

J. Jason West

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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.
Research: Modeling of PM_{2.5} and the direct radiative forcing of aerosols; Estimating the economic impacts of sea level rise on developed coastal regions.
Supervisors: Spyros Pandis and Hadi Dowlatabadi
- M. Phil. University of Cambridge (UK) 1995
M. Phil. in Environment and Development, Department of Geography
Thesis: *The Policy Implications of Aerosols in Global Climate Change.*
- M. S. Carnegie Mellon University 1994
Civil & Environmental Engineering
Thesis: *Evaluation of Non-structural Coastal Management Under Uncertain Physical Conditions – A Case Study at Duck, NC, USA.*
- B. S. E. with honors Duke University 1993
Civil & Environmental Engineering, Magna Cum Laude.

PROFESSIONAL EXPERIENCE

- Assistant Professor University of North Carolina, Chapel Hill 2007- pres.
Department of Environmental Science & Engineering.
- Associate Research Scholar Princeton University 2006-2007
Research Associate 2004-2006
Program in Atmospheric & Oceanic Sciences, and Woodrow Wilson School of Public & Intl. Affairs
Research: Global atmospheric chemistry modeling; Methane mitigation for ozone air quality and climate; International transport of air pollutants; Costs and health benefits of emission reductions.
- AAAS Environmental Fellow US EPA, Office of Air & Radiation 2002-2004
Research: Air pollution science and policy; International transport of air pollutants; Climate change; Domestic air quality regulation for ozone and particles; Relations with developing nations.
Supervisors: Terry Keating, John Beale, and Rob Brenner
- Visiting Scientist National Institute of Ecology (Mexico) 2002
Research: *Co-control of Urban Air Pollutants and Greenhouse Gases in Mexico City;* Creation and application of economic decision support tools.
Supervisors: Adrián Fernández and Julia Martínez
- Postdoctoral Associate Massachusetts Inst. of Technology 1999-2002
Integrated Program on Urban, Regional, and Global Air Pollution: A Mexico City Case Study
Research: Modeling of ozone and particles; Emissions inventory analysis; Integrated assessment.
Supervisors: Mario Molina and Greg McRae
- 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

Newton Underwood Award for Excellence in Teaching, UNC Environmental Sciences & Engineering (2009)
UNC Junior Faculty Development Award (2007)
UNC University Research Council Award (2007)
EPA/ORD Bronze Medal, for participation in 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
American Association for Aerosol Research

PUBLICATIONS

Books and Chapters

Willis, H. H., R. Shih, S. Geschwind, A. Curtright, G. Cecchine, M. Mattock, S. Olmstead, J. Hu, M. Moore, P. Sama, J. **West**, Y. Li, T. Folley (in press) *Preliminary Situational Analysis of Environmental Health Risks in the United Arab Emirates*, Environment Agency – Abu Dhabi.

Artaxo, P., T. Bond, S. Guttikunda, T. Johnson, A. Russell, J. Watson, G. Wells, and J. **West** (in press) *Source Apportionment of Urban Particulate Matter for Air Quality Management: Review of Techniques and Application in Developing Countries*, Joint UNDP / World Bank Energy Sector Management Assistance Program.

Konrad, C., J. MacDonald, P. Robinson, R. Smith, and J. **West** (2009) Overview of Global Climate Change, in L. Band and D. Salvesen, Eds., *University of North Carolina – Chapel Hill Climate Change Committee Report*, p. 1-28.

Band, L., G. Characklis, R. Leuttich, B. McKee, R. Noble, H. Paerl, M. Piehler, J. Ries, T. Rodriguez, J. **West**, and P. White (2009) Environmental Impacts, in L. Band and D. Salvesen, Eds., *University of North Carolina – Chapel Hill Climate Change Committee Report*, p. 29-67.

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, Chapter 4 in *Particulate Matter Science for Policy Makers – A NARSTO Assessment*.

Seigneur, C., M. Moran, P. Amar, J. **West**, and R. Villasenor (2003) Chemical transport models, Chapter 8 in *Particulate Matter Science for Policy Makers – A NARSTO Assessment*.

