution' CMAS Conference, October 2015, Chapel Hill, NC.

Silva, R. A., **J. J. West**, D. T. Shindell, J. F. Lamarque and ACCMIP modelers 'The effect of future ambient air pollution on global premature mortality and the impact of climate change to 2100' CMAS Conference, October 2015, Chapel Hill, NC.

Zhang, Y., O. R. Cooper, **J. J. West** 'Southward redistribution of emissions dominates the 1980-2010 tropospheric ozone change' CMAS Conference, October 2015, Chapel Hill, NC.

Zhang, Y., J. H. Bowden, Z. Adelman, V. Naik, L. Horowitz, S. J. Smith, **J. J. West** 'Co-benefits of global and regional greenhouse gas mitigation on US air quality in 2050' CMAS Conference, October 2015, Chapel Hill, NC.

Li, Y., D. Gilfillan, Y. Zhang, **J. J. West** 'Projecting future heat-related mortality in the United States under global climate change' Society for Risk Analysis World Conference on Risk, July 2015, Singapore.

West, J. J. 'Using global atmospheric models to assess human health impacts of air pollution' UNC Research Computing Symposium, May 2015, Chapel Hill, NC.

Zhang, Y., J. Bowden, Z. Adelman, V. Naik, L. W. Horowitz, S. J. Smith, **J. J. West** 'The co-benefits of global and regional greenhouse gas mitigation on US air quality at fine resolution' AGU Fall Meeting, December 2014, San Francisco, CA.

Couzo, E., J. McCann, N. Johnson, C. Barrows, S. Blumsack, K. Baker, W. Vizuete, **J. J. West** 'Dynamically controlling daily power plant emissions to avoid ozone exceedances: coordinating air quality forecasts with electricity dispatch models' CMAS Conference, October 2014, Chapel Hill, NC.

Silva, R., Z. Adelman, M. Fry, **J. J. West** 'Contribution of individual anthropogenic emissions sectors to global human mortality due to outdoor air pollution' CMAS Conference, October 2014, Chapel Hill, NC (*Best Poster Award*).

Zhang, Y., J. Bowden, Z. Adelman, V. Naik, L. W. Horowitz, S. J. Smith, **J. J. West** 'Studying the co-benefits of global and regional GHG mitigation on US air quality' CMAS Conference, October 2014, Chapel Hill, NC.

Akita, Y., M. Serre, **J. J. West** 'The influence of modeling approach and grid resolution on global exposure estimates' CMAS Conference, October 2014, Chapel Hill, NC.

Conference Presentations (cont.)

West, J. J., S. J. Smith, R. Silva, V. Naik, Y. Zhang, Z. Adelman, M. M. Fry, S. Anenberg, L. W. Horowitz, J.-F. Lamarque 'Co-benefits of global greenhouse gas mitigation for future air quality and human health via two mechanisms' Carolinas Climate Resilience Conference, Charlotte, NC, April, 2014.

Silva, R., **J. J. West**, Yuqiang Zhang, Susan Anenberg, J.-F. Lamarque, D. T. Shindell, 'Impact of climate change on global premature mortality from outdoor air pollution' Carolinas Climate Resilience Conference, Charlotte, NC, April, 2014.

Silva, R., **J. J. West**, J. F. Lamarque, D. T. Shindell, W. Collins, S. Dalsoren, G. Faluvegi, G. Folberth, L. W. Horowitz, T. Nagashima, V. Naik, S. Rumbold, R. Skeie, K. Sudo, T. Takemura, D. Bergmann, P. Cameron-Smith, I. Cionni, R. M. Doherty, V. Eyring, B. Josse, I. MacKenzie, D. Plummer, M. Righi, D. S. Stevenson, S. Strode, S. Szopa, G. Zeng 'The effect of future outdoor air pollution on human health and the contribution of climate change' AGU Fall Meeting, San Francisco, CA, December 2013.

Zhang, Y., J. Bowden, Z. Adelman, V. Naik, L. W. Horowitz, **J. J. West** 'The co-benefits of domestic and foreign GHG mitigation on US air quality' AGU Fall Meeting, San Francisco, CA, December 2013.

Woody, M., S. Arunachalam, **J. J. West**, H.-S. Wong 'An integrated multiscale framework to model aerosol formation from aircraft emissions from plume-scales to grid-scales' CMAS Conference, October. 2013, Chapel Hill, NC.

Becker, D., **J. J. West**, K. Yeatts, S. Arunachalam 'Assessing the future human health impacts of air pollution and heat events attributable to anthropogenic emissions and global climate change' CMAS Conference, October 2013, Chapel Hill, NC.

Silva, R., **J. J. West**, Y. Zhang, S. C. Anenberg, J.-F. Lamarque, D. T. Shindell, ACCMIP modelers 'Global premature mortality due to ozone and PM2.5 outdoor air pollution and the contribution of climate change' CMAS Conference, October 2013, Chapel Hill, NC.

Zhang, Y., J. Bowden, Z. Adelman, **J. J. West** 'The co-benefits of GHG mitigation for air quality in the US' CMAS Conference, October 2013, Chapel Hill, NC.

McCann, J., **J. J. West**, S. Blumsack, W. Vizuete, C. Barrows 'Adjusting electricity generation to avoid daily exceedances of the ozone air quality standard' AWMA Annual Meeting, June 2013, Chicago, IL.

Cameron, C., W. Yelverton, R. Dodder, **J. J. West** 'The impact of CO_2 emission reduction on US electric sector water use' Water Resources Research Institute of the UNC System Annual Conference, Raleigh, NC, March 2013.

Adelman, Z. A., **J. J. West**, M. Fry 'Background air quality in South America under current and future emissions scenarios' 1st Annual CMAS South America Conference, Sao Paulo, Brazil, February 2013.

Silva, R., **J. J. West**, S. Anenberg, J. F. Lamarque, D. T. Shindell, D. J. Bergmann, T. Berntsen, P. J. Cameron-Smith, W. Collins, S. J. Ghan, B. Josse, T. Nagashima, V. Naik, D. Plummer, J. M. Rodriguez, S. Szopa, G. Zeng 'The impact of past and future climate change on global human mortality due to ozone and PM2.5 outdoor air pollution' AGU Fall Meeting, San Francisco, CA, December 2012.

Fry, M. M., M. D. Schwarzkopf, Z. Adelman, V. Naik, W. J. Collins, **J. J. West** 'Net radiative forcing responsed to regional CO and NMVOC reductions' AGU Fall Meeting, San Francisco, CA, December 2012.

Woody, M. C., S. Arunachalam, F. Binkowski, **J. J. West**, S. Jathar, A. L. Robinson 'Simulating the contributions from aircraft emissions to organic aerosols using the volatility basis set' AGU Fall Meeting, San Francisco, CA, December 2012.

Woody, M., S. Arunachalam, **J. J. West**, F. C. Binkowski, B. H. Baek, S. Jathar, A. Robinson 'Aircraft emissions contribution to organic aerosols using the Volatility Basis Set' CMAS Conference, October 2012, Chapel Hill, NC.

Conference Presentations (cont.)

Silva, R. A., S. C. Anenberg, **J. J. West**, J.-F. Lamarque, D. T. Shindell, D. Bergmann, T. K. Berntsen, P. Cameron-Smith, W. J. Collins, S. J. Ghan, B. Josse, T. Nagashima, V. Naik, D. Plummer, J. M. Rodriguez, S. Szopa, G. Zeng 'The impact of projected future emissions on global human mortality due to ozone and $PM_{2.5}$ outdoor air pollution' CMAS Conference, October 2012, Chapel Hill, NC.

Zhang, Y., **J. J. West**, M. M. Fry, R. A. Silva, S. J. Smith, V. Naik, Z. Adelman, S. C. Anenberg, L. W. Horowitz, J.-F. Lamarque, L. Emmons 'Effect of changes in emissions and climate change on global air quality: A study of the air quality co-benefits of GHG mitigation' CMAS Conference, October 2012, Chapel Hill, NC.

