

Diane E. Pataki

Dept. of Earth System Science
Dept. of Ecology & Evol. Biology
University of California, Irvine
Irvine, CA 92697-3100

Ph: 949-824-9411
Fax: 949-824-3874
Email: dpataki@uci.edu
<http://www.ess.uci.edu/~dpataki/>

Appointments

2012- Associate Professor, Dept. of Biology, University of Utah, beginning July 1
2012- Adjunct Associate Professor, Dept. of City and Metropolitan Planning, University of Utah, beginning July 1
2010-2012 Director, Center for Environmental Biology, School of Biological Sciences, University of California, Irvine
2010-2011 Vice Chair for Undergraduate Programs, Dept. of Earth System Science, School of Physical Sciences, University of California, Irvine
2007-2012 Associate Professor, Dept. of Earth System Science and Dept. of Ecology & Evolutionary Biology, University of California, Irvine
2004-2007 Assistant Professor, University of California, Irvine
2000-2004 Research Assistant Professor, Department of Biology, University of Utah
1999-2003 IGBP-GCTE Focus 1 Program Officer, University of Utah
1998-1999 Post-doctoral Research Associate, Desert Research Institute, Univ. of Nevada

Education

1998 Ph.D. Nicholas School of the Environment, Duke University, Durham, NC
1995 M.S. School of the Environment, Duke University, Durham, NC
1993 B.A. Barnard College, Columbia University, New York, NY

Academic Service and Distinctions

2012- Sustained Land Imaging Program committee, National Research Council
2011- Board of Scientific Counselors, U.S. Environmental Protection Agency
2011 Director, Steele Burnand Anza Borrego Desert Research Center
2010- Science Committee, Ecological Society of America
2009-2010 Energy Sustainability subcommittee, U.S. Dept. of Energy, Biological and Environmental Research Strategic Planning Committee
2009-2011 Director, Anza Borrego Field Station Initiative, UC Irvine
2009-2011 Steering Committee, Environment Institute, UC Irvine
2008 James B. Macelwane Medalist, American Geophysical Union
2008- Fellow, American Geophysical Union
2008-2011 Carbon Cycle Scientific Steering Group, U.S. Climate Change Science Program
2008-2009 User working group, Carbon Dioxide Information Analysis Center (CDIAC)
2008-2011 University of California Natural Reserve Systemwide Committee
2007-2009 Membership Committee, University Corporation for Atmospheric Research
2006-2010 Ecohydrology Executive Committee, American Geophysical Union
2007 Lead Author, U.S. Climate Change Science Program Synthesis and Assessment Product 2.2, State of the Carbon Cycle Report, Chapter 14: Human Settlements
2005-2010 Subject Editor, *Global Change Biology* journal
2004-2011 Board of Advisors to the Editor, *New Phytologist* journal

2000-2010 Steering Committee, Biosphere-Atmosphere Stable Isotope Network (BASIN)
2000-2005 Steering Committee, Terrestrial Ecosystem Responses to Atmospheric and Climatic Change (TERACC) network

Publications

(lab members in bold)

72. Mini C, Hogue T, Pincetl S, Kim J, **Pataki D**, Gillespie T, Boone C, McFadden J, Jenerette G. In review. Residential water use in Los Angeles: Spatial and temporal trends and key determinants.
71. **Djuricin S, Pataki DE**, Parker SC. In review. The influence of climate and pollution on tree growth and isotopic composition in the Los Angeles basin.
70. **Djuricin S**, Xu X, **Pataki DE**. In revision. The radiocarbon composition of tree rings as a tracer of local fossil fuel emissions in the Los Angeles basin: 1980-2008.
69. **Townsend-Small A**, Tyler SC, **Pataki DE**, Xu X, Christensen LE. 2012. Isotopic measurements of atmospheric methane in Los Angeles, California, USA reveal the influence of "fugitive" fossil fuel emissions. JGR Atmospheres, In press.
68. Pincetl S, Gillespie TW, **Pataki DE**, Saatchi S, Saphores J-D. 2012. Urban tree planting programs, function or fashion? Los Angeles and urban tree planting campaigns. GeoJournal, In press.
67. **Litvak E, McCarthy HR, Pataki DE**. 2012. Transpiration from urban trees in a semi-arid climate is constrained by xylem vulnerability to cavitation. Tree Physiology, In press.
66. **Bijoor NS, McCarthy HR, Zhang D, Pataki DE**. 2012. Water sources of urban trees in the Los Angeles metropolitan area. Urban Ecosystems 15(1): 195-214.
65. **Goedhart CM, Pataki DE**. 2012. Do arid species use less water than mesic species in an irrigated common garden? Urban ecosystems 15(1): 215-232.
64. Gillespie TW, Pincetl S, Brossard S, Smith J, Saatchi S, **Pataki DE**, Saphores J-D. 2012. A time series of urban forestry in Los Angeles. Urban Ecosystems 15(1): 233-246.
63. **Wang W, Pataki DE**. 2012. Drivers of spatial variability in urban plant and soil isotopic composition in the Los Angeles Basin. Plant and Soil 350: 323–338.
62. **Townsend-Small A**, Rosso D, **Pataki DE**, Tseng L, Tsai C-Y. 2011. Nitrous oxide emissions from water reclamation plants in southern California. Journal of Environmental Quality 40: 1542-1550.
61. **McCarthy HR, Pataki DE**, Jenerette GD. 2011. Plant water use efficiency as a metric of urban ecosystem services. Ecological Applications, 21(8): 3115–3127.
60. **Bijoor, NS, Pataki DE**, Rocha AV, Goulden ML. 2011. The application of $\delta^{18}\text{O}$ and δD for understanding water pools and fluxes in a *Typha* marsh. Plant, Cell and Environment 34(10): 1761–1775.