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, Chapter 10 in *Particulate Matter Science for Policy Makers – A NARSTO Assessment*.

Books and Chapters (cont.)

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

Refereed Articles

- 24 West, J. J., A. M. Fiore, and L. W. Horowitz (in preparation) Management of tropospheric ozone by reducing methane emissions: comparison of abatement costs and global mortality benefits under future methane abatement scenarios.
- 23 Casper-Anenberg, S., L. W. Horowitz, D. Q. Tong, and J. J. West (in preparation) The global burden of anthropogenic ozone and fine particulate matter on premature human mortality, *Environmental Health Perspectives*.
- 22 Casper-Anenberg, S., 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, and G. Zeng (submitted) Intercontinental impacts of ozone pollution on human mortality, *Environmental Science & Technology*.
- 21 West, J. J., V. Naik, L. W. Horowitz, and A. M. Fiore (2009) Effect of regional precursor emission controls on long-range ozone transport: 2. Steady-state changes in ozone air quality and impacts on human mortality, *Atmospheric Chemistry & Physics Discussions*, 9, 7079-7113.
- 20 West, J. J., V. Naik, L. W. Horowitz, and A. M. Fiore (2009) Effect of regional precursor emission controls on long-range ozone transport: 1. Short-term changes in ozone air quality, *Atmospheric Chemistry & Physics Discussions*, 9, 7033-7077.
- 19 Sillman, S., and J. J. West (2008) Reactive nitrogen in Mexico City and its relation to ozone-precursor sensitivity: results from photochemical models, *Atmospheric Chemistry & Physics Discussions*, 8, 20501-20536.
- 18 Fiore, A. M., J. J. West, L. W. Horowitz, V. Naik, and M. D. Schwarzkopf (2008) Characterizing the tropospheric ozone response to methane emission controls and the benefits to climate and air quality, *Journal of Geophysical Research*. 113: D08307, doi: 10.1029/2007JD009162.
- 17 Duncan, B. N., J. J. West, Y. Yoshida, A. M. Fiore, and J. Ziemke (2008) The influence of European pollution on the air quality in the Near East and northern Africa, *Atmospheric Chemistry and Physics*, 8: 2267-2283.
- 16 West, J. J., S. Szopa, and D. A. Hauglustaine (2007) Human mortality effects of future concentrations of tropospheric ozone, *Comptes Rendus de l'Académie des Sciences – Geoscience*, 339: 775-783, doi: 10.1016/j.crte.2007.08.005.
- 15 Stevens, G. A., B. de Foy, J. J. West, M. A. Zavala, and J. I. Levy (2007) Developing intake fraction estimates with limited data: comparison of methods in Mexico City, *Atmospheric Environment*, 41: 3672-3683, doi: 10.1016/j.atmosenv.2006.12.051.

Refereed Articles (cont.)