Cameron, C., W. Yelverton, R. Dodder, **J. J. West** 'The impact of CO_2 emission reduction on US electric sector water use' CMAS Conference, October 2012, Chapel Hill, NC.

Fry, M. M., M. D. Schwarzkopf, Z. Adelman, V. Naik, W. J. Collins, **J. J. West** ' Global net radiative forcing responses to regional CO and NMVOC reductions' CMAS Conference, October 2012, Chapel Hill, NC.

West, J. J., S. J. Smith, R. A. Silva, Z. Adelman, M. M. Fry, S. C. Anenberg, L. W. Horowitz, V. Naik, J.-F. Lamarque, L. Emmons, P. Kyle 'Co-benefits of global greenhouse gas mitigation for air quality and human health via two mechanisms' International Society for Environmental Epidemiology, August 2012, Columbia, SC.

Silva, R. A., S. C. Anenberg, **J. J. West**, J.-F. Lamarque, D. T. Shindell, D. Bergmann, T. K. Berntsen, P. Cameron-Smith, W. J. Collins, S. J. Ghan, B. Josse, T. Nagashima, V. Naik, D. Plummer, J. M. Rodriguez, S. Szopa, G. Zeng 'The impact of projected future air pollutant emissions on global human mortality' International Society for Environmental Epidemiology, August 2012, Columbia, SC.

Tinling, M., **J. J. West**, A. G. Rappold 'Cardiopulmonary emergency department visits associated with smoke exposure: 2011 Pains Bay Wildfire, NC' Council of State and Territorial Epidemiologists Annual Conference, June 2012, Omaha, NE.

Montanez, J., D. Loughlin, C. Gage, B. Hubbell, **J. J. West** 'Impacts of future climate change on US energy demands and associated emissions' Energy, Utility & Environment Conference, January 2012, Phoenix, AZ.

West, J. J., S. J. Smith, R. A. Silva, Z. Adelman, M. M. Fry, S. C. Anenberg, L. W. Horowitz, V. Naik, J.-F. Lamarque, L. Emmons, P. Kyle 'Co-benefits of global greenhouse gas mitigation for air quality and human health via two mechanisms' AGU Fall Meeting, December 2011, San Francisco, CA.

Henderson, B. H., R. W. Pinder, **J. J. West**, W. Vizuete 'Uncertain chemistry: implications for hemispheric transport' AGU Fall Meeting, December 2011, San Francisco, CA.

Fry, M. M., Z. Adelman, **J. J. West** 'Global and regional air quality responses to regional CO reductions' AGU Fall Meeting, December 2011, San Francisco, CA.

Anenberg, S. C., **J. J. West**, M. Schulz, H. Bian, T. Diehl, R. Doherty, A. Fiore, P. Hess, J. E. Jonson, R. Park, D. Shindell, T. Takemura 'Impacts of intercontinental transport of aerosols on human mortality' AGU Fall Meeting, December 2011, San Francisco, CA.

Woody, M., J. Rissman, F. Binkowski, **J. J. West**, S. Arunachalam 'An enhanced sub-grid scale approach to characterize air quality impacts of aircraft emissions at the Hartsfield-Jackson Atlanta International Airport' CMAS Conference, October 2011,Chapel Hill, NC.

Blayney, E. M., **J. J. West** 'Premature mortality attributable to ozone and $PM_{2.5}$ exposure in the US: the effect of grid size on health burden estimates' CMAS Conference, October 2011,Chapel Hill, NC.

Silva, R., Z. Adelman, M. Fry, S. C. Anenberg, **J. J. West** 'The contribution of anthropogenic emissions sectors to the global burden of human mortality due to ozone and particulate matter air pollution' CMAS Conference, October 2011,Chapel Hill, NC.

Fry, M. M., **J. J. West**, Z. Adelman, P. Dolwick, C. Jang 'Global and regional air quality responses to regional CO and NMVOC reductions' CMAS Conference, October 2011,Chapel Hill, NC.

Conference Presentations (cont.)

Albuquerque, T., **J. J. West**, R. Y. Ynoue, M. de F. Andrade 'PM$_{2.5}$ mass response to precursor emission reductions over Sao Paulo State, Brazil' CMAS Conference, October 2011,Chapel Hill, NC.

Adelman, Z., M. Fry, **J. West** 'Background air quality in the United States under current and future emissions scenarios' CMAS Conference, October 2011, Chapel Hill, NC.

Werner, C., B. H. Baek, M. Omary, Z. Adelman, S. Arunachalam, **J. J. West** 'US air quality impacts of nationwide extension of the California Air Resources Board (CARB) in-use off-road diesel vehicle regulations' CMAS Conference, October 2011,Chapel Hill, NC.

Tinling, M., M. Labbock, **J. J. West** 'Greenhouse gas emissions of infant formula production: a lifecycle approach' One Asia Breastfeeding Partners Forum, September 2011, Ulanbataar, Mongolia. (Tinling was invited speaker)

Fry, M., V. Naik, **J. J. West**, M. D. Schwarzkopf, A. M. Fiore, and TF HTAP Modeling Team 'The influence of short-lived ozone precursor emissions on radiative climate forcing' AGU Fall Meeting, December 2010, San Francisco, CA.

Anenberg, S. C., **J. J. West**, K. Talgo, P. Dolwick, C. Jang, S. Arunachalam 'Impacts of global, regional, and sectoral black carbon emission reductions on surface air quality and premature mortality' AGU Fall Meeting, December 2010, San Francisco, CA. (*Received Outstanding Student Paper Award*)

Werner, C., S. Arunachalam, **J. J. West** 'US air quality impacts of particulate filter retrofits on non-road diesel engines' CMAS Conference, October 2010, Chapel Hill, NC.

Rissman, J., S. Arunachalam, M. Woody, **J. J. West** 'Evaluating the impact of the US EPA's proposed revisions to the SO_2, NO_2, O_3, and $PM_{2.5}$ primary standards on the US aviation sector' CMAS Conference, October 2010, Chapel Hill, NC.

Woody, M., S. Arunachalam, **J. J. West**, and U. Shankar 'A comparison of CMAQ predicted contributions to $PM_{2.5}$ from aircraft emissions to CMAQ results post processed using the speciated modeled attainment test' CMAS Conference, October 2010, Chapel Hill, NC.

Anenberg, S. C., K. Talgo, P. Dolwick, C. Jang, S. Arunachalam, **J. J. West** 'Sensitivity of surface air quality and human mortality to global, regional, and sectoral black carbon emissions' CMAS Conference, October 2010, Chapel Hill, NC.

Fry, M. M., V. Naik, **J. J. West**, M. D. Schwarzkopf, A. M. Fiore, and the TF HTAP Modeling Team 'The influence of short-lived ozone precursor emissions on radiative climate forcing by ozone and methane' CMAS Conference, October 2010, Chapel Hill, NC.

Montanez, J., B. Hubbell, **J. J. West** 'The effects of future climate change on the United States energy sector' CMAS Conference, October 2010, Chapel Hill, NC.

Albuquerque, T., **J. J. West**, R. Y. Ynoue, M. de F. Andrade 'Inorganic aerosols response to SO_2 emissions reductions in the Metropolitan Area of Sao Paulo, Brazil' CMAS Conference, October 2010, Chapel Hill, NC.

Kunhikrishnan T., N. Davis, A. Xiu, Z. Adelman, W. Vizuete, **J. West** 'Windblown dust and air quality over the United Arab Emirates based on observations from multiple satellites and WRF model simulations' Fifth International Symposium on Computational Wind Engineering, May, 2010, Chapel Hill, NC.

Anenberg, S. C., K. Talgo, **J. J. West** 'Impacts of global and US black carbon emission reductions on human mortality' American Association for Aerosol Research Specialty Conference, March 2010, San Diego, CA.