59. McKinley DC, Ryan MG, Birdsey RA, Giardina CP, Harmon ME, Heath LS, Houghton RA, Jackson RB, Morrison JF, Murray BC, **Pataki DE**, Skog KE. 2011. A synthesis of current knowledge on forests and carbon storage in the United States. *Ecological Applications*, 21: 1902-1924..
58. **Litvak E, McCarthy HR, Pataki DE**. 2011. Water relations of coast redwood planted in the semi-arid climate of southern California. *Plant, Cell and Environment* 34(8): 1384-1400.
57. **Goedhart CM, Pataki DE**. 2011. Ecosystem effects of groundwater depth in Owens Valley, California. *Ecohydrology*, 4(3): 458-468.
56. **Pataki DE, McCarthy HR, Litvak E**, Pincetl S. 2011. Transpiration of urban forests in the Los Angeles metropolitan area. *Ecological Applications* 21(3): 661-677.
55. **Pataki DE**, Boone CG, Hogue TS, Jenerette GD, McFadden JP, Pincetl S. 2011. Socio-ecohydrology and the urban water challenge. *Ecohydrology* 4(2): 341-347.
54. **Townsend-Small A, Pataki DE**, Czimczik CI, Tyler SC. 2011. Nitrous oxide emissions and isotopic composition in urban and agricultural systems in southern California. *JGR Biogeosciences*, 116, G01013, doi:10.1029/2010JG001494, 2011.
53. **Pataki DE**, Carreiro MM, Cherrier J, Grulke NE, Jennings V, Pincetl S, Pouyat RV, Whitlow TH, Zipperer WC. 2011. Coupling biogeochemical cycles in urban environments: Ecosystem services, green solutions, and misconceptions. *Frontiers in Ecology and the Environment* 9: 27-36.
52. **McCarthy HR, Pataki DE**. 2010. Drivers of variability in water use of native and non-native urban trees in the Greater Los Angeles area. *Urban Ecosystems* 13(4): 393-414.
51. **Djuricin S, Pataki DE**, Xiaomei Xu. 2010. A comparison of tracer methods for quantifying CO₂ sources in an urban region. *JGR Atmospheres* 115, D11303 doi:10.1029/2009JD012236.
50. **Pataki DE**, Randerson JT, **Wang W, Herzenach MK**, Grulke NE. 2010. The carbon isotope composition of plants and soils as biomarkers of pollution. *In* West JB, Bowen G, Dawson TE, Eds. *Isoscapes: Understanding movement, pattern, and process on Earth through isotope mapping*. Springer, New York.
49. **Goedhart CM, Pataki DE**, Billings SA. 2010. Seasonal variations in plant nitrogen relations and photosynthesis along a grassland to shrubland gradient in Owens Valley, California. *Plant and Soil* 327:213-223.
48. **Wang W, Pataki DE**. 2010. Spatial patterns of plant isotope tracers in the Los Angeles urban region. *Landscape Ecology* 25(1): 35-52.
47. Kennedy C, Steinberger J, Gasson B, Hansen Y, Hillman T, Havranek M, **Pataki D**, Phdungsilp P, Ramaswami A, Mendez GV. 2010. Methodology for inventorying greenhouse gas emissions from global cities. *Energy Policy* 38(9): 4828-4837.
46. Kennedy C, Steinberger J, Gasson B, Hansen Y, Hillman T, Havranek M, **Pataki D**, Phdungsilp P, Ramaswami A, Mendez GV. 2009. Greenhouse gas emissions from global

cities. *Environmental Science and Technology*, 43, 7297-7302.