- 14 West, J. J., A. M. Fiore, V. Naik, L. W. Horowitz, M. D. Schwarzkopf, and D. L. Mauzerall (2007) Ozone air quality and radiative forcing consequences of changes in ozone precursor emissions, *Geophysical Research Letters*, 34: L06806, doi: 10.1029/2006GL029173.
- 13 Fiore, A. M., L. W. Horowitz, E. J. Dlugokencky, and J. J. West (2006) Impact of meteorology and emissions on methane trends, 1990-2004, *Geophysical Research Letters*, 33: L12809, doi: 10.1029/2006GL026199.
- 12 West, J. J., A. M. Fiore, L. W. Horowitz, and D. L. Mauzerall (2006) Global health benefits of mitigating ozone pollution with methane emission controls, *Proceedings of the National Academy of Sciences*, 103(11): 3988-3993, doi: 10.1073/pnas.0600201103.
- 11 West, J. J., and A. M. Fiore (2005) Management of tropospheric ozone by reducing methane emissions, *Environmental Science & Technology*, 39(13): 4685-4691, doi: 10.1021/es048629f.
- 10 Bergin, M. S., J. J. West, T. J. Keating, and A. G. Russell (2005) Regional atmospheric pollution and transboundary air quality management, *Annual Review of Environment and Resources*, 30:1-37, doi: 10.1146/annurev.energy.30.050504.144138.
- 9 Keating, T., J. West, and D. Jaffe (2005) Air quality impacts of intercontinental transport, *EM (Environmental Management)*, 28-30, Oct., 2005.
- 8 San Martini, F., J. J. West, B. de Foy, L. T. Molina, M. J. Molina, G. Sosa, and G. J. McRae (2005) Modeling inorganic aerosols and their response to changes in precursor concentration in Mexico City, *Journal Air & Waste Management Assoc.*, 55(6): 803-815.
- 7 West, J. J., M. A. Zavala, L. T. Molina, M. J. Molina, F. San Martini, G. J. McRae, G. Sosa-Iglesias, and J. L. Arriaga-Colina (2004) Modeling ozone photochemistry and evaluation of hydrocarbon emissions in the Mexico City metropolitan area, *Journal of Geophysical Research*, 109: D19312, doi: 10.1029/2004JD004614.
- 6 West, J. J., P. Osnaya, I. Laguna, J. Martinez, and A. Fernandez (2004) Co-control of urban air pollutants and greenhouse gases in Mexico City, *Environmental Science & Technology*, 38: 3474-3481, doi: 10.1021/es034716.
- 5 Arriaga-Colina, J. L., J. J. West, G. Sosa, S. S. Escalona, R. M. Orduñez, and A. D. M. Cervantes (2004) Measurements of VOCs in Mexico City (1992-2001) and evaluation of VOCs and CO in the emissions inventory, *Atmospheric Environment*, 38: 2523-2533, doi: 10.1016/j.atmosenv.2004.01.033.
- 4 West, J. J., H. Dowlatabadi, and M. J. Small (2001) Storms, investor decisions, and the economic impacts of sea level rise, *Climatic Change*, 48: 317-342.
- 3 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, *Journal Air & Waste Management Assoc.*, 49(12): 1415-1424.
- 2 West, J. J., C. Pilinis, A. Nenes, and S. N. Pandis (1998) Marginal direct climate forcing by atmospheric aerosols, *Atmospheric Environment*, 32(14/15): 2531-2542.
- 1 West, J. J., C. Hope, and S. N. Lane (1997) Climate change and energy policy: the impacts and implications of aerosols, *Energy Policy*, 25(11): 923-939.

Other Publications and Reports

- West, J. J., P. Osnaya, I. Laguna, J. Martinez, and A. Fernandez (2004) Synergies of local air pollutant and greenhouse gas control, in *Bulletin of the Research and Development Network for Air Quality in Large Cities*, (in Spanish).
- 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*.

Other Publications and Reports (cont.)