Anenberg, S. C., L. W. Horowitz, D. Q. Tong, **J. J. West** 'Estimating the global burden of mortality due to outdoor air pollution using atmospheric modeling' American Association for Aerosol Research Specialty Conference, March 2010, San Diego, CA.

Conference Presentations (cont.)

Farooqui, Z., W. Vizuete, U. Shankar, S. Arunachalam, N. Davis, **J. J. West** 'Assessment of dust storms with UAE using observational data and CMAQ-WRF modeling framework' CMAS Conference, October 2009, Chapel Hill, NC.

Kunhikrishnan, T., N. Davis, C. Davidson, A. Xiu, **J. J. West**, W. Vizuete 'Sources, distribution and transport of aerosols over UAE based on multiple satellites, ground measurements and WRF model' CMAS Conference, October 2009, Chapel Hill, NC.

Albuquerque, T., **J. J. West**, R. Y. Ynoue, E. S. do Nacimiento, M. de F. Andrade 'Inorganic particle behavior in the Metropolitan Area of Sao Paulo, Brazil' CMAS Conference, October 2009, Chapel Hill, NC.

Montanez, J., D. Loughlin, B. Hubbell, **J. J. West** 'The effects of future climate change on the United States energy sector' CMAS Conference, October 2009, Chapel Hill, NC.

Anenberg, S. C., **J. J. West**, A. M. Fiore, D. A. Jaffe, M. J. Prather, D. Bergmann, C. Cuvelier, F. J. Dentener, B. N. Duncan, M. Gauss, P. Hess, J. E. Jonson, A. Lupu, I. A. MacKenzie, E. Marmer, R. J. Park, M. Sanderson, M. Schultz, D. T. Shindell, S. Szopa, M. Garcia Vivanco, O. Wild, G. Zeng 'Intercontinental impacts of ozone pollution on human mortality' CMAS Conference, October 2009, Chapel Hill, NC.

West, J. J. 'Benefits of methane control on air quality and public health' CAST-NC Environment Group, 4th China Environment Forum, February 2009, Research Triangle Park, NC.

Casper, S., **J. J. West**, D. Tong, L. W. Horowitz 'The global burden of anthropogenic ozone and particulate matter air pollution on premature human mortality' ISEE/ISEA, October 2008, Pasadena, CA.

West, J. J., V. Naik, L. W. Horowitz, A. M. Fiore 'Effect of regional NO_x emission controls on the long-range transport of ozone air pollution and human mortality' CMAS Conference, October 2008, Chapel Hill, NC.

Casper, S., **J. J. West**, D. Tong, L. W. Horowitz 'The global burden of anthropogenic ozone and particulate matter air pollution on premature human mortality' CMAS Conference, October 2008, Chapel Hill, NC.

Lewis, J., D. Del Vecchio, A. Eyth, **J. J. West** 'Modeling control strategies for simultaneous air pollution and greenhouse gas reduction in the US cement industry' CMAS Conference, October 2008, Chapel Hill, NC.

Casper, S., **J. J. West**, D. Tong, L. W. Horowitz 'The global burden of anthropogenic ozone and particulate matter air pollution on premature human mortality' Atmospheric Chemistry, Climate, and Transboundary Air Pollution Workshop, Task Force on Hemispheric Transport of Air Pollution, June 2008, Washington, DC.

Duncan, B. N., **J. J. West**, Y. Yoshida, A. Fiore, J. Ziemke 'The influence of European pollution on ozone in the Near East and northern Africa' AGU Joint Assembly, May 2008, Ft. Lauderdale, FL.

West, J. J., V. Naik, L. W. Horowitz, A. M. Fiore 'Effect of regional NO_x emission controls on the long-range transport of ozone air pollution and human mortality' Air Pollution in a Changing World Symposium, April 2008, Raleigh, NC.

West, J. J., S. J. Smith, L. Emmons, L. W. Horowitz 'Future air quality in representative concentration pathway scenarios: relationship between economic wellbeing and air quality' CMAS Conference, October 2009, Chapel Hill, NC.

Casper, S., **J. J. West**, D. Tong, L. W. Horowitz 'The global burden of anthropogenic ozone and particulate matter air pollution on premature human mortality' 40th Air Pollution Workshop, April 2008, Raleigh, NC. (*First place award for best student poster*)

West, J. J., V. Naik, L. W. Horowitz, A. M. Fiore 'Effect of NO_x emission controls from world regions on the long-range transport of ozone air pollution and human mortality' AGU Fall Meeting, December 2007, San Francisco, CA.

Conference Presentations (cont.)

Fiore, A. M., **J. J. West**, L. W. Horowitz, 'Connecting climate and air quality: tropospheric ozone response to methane emission controls' AGU Fall Meeting, #A21E-0863, December 2006, San Francisco, CA.

West, J. J., A. M. Fiore, N. Naik, L. W. Horowitz, M. D. Schwarzkopf, D. L. Mauzerall 'Ozone air quality and radiative forcing consequences of changes in ozone precursor emissions' CACGP/IGAC Conference, September 2006, Cape Town, SA.

West, J. J., V. Naik, L. W. Horowitz, D. L. Mauzerall 'Long-range transport of ozone air pollution: effect of NO_x emission controls from world regions' CACGP/IGAC Conference, September 2006, Cape Town, SA.

West, J. J., A. M. Fiore, L. W. Horowitz, D. L. Mauzerall 'Ozone air quality management by reducing methane emissions: global health benefits' CACGP/IGAC Conference, September 2006, Cape Town, SA.

West, J. J., A. M. Fiore, L. W. Horowitz, D. L. Mauzerall 'Ozone air quality management by reducing methane emissions: global health benefits' UN ECE Hemispheric Transport of Air Pollutants, Model Intercomparison Workshop, January 2006, Washington, DC.

West, J. J., V. Naik, L. W. Horowitz, D. L. Mauzerall 'Ozone long-range transport: effect of regional NO_x emission controls' UN ECE Hemispheric Transport of Air Pollutants, Model Intercomparison Workshop, January 2006, Washington, DC.

Fiore, A. M., L. W. Horowitz, E. Dlugokencky, **J. J. West** 'Atmospheric methane distribution, trend, and linkage with surface ozone' UN ECE Hemispheric Transport of Air Pollutants, Model Intercomparison Workshop, January 2006, Washington, DC.

Sillman, S., J. E. Penner, F. Marsik, K. Al-Wali, G. J. Keeler, M. S. Landis, **J. J. West** 'Tropospheric photochemistry modeling: 1. Global impact of isoprene nitrate 2. Ozone and secondary species in Mexico City 3. Ozone and reactive mercury' UN ECE Hemispheric Transport of Air Pollutants, Model Intercomparison Workshop, January 2006, Washington, DC.

Fiore, A. M., L. W. Horowitz, E. Dlugokencky, **J. J. West** 'Biogenic contributions to methane trends from 1990 to 2004' First Integrated Land Ecosystem – Atmosphere Processes Study, January 2006, Boulder, CO.

West, J. J., A. M. Fiore, L. W. Horowitz, D. L. Mauzerall 'Control of methane emissions for ozone air quality: global health benefits,' MOZART Users' Meeting, August 2005, Boulder, CO.

West, J. J., A. M. Fiore, L. W. Horowitz, D. L. Mauzerall 'Global health benefits from reductions in background tropospheric ozone due to methane emission controls,' AGU 2005 Joint Assembly, #A51B-06, May 2005, New Orleans, LA.

West, J. J., A. M. Fiore 'Reducing tropospheric ozone through methane mitigation: costs and benefits,' American Geophysical Union Fall Meeting, #A23A-0770, December 2004, San Francisco, CA.

West, J. J., 'Estimates of changes in PM and ozone concentrations due to changes in emissions: a review of methods,' Workshop on Promoting Public Health Assessment in Energy and Environmental Planning, July 2004, Sao Paulo, Brazil.

West, J. J., M. Zavala, G. Sosa, F. San Martini, J. L. Arriaga-Colina 'Modeling ozone chemistry and sensitivity to emissions of NO_X and VOCs in Mexico City,' Better Air Quality 2003, December 2003, Manila, Philippines.