45. Jackson RB, Randerson JT, Canadell JG, Anderson RG, Avissar R, Baldocchi DD, Bonan GB, Caldeira K, Duffenbaugh NS, Field CB, Hungate BA, Jobbagy EG, Kueppers LM, Noyelle MD, **Pataki DE**. 2008. Protecting climate with forests. *Environmental Research Letters* 3(4): DOI: 10.1088/1748-9326/3/4/044006.
44. **Pataki DE**, Emmi PC, Forster CB, Mills JI, Pardyjak ER, Peterson TR, Thompson JD, Dudley-Murphy E. 2009. An integrated approach to improving fossil fuel emissions scenarios with urban ecosystem studies. *Ecological Complexity* 6(1):1-14.
43. Riley WJ, Hsueh DJ, Randerson JT, Fischer ML, Hatch JG, **Pataki DE**, Goulden ML. 2008. Where do fossil fuel carbon dioxide emissions from California go? An analysis based on radiocarbon observations and an atmospheric transport model. *JGR Biogeosciences* 113, G04002, doi:10.1029/2007JG000625.
42. Hultine KR, Bush SE, West AG, Burtch KG, **Pataki DE**, Ehleringer JR. 2008. Gender-specific patterns of aboveground allocation, canopy conductance and water use in a dominant riparian tree species: *Acer negundo*. *Tree Physiology* 28(9) 1383-1394.
41. **Bijoor NS**, Czimczik C, **Pataki DE**, Billings SA. 2008. The effects of temperature and fertilization on nitrogen cycling and community composition of an urban lawn. *Global Change Biology* 14: 1-13.
40. **Pataki DE**, Billings SA, Naumburg E, **Goedhart CM**. 2008. Water sources and nitrogen relations of grasses and shrubs in phreatophytic communities of the Great Basin Desert. *Journal of Arid Environments*, 72(9):1581-1593.
39. Grimm NB, Foster D, Groffman P, Grove JM, Hopkinson CS, Nadelhoffer K, **Pataki DE**, Peters D. 2008. The changing landscape: ecosystem responses to urbanization and pollution across climatic and societal gradients. *Frontiers in Ecology and the Environment*, 6(5): 264-272.
38. **Ngo NS**, **Pataki DE**. 2008. The energy and mass balance of Los Angeles County, *Urban Ecosystems*, 11:121-139.
37. **Bush SE**, **Pataki DE**, Hultine KR, West AG, Sperry JS, Ehleringer JR. 2008. Wood anatomy constrains stomatal responses to atmospheric vapor pressure deficit in irrigated, urban trees. *Oecologia*, 156:13-20.
36. Bowling DR, **Pataki DE**, Randerson JT. 2008. Carbon isotopes in terrestrial ecosystem pools and CO₂ fluxes. *New Phytologist*, 178(1): 24–40.
35. Gurney K, Anselmy W, Mendoza D, Petron G, Frost G, Gregg J, Fischer, M, **Pataki D**, Acerkman K, Houseling S, Corbin K, Andres R, Blasing TJ. 2007. Research needs for finely resolved fossil carbon emissions. *EOS* 88(40): 542-543
34. **Pataki DE**, Xu T, Luo YQ, Ehleringer JR. 2007. Inferring biogenic and anthropogenic CO₂ sources across an urban to rural gradient. *Oecologia* 152: 307-322.
33. **Bush SE**, **Pataki DE**, Ehleringer JR. 2007. Sources of variation in δ¹³C of fossil fuel

emissions in Salt Lake City, USA. *Applied Geochemistry* 22: 715-723.