- West, J. J., P. Osnaya, I. Laguna, J. Martinez, and A. Fernandez (2003) Co-control of urban air pollutants and greenhouse gases in Mexico City, in *Proceedings of Better Air Quality 2003*.
- West, J. J., P. Osnaya, I. Laguna, and J. Martinez (2003) *Co-control of Urban Air Pollutants and Greenhouse Gases in Mexico City*, final report to National Renewable Energy Laboratory, subcontract ADC-2-32409-01.
- West, J. J., M. Zavala, L. T. Molina, M. J. Molina, G. Sosa, and J. L. Arriaga (2002) Modeling of the formation of ozone and its sensitivity to changes in emissions of VOCs and NO_x in Mexico City, *Proceedings of the 4th Symposium on Air Pollution*, Colegio Nacional – Universidad Autónoma Metropolitana, pp.64-69 (in Spanish).
- West, J. J. (2001) Constructing the sources of air pollution: emissions inventories, in *Bulletin of the Research and Development Network for Air Quality in Large Cities*, 1(1): 10-13 (in Spanish).
- West, J. J., G. Sosa, F. San Martini, M. J. Molina, L. T. Molina, and C. Sheinbaum (2000) *Air Pollution Science in Mexico City: Understanding Source-Receptor Relationships for Informing Decisions*, MIT-IPURGAP Report No. 9, 84 p., Oct. 2000 (in Spanish).
- West, J. J., G. Sosa, F. San Martini, M. J. Molina, and L. T. Molina (2000) *Air Quality Modeling and Data Analysis for Ozone and Particulates in Mexico City*, MIT-IPURGAP Report No. 15, 76 pages, Oct. 2000.
- Vijay, S., S. Connors, J. J. West, and C. Sheinbaum (2000) *Residential, Industrial and Commercial Energy Consumption in Mexico City: Emissions Implications and Mitigation Strategies*, MIT-IPURGAP Report No. 21, 28 p., Oct. 2000.
- Dodder, R., S. Connors, B. Gibbs, J. West, F. San Martini, S. Vijay, M. J. Molina, and L. T. Molina (2000) *Integrated Assessment: Mexico City Project*, MIT-IPURGAP Report No. 13, 67 p., Oct. 2000.
- Molina, M. J., L. T. Molina, G. Sosa, J. Gasca, and J. J. West, (2000) *Analysis and Diagnostics of the Inventory of Emissions of the Metropolitan Area of the Valley of Mexico*, MIT-IPURGAP Report No. 5, 59 p., Aug. 2000.
- 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 Manage. Assoc. Annual Meeting*, Paper 99-927.
- West, J. J. (1998) *Studies in Natural and Human System Response Relevant to Global Environmental Change*, Ph. D. Dissertation, Carnegie Mellon University, Pittsburgh, PA, 15213.
- Ansari, A. S., J. J. West, and S. N. Pandis (1998) Marginal PM_{2.5}: nonlinear response to sulfate reductions, *Journal of Aerosol Science*, 29(S1): S195, Abstracts of 5th Intl. Aerosol Conference.
- West, J. J., S. N. Pandis, C. Pilinis, and A. Nenes (1997) Sensitivity and variability of marginal direct climate forcing by atmospheric aerosols, *Proceedings of the Air & Waste Management Association Conference on Visual Air Quality: Aerosols and Global Radiation Balance*, 841-848.
- 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.
- West, J. J. (1995) *The Policy Implications of Aerosols for Global Climate Change*, M. Phil. Thesis, University of Cambridge, Cambridge, UK.
- 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.

Conference Presentations

- West**, J. J. 'Benefits of methane control on air quality and public health' CAST-NC Environment Group, 4th China Environment Forum, Feb. 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, Oct. 2008, Pasadena, CA.
- West**, J. J. 'Assessing links between air pollution, climate change, and public health using atmospheric chemical transport models', Environmental Mutagen Society Annual Meeting, Oct. 2008, Rio Grande, Puerto Rico. (invited)
- 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, Oct. 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, Oct. 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, Oct. 2008, Chapel Hill, NC.
- 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. (invited)
- 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, Apr. 2008, Raleigh, 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, Apr. 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, Dec. 2007, San Francisco, CA.
- 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. (invited)
- 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. (invited)
- 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, Dec. 2006, San Francisco, CA.

Conference Presentations (cont.)

- 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, Sept. 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, Sept. 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, Sept. 2006, Cape Town, SA.
- 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, Jun. 2006, Moscow, Russia. (invited)
- 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, Jun. 2006, Moscow, Russia. (invited)
- 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, Jan. 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, Jan. 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, Jan. 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, Jan. 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, Jan. 2006, Boulder, CO.
- 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, Nov. 2005, Arlington, VA. (invited)
- 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, Aug. 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, L. W. Horowitz, D. L. Mauzerall** ‘Control of methane emissions for ozone air quality purposes,’ Air Pollution as a Climate Forcing, A Second Workshop, Apr. 2005, Honolulu, HI. (invited)
- West, J. J., A. M. Fiore** ‘Reducing tropospheric ozone through methane mitigation: costs and benefits,’ American Geophysical Union Fall Meeting, #A23A-0770, Dec. 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.

Conference Presentations (cont.)