West, J. J., P. Osnaya, I. Laguna, J. Martinez, A. Fernandez 'Co-control of urban air pollutants and greenhouse gases in Mexico City,' Better Air Quality 2003, December 2003, Manila, Philippines.

West, J. J. 'Ozone and particulate modeling for air quality management in the US and Mexico,' China Air Quality Modeling Assessment Workshop, November 2003, Beijing, China.

Keating, T., **J. J. West** 'Long-range transport of air pollution,' Energy Analysis Forum, Understanding US Strategic Interests in Expanding Renewable Energy Systems Worldwide, June 2003, Arlington, VA.

Conference Presentations (cont.)

West, J. J., S. Edgerton, H. Martinez, E. Vega 'Conceptual description of PM over Mexico City,' American Association for Aerosol Research, PM Conference, April 2003, Pittsburgh, PA.

West, J. J., P. Osnaya, I. Laguna, J. Martinez 'Co-control of urban air pollutants and greenhouse gases in Mexico City,' US-Mexico Workshop on Energy, Economic, and Environmental Modeling, Universidad Autonoma Metropolitana, November 2002, Mexico City.

West, J. J., M. Zavala, L. T. Molina, M. J. Molina, G. Sosa, J. L. Arriaga 'Modeling of the formation of ozone and its sensitivity to changes in emissions of VOCs and NO_X in Mexico City,' 4th Symposium on Air Pollution, Colegio Nacional, November 2002, Mexico City (in Spanish).

San Martini, F. M., **J. J. West**, G. J. McRae 'The role of crustal species and salt hydrates and complexes on the response of inorganic PM to precursor concentrations' American Institute of Chemical Engineers 2002 Annual Meeting, November 2002, Indianapolis, IN.

West, J. J., M. Zavala, G. Sosa, F. San Martini, B. de Foy, J. L. Arriaga, G. McRae, L. T. Molina, M. J. Molina 'Modeling ozone chemistry in Mexico City: are hydrocarbon emissions underestimated?' Germany-US Workshop on Ozone and Particles: Science and Policy, October, 2002, Bad Breisig, Germany.

West, J. J., P. Osnaya, I. Laguna, J. Martinez 'Co-control of urban air pollutants and greenhouse gases in Mexico City,' Workshop on Co-control of Urban Air Pollutants and Greenhouse Gases, SEMARNAT, August 2002, Mexico City (in Spanish).

West, J. J., M. Zavala, G. Sosa, F. San Martini, B. de Foy, G. McRae, L. T. Molina, M. J. Molina 'Modeling ozone chemistry in Mexico City: are hydrocarbon emissions underestimated?' Fifth US-Mexico Workshop on Mexico City Air Pollution, January 2002, Ixtapan de la Sal, Mexico.

West, J. J., F. San Martini, G. Sosa, M. Zavala, L. T. Molina, M. J. Molina 'Evaluating inorganic PM controls in Mexico City: development and application of the Marginal PM Method' American Association for Aerosol Research, October 2001, Portland, OR.

West, J. J., F. San Martini, G. Sosa, L. T. Molina, M. J. Molina **'**Analysis and modeling of air quality for informing decisions' Fourth US-Mexico Workshop on Mexico City Air Pollution, March 2001, Mexico City.

Sosa, G., **J. J. West**, F. San Martini, M. J. Molina, L. T. Molina 'Modeling of inorganic and organic aerosols in Mexico City' NARSTO Symposium on Tropospheric Aerosols, October 2000, Querétaro, Mexico.

West, J. J., G. Sosa, M. J. Molina, L. T. Molina, G. McRae **'**Air pollution science in Mexico City: understanding source-receptor relationships for informing decisions' Second US-Mexico Joint Workshop on Mexico City Air Pollution, January 2000, Cambridge, MA.

West, J. J., A. S. Ansari, S. N. Pandis 'Marginal $PM_{2.5}$: nonlinear aerosol mass response to sulfate reductions in the eastern US' Air & Waste Management Association, June 1999, St. Louis, MO.

Ansari, A. S., **J. J. West**, S. N. Pandis 'Marginal $PM_{2.5}$ – nonlinear response to sulfate reductions' Fifth International Aerosol Conference, September 1998, Edinburgh, Scotland.

West, J. J., C. Pilinis, S. N. Pandis 'Sulfate-nitrate-ammonium nonlinearity – relevance for radiative forcing and estimates of marginal forcing' CACGP/IGAC Conference on Global Atmospheric Chemistry, August 1998, Seattle, WA.

West, J. J., C. Pilinis, A. S. Ansari, S. N. Pandis 'Geographic variability of marginal direct climate forcing by atmospheric aerosols' American Association for Aerosol Research, June 1998, Cincinnati, OH.

Ansari, A. S., **J. J. West**, S. N. Pandis 'Chemical thermodynamics and the formation of secondary particulate matter' Air & Waste Management Association International Specialty Conference on $PM_{2.5}$: A Fine Particle Standard, January 1998, Long Beach, CA.

West, J. J., S. N. Pandis, C. Pilinis, A. Nenes 'Marginal direct climate forcing by atmospheric aerosols' American Association for Aerosol Research, October 1997, Denver, CO.

Conference Presentations (cont.)

West, J. J., S. N. Pandis, C. Pilinis, A. Nenes 'Marginal direct climate forcing by atmospheric aerosols' Air & Waste Management Association Conference on Visual Air Quality: Aerosols and Global Radiation Balance, September 1997, Bartlett, NH.

West, J. J., H. Dowlatabadi 'Human agency, storms, and the economic impacts of sea level rise' Open Meeting of the Human Dimensions of Global Environ. Change Research Community, June 1997, Laxenburg, Austria.

Small, M. J., H. Dowlatabadi, S. Pandis, R. Sonnenblick, **J. J. West** 'Global climate change, air pollution, and human health' Society for Occupational and Environmental Health, National Institutes of Health, March 6, 1997, Bethesda, MD.

Dowlatabadi, H., **J. J. West** 'The limits of adaptation: economic impacts of sea level rise' US EPA Climate Science and Impacts Seminar Series, January 1997, Washington, DC.

West, J. J., S. N. Pandis, C. Pilinis, A. Nenes 'Estimates of the geographically-variable marginal direct climate forcing by atmospheric aerosols' American Association for Aerosol Research, October 1996, Orlando, FL.

US Congressional Briefing

US Congressional Briefing, "It's not just about climate change: how reducing methane emissions can improve air quality and global public health" with D. Mauzerall, D. Reifsnyder, and D. Kruger, May 8, 2006.

Public Presentations on Climate Change and Air Quality

Chatham County Democratic Party, online (July 2020)

Raleigh Women's Club, Raleigh, NC (February 2020)

World View, UNC, for community college instructors, Chapel Hill, NC (November 2019)

Shared Learning, Chapel Hill, NC (October 2019)

World View, UNC, for K-12 teachers and administrators, Chapel Hill, NC (October 2019)

Climate Change Reporting Workshop, for journalists, Chapel Hill, NC (September 2019)

Center for Energy Education, Roanoke Rapids, NC (January 2019)

Wells Fargo Employees' Green Team, online (December 2018)

UNC Climate Leadership and Energy Awareness Program (July 2017)

Raleigh Jewish Community Center, Raleigh, NC (April 2017)

TRU Science Café, Chapel Hill, NC (April 2017)

Hawbridge School, Saxapahaw, NC (April 2017)

Triangle Resilience Student Research Symposium, Chapel Hill, NC (April 2017)

UNC 4th Climate Change Symposium (March 2017)

UNC SHAPE (high school physics teachers) (March 2017)

UNC Scholars Engagement Fund (February 2017)

Science Café, UNC Morehead Planetarium, Chapel Hill, NC (January 2017)

Fearrington "Great Decisions", Pittsboro, NC (May 2016)

Raleigh Women's Club, Raleigh, NC (February 2016)

World Vision, UNC, for K-12 teachers and administrators, Chapel Hill, NC (October 2015)

Science Café, North Carolina Museum of Natural Sciences, Raleigh, NC (July 2015)

Kathleen Clay Edwards Family Branch Library and greenfaith.org, Greensboro, NC (April 2015)

North Carolina Religion and Climate Conference, Raleigh, NC (October 2014)

UNC Hospital Retirees, Chapel Hill, NC (October 2014)

Public Presentations on Climate Change and Air Quality (cont.)