- 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, Dec. 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, Dec. 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,' Workshop on Local Pollution and Climate: The Importance of Co-benefits, Nov. 2003, Beijing, China. (invited)
- West, J. J.** 'Ozone and particulate modeling for air quality management in the US and Mexico,' China Air Quality Modeling Assessment Workshop, Nov. 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.
- West, J. J., S. Edgerton, H. Martinez, E. Vega** 'Conceptual description of PM over Mexico City,' Amer. Assoc. for Aerosol Research, PM Conference, Apr. 2003, Pittsburgh, PA.
- 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, Jan. 2003, Laxenburg, Austria. (invited)
- 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, Nov. 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, Nov. 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, Nov. 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, Oct., 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, Aug. 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, Jan. 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' Amer. Assoc. for Aerosol Research, Oct. 2001, Portland, OR.
- 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, Sept. 2001, Mexico City. (invited)
- 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, Mar. 2001, Mexico City.

Conference Presentations (cont.)

- 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, Oct. 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, Jan. 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 Manage. Assoc., 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, Sept. 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 Conf. on Global Atmos. Chem., Aug. 1998, Seattle, WA.
- West**, J. J., C. Pilinis, A. S. Ansari, S. N. Pandis 'Geographic variability of marginal direct climate forcing by atmospheric aerosols' Amer. Assoc. 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, Jan. 1998, Long Beach, CA.
- West**, J. J., S. N. Pandis, C. Pilinis, A. Nenes 'Marginal direct climate forcing by atmospheric aerosols' Amer. Assoc. for Aerosol Research, Oct. 1997, Denver, CO.
- 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, Sept. 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, Mar. 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, Jan. 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' Amer. Assoc. for Aerosol Research, Oct. 1996, Orlando, FL.

Other invited presentations

Air & Waste Management Assoc., Triangle chapter (May, 2009)	Univ. of Maryland & PNNL (2003; 2004)
Duke University (Sept. 2007)	Natl. Autonomous Univ. of Mexico (May 2002)
Environmental Protection Agency (June 2007)	Tellus Institute (Apr. 2002)
Univ. of North Carolina (Apr. 2006)	World Resources Institute (Apr. 2002)
NASA Goddard SFC (Feb. 2006)	The World Bank (Apr. 2002)
Environmental Defense (Nov. 2005)	Mexican Petroleum Institute (Jan. 2002)
Princeton Univ. / GFDL (Aug. 2004)	Harvard School of Public Health (Oct. 2000)
US Foreign Services Institute (July 2004)	University of Wisconsin, Madison (Aug. 2000)
National Renewable Energy Lab. (July 2004)	Carnegie Mellon Univ. (2000; 2003; 2004; 2008)
Harvard Univ. (June 2004)	Rutgers University (Mar. 1999; Mar. 2005)
Johns Hopkins Univ. (Apr. 2004; Feb. 2006)	Univ. of California, Santa Barbara (Mar. 1999)
Dept. of Environment, Philippines (Dec. 2003)	Mass. Inst. of Tech. (Dec. 1998; Mar. 2003)
Tsinghua Univ., Beijing, China (Nov. 2003)	University of Iowa (Oct. 1998)
Resources for the Future (June 2003)	University of Colorado, Boulder (Oct. 1997)

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

West Triangle United Nations Association (Sept. 2008)
 Duke-UNC Global Health Dinner (Apr. 2008)
 Univ. of North Carolina, Science Symposium (Dec. 2007)
 Lakeside Summer Speakers Series, Lakeside, Ohio (Aug. 2007)
 North Carolina Governor’s School (July 2007)
 Washington Internships for Students of Engineering (July 2004)

TEACHING ACTIVITIES***Courses Taught***

ENVR 890-008, Global Climate Change: Science, Impacts, Solutions, *Instructor* (Spring 2009, 6 students)
 ENVR 401, Unifying Concepts, *Instructor* for 3-week Module (Spring 2009, 26 students)
 ENVR 890-007, Methods of Environmental Decision Analysis, *Co-Instructor* (Fall 2008, 17 students)
 ENVR 890-004, Setting Environmental Priorities, *Co-Instructor* (Fall 2008, 10 students)
 ENVR 890-008, Global Climate Change: Science, Impacts, Solutions, *Instructor* (Spring 2008, 8 students)
 ENVR 890-004, Setting Environmental Priorities, *Co-Instructor* (Fall 2007, 8 students)