Charlotte University City Library, Charlotte, NC (September 2014)
UNC Climate & Air Quality Education Workshop (for high school science teachers) (September 2014)
UNC-Duke China Symposium, (March 2014)
Rockingham Community College, Wentworth, NC (March 2014)
NC Climate Fellows (workshop for high school science teachers), Chapel Hill, NC (June 2013)
Climate Change Education Symposium, North Carolina Central Univ., Durham, NC (December 2012)
Chapel of the Cross, Chapel Hill, NC (September 2011)
UNC Climate Leadership and Energy Awareness Program (August 2011)
Chapel Hill Rotary, Chapel Hill, NC (March 2011)
Triangle Global Health Consortium, Durham, NC (January 2011)
UNC Climate Leadership and Energy Awareness Program (July 2010)
Sheikh Zayed Private Academy, Abu Dhabi, United Arab Emirates (April 2010)
Lakeside Summer Speakers Series, Lakeside, OH (June 2009)
West Triangle United Nations Association, Chapel Hill, NC (September 2008)
Duke-UNC Global Health Dinner (April 2008)
UNC "Focus the Nation" Global Warming Action Day (January 2008)
UNC Science Symposium (December 2007)
Lakeside Summer Speakers Series, Lakeside, OH (August 2007)
North Carolina Governor's School, Raleigh, NC (July 2007)
Washington Internships for Students of Engineering, Washington, DC (July 2004)

TEACHING ACTIVITIES

Courses Taught

ENVR 475 / 775, Global Climate Change: Interdisciplinary Perspectives, 1 credit hour, *Instructor*
- Spring 2021, 475 - 26 students, 775 - 29 students
- Spring 2020, 475 - 38 students, 775 - 22 students
- Spring 2019, 475 - 41 students, 775 - 22 students
- Fall 2017, 475 - 40 students, 775 - 12 students
- Fall 2016, 475 - 51 students, 775 - 6 students

ENVR 575 (previously 890-008), Global Climate Change: Science, Impacts, Solutions, 3 credit hours, *Instructor*
- Spring 2018, 18 students
- Spring 2015, 12 students
- Spring 2013, 9 students
- Spring 2012, 8 students
- Spring 2011, 8 students
- Spring 2010, 13 students
- Spring 2009, 6 students
- Spring 2008, 8 students

Courses Taught (cont.)

ENVR 675 (previously 890-009), Air Pollution Chemistry and Physics, 3 credit hours, *Instructor*
- Fall 2020, 11 students
- Fall 2019, 6 students
- Fall 2018, 5 students
- Fall 2017, 5 students
- Fall 2016, 9 students
- Fall 2015, 5 students
- Fall 2014, 5 students
- Fall 2012, 5 students
- Fall 2011, 12 students
- Fall 2010, 8 students
- Fall 2009, 8 students

ENVR 890-007, Methods of Environmental Decision Analysis, 3 credit hours, *Co-Instructor* (with Jacqueline MacDonald)
- Fall 2008, 17 students

ENVR 403, Environmental Chemistry, 3 credit hours, *Co-Instructor* (3 lectures on climate change and assigned homework)
- Spring 2015, 9 students
- Spring 2014, 12 students
- Spring 2013, 10 students
- Spring 2012, 15 students

ENVR 890-004, Setting Environmental Priorities, 3 credit hours, *Co-Instructor* (3 lectures on climate change and advised students on term paper)
- Spring 2013, 5 students
- Fall 2009, 5 students
- Fall 2008, 10 students
- Fall 2007, 8 students

ENVR 401, Unifying Concepts, 3 credit hours, *Instructor* for 3-week Module
- Spring 2011, 6 students
- Spring 2010, 13 students
- Spring 2009, 26 students

Other guest lectures:
- SPHG 351, Foundations of Public Health, 2019.
- ENVR 500, Environmental Processes, Exposure and Risk Assessment (2 lectures), 2018, 2019.
- Duke Univ., Decisions on the Risks and Benefits of Geoengineering the Climate, 2019.
- EPID 785, Environmental Epidemiology, 2009, 2013, 2014, 2016, 2017, 2018, 2020.
- ENVR 601, Epidemiology for Environmental Scientists, 2012.
- ENVR 403, Environmental Chemistry, 2009, 2010.
- PLCY / ENST 480, Environmental Decision Making, 2009, 2010.
- ENVR 461, Environmental Systems Modeling, 2010.
- Duke Univ. ENVIRON 330, Energy and Environment, 2007.

Students Supervised

All in University of North Carolina, Department of Environmental Sciences and Engineering, unless otherwise noted:

Huazhen Liu - PhD, in progress

Stephanie Cleland - PhD, in progress, co-supervised with Ana Rappold

Surendra Kunwar - PhD, in progress

Kathleen Mulvaney - PhD, degree not completed 2019

Yang Ou - PhD, 2019, "Application of an Integrated Assessment Model, With US State-Level Resolution to Study National and Regional Air Pollution Control and Human Health", co-supervised with Dan Loughlin

Ciao Kai Liang - PhD, 2018, "The Impact of Air Pollutant Transport on Air Quality and Human Health in Global and Regional Model Applications"

Melissa Buechlein - PhD, advised 2016-7, changed to having Marc Serre as her main advisor 2017

Zachariah Adelman - PhD, degree not completed 2017

Yuqiang Zhang - PhD, 2016, "Application of Chemical Transport Models to Study Global and Regional Air Quality and Human Health"

Raquel A. Silva - PhD, 2015, "Climate Change, Air Quality and Human Health: Quantifying the Global Mortality Impacts of Present and Future Ozone and $PM_{2.5}$ Ambient Air Pollution"

Matthew Woody - PhD, 2014, "On Enhancing Air Quality Model Predictions of Particulate Matter from Aircraft Emissions", co-supervised with Sarav Arunachalam

Meridith M. Fry - PhD, 2013, "The Impacts of Short-Lived Ozone Precursors on Climate and Air Quality"

Susan B. Casper Anenberg - PhD, 2011, "Using Atmospheric Models to Estimate Global Air Pollution Mortality"

Schuyler DeBree – MS, in progress

Revathi Muralidharan – MS, in progress

Jacob Becker – MS, in progress

Ruozhang (Tammy) Xu – MSPH, 2020, "The Effect of Grid Resolution on the Global Mortality Burden of Fine Particulate Matter and Ozone"

Marissa DeLang – MSEE, 2020, "Mapping Yearly Fine Resolution Global Surface Ozone Through the BME Data Fusion of Observations and Model Output for 1990-2017"

Stephanie Cleland – MSPH, 2020, "Estimating Wildfire Smoke Concentrations During the October 2017 California Fires Through BME Space/Time Data Fusion of Observed, Modeled, and Satellite-Derived $PM_{2.5}$" co-supervised with Marc Serre

Omar Nawaz - MS, 2018, "Benefits of Reduced Premature Mortality from Decreases in $PM_{2.5}$ and Ozone in the United States from 1999 to 2015"

Anne Corrigan - MS, 2017, "The Association Between Reduction in $PM_{2.5}$ and Improvement in Health" co-supervised with Ana Rappold

Kristin Reed - MSPH, changed majors in 2016

Jenna Hunter Hartley - MS, 2016, "Spatial and Temporal Patterns of Gastrointestinal Illness and Their Relationship with Precipitation Across the State of North Carolina" co-supervised with Charles Konrad

Doug Becker - MS, 2014, "The Human Health Impacts of Future Changes in Air Quality and Temperature in the United States"

James McCann - MSEE, 2013, "Model Sensitivity of Ozone from Electrical Generation Emissions in the Northeastern US" co-supervised with William Vizuete

Students Supervised (cont.)

Jessica Montanez - MSEE, 2013, "Assessing the Impacts of Future Climate Change on the United States Energy Demands and Associated Emissions"

Colin Cameron - MS, 2013, "Impact of Future CO_2 Emission Reduction Targets on U.S. Electric Sector Water Use"

Elizabeth Blayney - MS, 2012, "Premature Mortalities Attributable to Ozone and Fine Particulate Matter Exposure: The Effect of Grid Size on Health Burden Estimates in the United States"

Christopher Werner - MSEE, 2012, "US Air Quality Impacts of Nationwide Extension of the In-use Off-Road Diesel Vehicle regulations Adopted by the California Environmental Protection Agency Air Resources Board (CARB)"

Melissa Tinling - MSPH, 2012, "Emergency Department Diagnoses in Eastern North Carolina Associated with Smoke Exposure from the 2011 Pains Bay Wildfire" co-supervised with Ana Rappold

Jeffrey Rissman – MS – MCRP jointly with City & Regional Planning, 2011, "Characterizing the Air Quality and Demographic Impacts of Aircraft Emissions at the Hartsfield-Jackson Atlanta International Airport", co-supervised with Sarav Arunachalam

Matthew Woody - MS, 2010, "An Investigation of the Impacts of Aviation Emissions on Current and Future Fine Particulate Matter in the U.S." co-supervised with Sarav Arunachalam

Jessica J. Lewis - MSPH, 2009, "Modeling Control Measures for Air Pollution and Greenhouse Gas Reduction in the US Cement Industry"

Susan B. Casper Anenberg - MS, 2008, "The Global Burden of Anthropogenic Ozone and Particulate Matter Air Pollution on Premature Human Mortality"

Nicole Egerstrom – undergraduate research project (ESE, 2020)

Duncan Quevedo – undergraduate research project (ESE, Applied Math dual major, 2019-20)

Jintong Wu – undergraduate research project (Environmental Science major, 2019-20)

Samuel Goldstein - undergraduate research project (ESE major, 2018)

Zach Walker - undergraduate research project (Physics major, 2017-8)

Elyssa Collins - undergraduate research project (Geoscience major, 2018-9)

Omar Nawaz - undergraduate research project (Physics major, 2016-7)

Sangeetha Kumar - undergraduate research project (Environmental Science major, completed a BS honors thesis, 2015, with Pam Jagger as her main advisor)

Melissa Tinling - BSPH honors thesis, 2011, "Lifecycle Assessment of Greenhouse Gas Emissions of Infant Formula"

Cordon Folds McGee - MS in Nutrition, co-supervised with Alice Ammerman on a short-term research project, 2009-2010

Postdoctoral Researchers Supervised

All in University of North Carolina, Department of Environmental Sciences and Engineering

Timothy Glotfelty (2017-pres.)

Kai-Lan Chang (2017-2018), postdoc at NOAA in Boulder, CO co-supervised with Owen Cooper

Yuqiang Zhang (2017)

Yasuyuki Akita (2014-15)

Evan Couzo (2013-14), co-supervised with William Vizuete

Kunhikrishnan Thengumthara (2008-9), co-supervised with William Vizuete

Zuber Farooqui (2008-10), co-supervised with William Vizuete

Visiting Researchers Supervised

In University of North Carolina, Deptartment of Environmental Sciences and Engineering

Taciana T. de A. Albuquerque (2008-9), PhD student at the University of Sao Paulo, Brazil (PhD in 2010).

Graduate Student Advisee Honors

Marissa DeLang, George C. Bunker Award (for top MSEE student), 2020

Stephanie Cleland, Environmental Sciences and Engineering Achievement Award (for top MS, MSPH, or MPH student), 2020.

Stephanie Cleland, 1st place student poster, CMAS Annual Meeting, 2019.

Yang Ou, UNC Graduate School Dissertation Completion Fellowship, 2019.

Yang Ou, 1st place student poster, UNC 6th Climate Change Symposium, 2019.

Omar Nawaz, 1st place student poster, UNC 5th Climate Change Symposium, 2018.

Kathleen Mulvaney, first recipient of the Donald and Jennifer Holzworth Premier Fellowship in Environmental Sciences & Engineering, 2017

Jenna Hunter Hartley, 2nd place student poster, UNC 3rd Climate Change Symposium, 2016.

Melissa Buechlein, UNC Duke Energy Fellowship, 2016.

Yuqiang Zhang, UNC Graduate School Transportation Grant, 2015.

Jenna Hunter, Koch Student Travel Award, UNC Gillings School of Global Public Health, 2015.

Raquel Silva, Best Poster Award, CMAS Annual Meeting, Chapel Hill, NC, 2014.

Yuqiang Zhang, Koch Student Travel Award, UNC Gillings School of Global Public Health, 2014.

Raquel Silva, UNC Graduate School Dissertation Completion Fellowship, 2014.

Raquel Silva, #2 most downloaded paper of 2013 with *Environmental Research Letters*.

Raquel Silva, UNC Graduate School Dissertation Completion Fellowship, 2014.

Raquel Silva, #2 most downloaded paper of 2013 with *Environmental Research Letters*.

Raquel Silva, Koch Student Travel Award, UNC Gillings School of Global Public Health, 2013.

James McCann, Student Travel Award, Triangle chapter of the Air & Waste Management Association, 2013.

James McCann, UNC Duke Energy Fellowship, 2013

Matthew Woody, First place in Hartman student paper competition, sponsored by the Partnership for Air Transportation Noise and Emissions Reduction, 2013

Matthew Woody, Third place in Hartman student paper competition, sponsored by the Partnership for Air Transportation Noise and Emissions Reduction, 2012

Jeffrey Rissman, Environmental Sciences and Engineering Achievement Award (for top MS, MSPH, or MPH student), 2011

Jeffrey Rissman, Louise Venable Coker Award for Best Master's Project, UNC Dept. of City and Regional Planning, 2011

Susan B. Casper Anenberg, Outstanding Student Paper Award, AGU Fall Meeting, 2010.

Meridith M. Fry, EPA NNEMS Fellowship for study at EPA Research Triangle Park labs, summer 2010.

Raquel Silva, Portuguese Foundation for Science and Technology (FCT) Graduate Student Fellowship, 2010-2013

Meridith M. Fry, EPA Science to Achieve Results (STAR) Fellowship for graduate study, 2010-2013.

Susan B. Casper Anenberg, Presidential Management Fellowship (supported the completion of her PhD, while working at EPA labs, and her work after completing her PhD), 2010-2012.

Jeffrey Rissman, Second place in Hartman student paper competition, sponsored by the Partnership for Air Transportation Noise and Emissions Reduction, 2010.