Students Supervised

All in Univ. of North Carolina, Dept. of Environmental Sciences and Engineering
 Matthew Woody (MS, in progress)
 Jessica Montanez (MS, in progress)
 Jessica J. Lewis (MSPH, in progress)
 Susan B. Casper (MS, 2008; PhD, in progress)

Postdoctoral Researchers Supervised

All in Univ. of North Carolina, Dept. of Environmental Sciences and Engineering
 Kunhikrishnan Thengumthara (2008-9), co-supervised with William Vizuete
 Zuber Farooqui (2008-9), co-supervised with William Vizuete

Thesis Committees

All in Univ. of North Carolina, Dept. of Environmental Sciences and Engineering
 Cheolhung Cho (PhD, in progress)
 Marc Jeuland (PhD, in progress)
 Uma Shankar (PhD, in progress)
 Chris Trent (PhD, in progress)
 Elizabeth Christoph (MS, 2009)
 Katherine Galloway (MS, 2008)
 Barron Henderson (MS, 2007; PhD, in progress)
 Elizabeth Pennington Naess (PhD, 2007)

CONTRACTS AND GRANTS

- “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, Apr. 2009 – Mar. 2010, \$35,000, *Principal Investigator*.
- “National Strategy for Environment and Health for the United Arab Emirates” June 2008 – May 2010, \$5.457 Million, *Investigator*.
- “Simulation of Future Global Air Quality Under Energy Economic Scenarios” Subcontractor to Battelle Pacific Northwest Laboratory, Apr. 2008 – Sept. 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, Jan. 2008 – Dec. 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, Dec. 2007 – Nov. 2009, \$3,500, *Principal Investigator*.

CONTRACTS AND GRANTS (cont.)

- “Global Air Pollution Health Benefits of Future Emissions Scenarios” The Merck Foundation, Oct. 2007 – Sept. 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, Feb. 2002 - Feb. 2003, \$26,000, *Subcontractor and Principal Investigator*.

PROFESSIONAL ACTIVITIES

- *Chair* of session on “Integrated Modeling Systems for Environmental Decision Support” CMAS Conference, Oct. 2008, Chapel Hill, NC.
- *Co-chair* of session on “Methane as an ozone precursor,” UN ECE Hemispheric Transport of Air Pollutants Meeting, Jun. 2006, Moscow, Russia.
- *Contributing Author* for 3 chapters of *Particulate Matter Science for Policy Makers – A NARSTO Assessment*.
- *Reviewer* for Intergovernmental Panel on Climate Change (IPCC) Third and Fourth Assessment Reports – Working Group II on Social and Economic Impacts.
- *Reviewer* for academic journals, including *Science*, *Proceedings of the National Academy of Sciences*, *Environmental Research Letters*, *Journal of Geophysical Research*, *Global Environmental Change*, *Environmental Science & Technology*, *Atmospheric Environment*, *Atmospheric Chemistry & Physics*, *Journal of Air & Waste Management Association*, *Ecological Economics*, *Science of the Total Environment*, *Chemosphere*, *Journal of Environmental Engineering & Science*.
- *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 O₃*, 2008.
- *Reviewer* for EPA *Integrated Science Assessment for NO_x and SO_x Secondary NAAQS*, 2007.
- *Reviewer* for EPA report *Global Mitigation of Non-CO₂ Greenhouse Gases*, 2006.
- *Expert consultant* for the World Bank (2004-2008).
- *Founder and manager* of the Solar Mexico initiative, a collaboration with the Mexican Foundation for Rural Development to provide renewable energy to the rural poor in Mexico (2002-pres.). Solar Mexico has subsidized and installed 17 household solar electric systems.

UNC ACTIVITIES

- *Founder and organizer*, Group on Atmospheric Science and Pollution seminar series, UNC-GASP (2007-pres.).
- *Faculty advisor* of the Solar Mexico group of Engineers Without Borders at UNC-CH (2007-pres.).
- *Member*, UNC selection committee for the Churchill Scholarship (2008-pres.).

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