Matthew Woody, First place in Hartman student paper competition, sponsored by the Partnership for Air Transportation Noise and Emissions Reduction, 2010

Susan B. Casper Anenberg, US National Academies, Christine Mirzayan Science & Technology Policy Graduate Fellowship (supported 3 months at National Academies, Washington, DC), 2009

Graduate Student Advisee Honors (cont)

Susan B. Casper Anenberg, UNC School of Public Health student travel award, 2009
Susan B. Casper Anenberg, Environmental Sciences and Engineering Achievement Award (for top MS, MSPH, or MPH student), 2009
Matthew Woody, Honorable Mention in Hartman student paper competition, sponsored by the Partnership for Air Transportation Noise and Emissions Reduction, 2009
Jessica J. Lewis, EPA NNEMS Fellowship for study at EPA Research Triangle Park labs, summer 2008
Susan B. Casper Anenberg, EPA NNEMS Fellowship for study at EPA Research Triangle Park labs, summer 2008
Susan B. Casper Anenberg, First place, student poster competition, 40th Air Pollution Workshop, April 2008, Raleigh, NC

Thesis Committees

All in Univ. of North Carolina, Dept. of Environmental Sciences and Engineering, unless otherwise noted
Andrew Hamilton (PhD, in progress)
David Gorelick (PhD, in progress)
Ben Foster (PhD, in progress)
Kristen Downs (PhD, in progress)
Yufei Su (PhD, 2020)
Chitsan Wang (PhD, 2020)
Rachel Baum (PhD, 2019)
Uma Shankar (PhD, 2019)
Eliot Meyer (PhD, 2017)
Xiao Yang (PhD, 2016, UNC Geosciences)
Pradeepa Vennam (PhD, 2016)
Yadong Xu (PhD, 2016)
Chris Trent (PhD, degree not completed)
Limei Ran (PhD, 2016, UNC Curriculum for the Environment and Ecology)
Ya-Ru Li (PhD, 2014)
Nicole Hagan (PhD, 2014)
Jose Zavala (PhD, 2014)
Chidsanuphong Chart-Asa (PhD, 2013)
Cheolhung Cho (PhD, degree not completed)
Barron Henderson (PhD, 2011)
Marc Jeuland (PhD, 2009)
Elizabeth Pennington Naess (PhD, 2007)
Yufei Su (MS, 2016)
Yan Jin (MSEE, 2016)
Kesava Anirudh (MSEE, 2016)
Ben Foster (MS, 2013)
Caitlin Pierce Rubitschun (MSEE, 2012)
Edema Ojomo (MS, 2011)
Christopher Sandt (MSEE, 2011)
Yadong Xu (MS, 2011)

Thesis Committees (cont.)

Adeola Olatosi (MS, 2011)
Evan Couzo (MS, 2010)
Leslie Chinery (MS, 2010)
Elizabeth Stewart Harder (MS, 2010)
Elizabeth Christoph (MS, 2009)
Katherine Galloway (MS, 2008)
Barron Henderson (MS, 2007)
Sangeetha Kumar (BS honors thesis, Environmental Science, 2015)
Noah Kittner (BS honors thesis, Environmental Science, 2011)

CONTRACTS, GRANTS and GIFTS

total costs are shown (total direct costs for which West is responsible in parenthesis)

Active

"CNH2-L: The coupled co-evolving roles of drought and electricity systems in humans' exposure to air pollution" NSF grant #2009726, August 2020 – January 2024, $1,599,708, *Principal Investigator*.

"Health and Air Quality Applied Sciences Team: Using Science to Inform Management" NASA grant #NNX16AQ30G, August 2016 – August 2021, $746,773, *Principal Investigator*, including participation in 5 Tiger Team projects, serving as *Co-PI* on one Tiger Team.

"Energy Transitions and Environmental Change in East and Southern Africa's Coupled Human, Terrestrial, and Atmospheric Systems" NSF grant #1617359, August 2016 – August 2021, $1.6 million ($270,876), *Co-PI* (*PI: Pam Jagger, UNC*).

"Quantifying Risks from Changing US $PM_{2.5}$ Distributions due to Climate Variability and Warming with Large Multi-model Ensembles and High-resolution Downscaling" EPA STAR grant #RD83587801, February 2016 – February 2021, $788,625 ($211,569), *Co-PI* (*PI: Arlene Fiore, Columbia*).

Completed

"Climate Change and Future Air Pollution Mortality: Exploration of Scenarios and Benefits of Actions Using Global Atmospheric Modeling" NIEHS grant #1R21ES022600-01, June 2013 – May 2017, $408,672 ($275,000), *Principal Investigator*.

"Dynamic Electricity Generation for Addressing Daily Air Quality Exceedances in the US" EPA STAR grant #83521901, EPA-G2011-STAR-C2, June 2012 – May 2015, $250,000 ($205,397), *Principal Investigator*.

"Study of the Global Burden of Disease due to Outdoor Air Pollution Attributed to Specific Emissions Sectors" Unrestricted gift from the International Council on Clean Transportation, January 2011, $20,000, *Principal Investigator*.

"Extension of Global Modeling Efforts to Characterize Intercontinental Transport" EPA Contract EP-D-07-102, Work Assignment 4-11, October 2010 – September 2011, $99,993, *Principal Investigator*.

"Integrated Global Modeling of Health and Climate Impacts of Potential Air Quality Mitigation Measures" EPA Contract EP-D-07-102, Work Assignment 3-10, October 2009 – September 2010, $145,000, *Principal Investigator*.

"Analysis of the Co-benefits of Greenhouse Gas Abatement for Global and US Air Quality under Future Climate Scenarios" EPA STAR grant #83428501, EPA-G2008-STAR-J2, August 2009 – August 2013, $300,000 ($213,001), *Principal Investigator*.

"Planning for Global Modeling of Air Quality and Climate Impacts of Black Carbon and Ozone Precursor Control" EPA Contract EP-D-07-102, Work Assignment 2-11, May 2009 – September 2009, $10,000, *Principal Investigator*.

CONTRACTS, GRANTS and GIFTS (cont)

"Analysis of Bias Due to Model Resolution in Assessments of Global Premature Human Mortalities from Exposure to Outdoor Air Pollutants" UNC Center for Environmental Health & Susceptibility Pilot Project, April 2009 – March 2010, $35,000, *Principal Investigator*.

"Gillings Sustainable Agriculture Project: Public Health Impact of Moving Toward a Sustainable Food System in North Carolina" UNC Gillings Innovation Laboratory, November 2008 – November 2010, $409,000, *Investigator (PI: Alice Ammerman).*

"National Strategy for Environment and Health for the United Arab Emirates" June 2008 – May 2010, $12.1 Million, *Investigator and Co-Lead Investigator for Air Quality (PI: Jacqueline Macdonald)*.

"Simulation of Future Global Air Quality Under Energy Economic Scenarios" Subcontractor to Batelle Pacific Northwest Laboratory, April 2008 – September 2008, $30,002, *Principal Investigator*.

"The Influences of Regional Carbon Monoxide Emissions on Climate Forcing and the Inter-Continental Transport of Air Pollution" University of North Carolina, Junior Faculty Development Award, January 2008 – December 2008, $7,500, *Principal Investigator*.

"The Influences of Carbon Monoxide Emissions from World Regions on the Radiative Forcing of Climate and on the Long-range Transport of Ozone and Carbon Monoxide Air Pollution" University of North Carolina, University Research Council Award, December 2007 – November 2009, $3,500, *Principal Investigator*.

"Global Air Pollution Health Benefits of Future Emissions Scenarios" The Merck Foundation, October 2007 – September 2008, $36,693, *Principal Investigator*.

"Co-control of Urban Air Pollution and Greenhouse Gases in Mexico City" National Renewable Energy Laboratory Subcontract No. ADC-2-32409-01, February 2002 - February 2003, $26,000, *Subcontractor and Principal Investigator*.

PROFESSIONAL SERVICE

Service for Discipline

- Editor on Reviews Board of journal *Environmental Research Letters* (inaugural member of the Board for the Reviews section), 2015-present.
- Co-editor of journal *Atmospheric Chemistry and Physics*, 2012-present.
- Member of Scientific Steering Committee, International Commission on Atmospheric Chemistry and Global Pollution (www.icacgp.org/), 2010-2018.
- Lead for "Health Effects of Ozone and $PM_{2.5}$" working group, UNECE Task Force on Hemispheric Transport of Air Pollution, 2010-present.
- Chapter Lead Author (with Lisa Emberson) for *Hemispheric Transport of Air Pollution 2010 Assessment*, Part A: Ozone, Fine Particles, Acidification and Eutrophication, Chapter A5 on "Impacts", UNECE Task Force on Hemispheric Transport of Air Pollution, 2008-2010.
- Member of Climate Feedback (climatefeedback.org), which reviews journalism on climate change for scientific accuracy, 2017-present.
- Contributing Author for *Intergovernmental Panel on Climate Change 6th Assessment Report – Working Group II (Impacts and Adaptation)*, 2020-2021.
- Contributing Author for *Third National Climate Assessment Report*, US Global Change Research Program, 2012-2013.
- Expert Consultant for World Health Organization's *Global Platform on Air Quality and Health*, 2014-2018.
- Expert Panelist, National Academies of Sciences, Engineering, and Medicine, Board on Earth Sciences and Resources, Panel to advise the Pennsylvania Dept. of Environment on its use of science, 2016.

Service for Discipline (cont.)

- Meeting Organizer (with William Vizuete), Workshop to Design Future Air Quality Field Measurement Campaigns in the United Arab Emirates, Environment Agency Abu Dhabi, April 26-28, 2010, Abu Dhabi, UAE.
- Member of planning committee for meeting *Public Health and Climate Change: Focusing North Carolina Forward*, October 2013, Raleigh, NC, Research Triangle Environmental Health Collaborative.
- Expert Consultant and Author for EPA *Climate Multipollutant Science Document*, 2013.
- Co-chair of session on "Delivering Air Quality, Health, and Climate Co-benefits" *Intergovernmental Panel on Climate Change Cities Conference*, March 2018, Edmonton, Canada.
- Co-chair of session on "Air Quality, Climate, and Energy" *CMAS Conference*, October 2017, Chapel Hill, NC.
- Co-chair of session on "Planning for the Review of the Welfare Effects Evidence" *Workshop to Inform EPA's Review of the PM NAAQS*, February 2015, Research Triangle Park, NC.
- Co-chair of session on "Tropospheric Chemistry – Climate Interactions" *AGU Fall Meeting*, December 2014, San Francisco, CA.
- Co-chair of session on "Markers and Measurement of Climate Response" *EPA Expert Consultation to Discuss Effects of Criteria Air Pollutants on Climate*, May 2012, Research Triangle Park, NC.
- Co-chair of session on "Interactions Between Tropospheric Chemistry and Climate" AGU Fall Meeting, December 2011, San Francisco, CA.
- Chair of session on "Climate Outcomes: Assessing the Global/Regional Impacts of SLCF" *Workshop on Addressing Black Carbon and Ozone as Short-Lived Climate Forcers*, March 2010, Chapel Hill, NC.
- Chair of session on "Integrated Modeling Systems for Environmental Decision Support" *CMAS Conference*, October 2008, Chapel Hill, NC.
- Co-chair of session on "Methane as an ozone precursor" *UN ECE Hemispheric Transport of Air Pollutants Meeting*, June 2006, Moscow, Russia.
- Contributing Author for three chapters of *Particulate Matter Science for Policy Makers – A NARSTO Assessment*.
- Reviewer for *Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report* (2013) – Working Group II on Social and Economic Impacts, and Working Group III on Mitigation.
- Reviewer for *Intergovernmental Panel on Climate Change (IPCC) Third and Fourth Assessment Reports* (published in 2001 and 2007) – Working Group II on Social and Economic Impacts. (The IPCC received the Nobel Peace Prize in 2007.)
- Reviewer for a textbook on climate change, Oxford University Press, 2011.
- Reviewer for research proposals, EPA National Center for Environmental Research, 2011.
- Reviewer for *EPA Integrated Science Assessment for Ozone NAAQS*, 2010.
- Reviewer for *EPA Interim Report of the US EPA Global Change Research Program Assessment of the Impacts of Global Change on Regional US Air Quality: A Preliminary Synthesis of Climate Change Impacts on O_3*, 2008.
- Reviewer for *EPA Integrated Science Assessment for NO_x and SO_x Secondary NAAQS*, 2007.
- Reviewer for research proposals, DOE National Institute for Climatic Change Research, 2007.
- Reviewer for *EPA Global Mitigation of Non-CO_2 Greenhouse Gases*, 2006.
- Expert consultant for the World Bank, 2004-2008.

Reviewer for academic journals (# of reviews completed in year for each journal)
2021 – *Nature Sustainability* (1), *Environmental Research Letters* (1),
2020 – *Environmental Health Perspectives* (1), *Environmental Research Letters* (7), *Environmental Science & Technology Letters* (1), *Lancet Planetary Health (*1*), Nature Geoscience* (2), *Science Advances* (1)
2019 – *Environmental Research Letters* (5), *Nature* (1), *Nature Communications* (1)
2018 – *Environmental Research Letters* (5), *Lancet Planetary Health* (1), *Nature Communications* (1), *Nature Sustainability* (1), *Proceedings of the National Academy of Sciences* (1), *Scientific Reports* (1)
2017 – *Environmental Health Perspectives* (1), *Environmental Research Letters* (2), *Nature Climate Change* (1), *Nature Communications* (3), *Nature Sustainability* (1)
2016 – *Environmental Research Letters* (1), *Environmental Science & Technology* (1), *Nature* (4), *Nature Climate Change* (1), *Proceedings of the National Academy of Sciences* (2)
2015 – *Atmospheric Chemistry & Physics* (1), *Atmospheric Environment* (1), *Environmental Science & Technology* (2), *Geophysical Research Letters* (1), *Health & Place* (1), *Nature Climate Change* (2)
2014 – *Climatic Change* (2), *Environmental Health Perspectives* (1), *Environmental Research* (1), *Environmental Science & Technology* (1), *Health & Place* (1), *Nature Climate Change* (1), *Scientific Reports* (1)
Reviews for journals not mentioned above (before 2014): *Chemosphere*, *Ecological Economics*, *Environmental Science & Policy*, *Global Environmental Change*, *International Journal of Environmental Pollution*, *Journal of Air & Waste Management Association*, *Journal of Environmental Engineering & Science*, *Journal of Geophysical Research*, *Science*, *Science of the Total Environment*, *Water Policy*.

Service for Society

- *Founder and manager* of the Solar Mexico initiative, a collaboration with the Mexican Foundation for Rural Development and Engineers Without Borders to provide renewable energy to the rural poor in Mexico (2002-2014). Solar Mexico subsidized and installed 55 household solar electric systems.
- *Member*, Board of Directors, Nextclimate.org (2012-present).

Service Within UNC

- *Faculty advisor*, Solar Mexico project of Engineers Without Borders at UNC (2007-2014).
- *Co-convener,* Carolina Climate Change Scientists (2012-present), a cross-UNC faculty group encouraging interactions on climate change (cccs.web.unc.edu).
- *Co-coordinator*, UNC Climate Change Symposium (2014, 2015, 2017, 2018, 2019).
- *Member*, UNC selection committee for the Winston Churchill Foundation Scholarship (2008-present), *Chair* of committee (2012-2018).
- *Member*, UNC selection committee for the Weiss Urban Livability Fellowship (2010-2018).
- *Member*, UNC Climate Change Committee to assess the impacts of climate change on North Carolina (2009).
- *Member*, Faculty Advisory Committee for UNC Institute for the Environment (2015-present).
- *Chair*, Faculty Search Committee for 'Energy and Energy Analytics' UNC E3P (2018-2019).
- *Faculty advisor*, UNC student chapter of Citizens Climate Lobby (2020-present).

Service for Environmental Sciences & Engineering Dept., UNC

- *Director of Graduate Studies*, Environmental Sciences & Engineering (2019-present; *co-DGS* 2018-2019).
- *Founder and director,* UNC Climate, Health, and Air Quality (CHAQ) Lab (2007-present).
- *Founder and co-organizer*, UNC Group on Atmospheric Science and Pollution (UNC-GASP) weekly seminar series, (2007-present).
- *Member* of Admissions Committee (2014-2015, 2016-2018), *Acting chair* (2018-2019).
- *Chair*, Search Committee for an "Air Pollution Exposure and Measurement Engineer" (2014), this search was abandoned.
- *Member*, Search Committee for an "IT Support Analyst" (2017).
- *Member*, Search Committee for a "Research Assistant Professor in Nuclear Fuel Cycle Studies" (2010).