32. **Pataki DE**, Lai CT, Keeling CD, Ehleringer JR. 2007. Insights from stable isotopes on the role of terrestrial ecosystems in the global carbon cycle. *In* *Terrestrial Ecosystems in a Changing World*. Canadell JG, Pataki DE, Pitelka LF, Eds, Springer, Berlin.
31. Pouyat RV, **Pataki DE**, Belt KT, Groffman PM, Hom J, Band LE. 2007. Effects of urban land use change on biogeochemical cycles. *In* *Terrestrial Ecosystems in a Changing World*. Canadell JG, Pataki DE, Pitelka LF, Eds, Springer, Berlin.
30. Canadell JG, **Pataki DE**, Gifford R, Houghton R, Luo Y, Raupach M, Smith P, Steffen W. 2007. Saturation of the terrestrial carbon sink. *In* *Terrestrial Ecosystems in a Changing World*. Canadell JG, Pataki DE, Pitelka LF, Eds, Springer, Berlin.
29. Canadell JG, **Pataki DE**, Pitelka LF, Eds. 2007. *Terrestrial Ecosystems in a Changing World*, Springer, Berlin.
28. **Pataki DE**, Alig RJ, Fung AS, Golubiewski NE, Kennedy CA, McPherson EG, Nowak DJ, Pouyat RV, Romero Lankao P. 2006. Urban ecosystems and the North American Carbon Cycle. *Global Change Biology*, 12: 2092-2101, doi: 10.1111/j.1365-2486.2006.01242.x
27. **Pataki DE**, Bowling DR, Ehleringer JR, Zobitz JM. 2006. High resolution monitoring of urban carbon dioxide sources. *Geophysical Research Letters*, 33, L03813, doi:10.1029/2005GL024822
26. Aranibar JN, Berry JA, Riley WJ, **Pataki DE**, Law BE, Ehleringer JR. 2006. Combining meteorology, eddy fluxes, isotope measurements, and modeling to understand environmental controls of carbon isotope discrimination at the canopy scale. *Global Change Biology* 12: 710-730.
25. **Pataki DE**. 2005. Emerging topics in stable isotope ecology: are there isotope effects in plant respiration? *New Phytologist*, 167: 321-323.
24. **Pataki DE**, **Bush SE**, Gardner P, Solomon DK, Ehleringer JR. 2005. Ecohydrology in a Colorado River riparian forest: Implications for the decline of *Populus fremontii*. *Ecological Applications* 15(3): 1009-1018.
23. **Pataki DE**, Tyler BJ, Peterson RE, Nair AP, Steenburgh WJ, Pardyjak ER. 2005. Can carbon dioxide be used as a tracer of urban atmospheric transport? *Journal of Geophysical Research – Atmospheres*, 110: D15102.
22. **Pataki DE**, **Bush SE**, Ehleringer JR. 2005. Stable isotopes as a tool in urban ecology. *In* *Stable isotopes and biosphere-atmosphere interactions: Processes and biological controls*. Flanagan LB, Ehleringer JR, Pataki DE, Eds. Elsevier Press, San Diego, pp 199-214.
21. Flanagan LB, Ehleringer JR, **Pataki DE**, Eds. 2005. *Stable isotopes and biosphere-atmosphere interactions: Processes and biological controls*. Elsevier Press, San Diego.
20. Luo Y, Su B, Currie WS, Dukes JS, Finzi A, Hartwig U, Hungate B, McMurtrie R, Oren R, Parton WJ, **Pataki DE**, Shaw R, Zak DR, Field C. 2004. Progressive nitrogen limitation of ecosystem responses to rising atmospheric CO₂. *Bioscience* 54(8): 731-739.

19. Morgan JA, **Pataki DE**, Gruenzweig J, Körner C, Newton P, Niklaus PA, Nippert J, Nowak RS, Parton W, Clark H, Del Grosso SJ, Knapp AK, Mosier AR, Polley W, Shaw R. 2004. Grassland responses to rising atmospheric CO₂ are driven primarily by water relations. *Oecologia* 140: 11-25.
18. **Pataki DE**, Bowling DR, Ehleringer JR. 2003. Seasonal cycle of carbon dioxide and its isotopic composition in an urban atmosphere: anthropogenic and biogenic effects. *Journal of Geophysical Research – Atmospheres* 108(D23), 4735
17. **Pataki DE**, Oren R. Species differences in stomatal control of water loss at the canopy scale in a mature bottomland deciduous forest. 2003. *Advances in Water Resources* 26(12): 1267-1278.
16. **Pataki DE**, Ellsworth DW, Evans RD, Gonzalez-Meler M, King JS, Leavitt SW, Lin G, Matamala R, Pendall E, Siegwolf R, van Kessel C, Ehleringer JR. 2003. Tracing changes in ecosystem function under elevated CO₂. *Bioscience* 53(9): 805-818.
15. Bowling DR, **Pataki DE**, Ehleringer JR. 2003. Critical evaluation of micrometeorological methods for measuring ecosystem-atmosphere isotopic exchange of CO₂. *Agricultural and Forest Meteorology* 116: 159-179.
14. **Pataki DE**, Ehleringer JR, Flanagan LB, Yakir D, Bowling DR, Still C, Buchmann N, Kaplan JO, Berry JA. 2003. The application and interpretation of Keeling plots in terrestrial carbon cycle research. *Global Biogeochemical Cycles* 17(1), 1022
13. Canadell J, **Pataki DE**. 2002. New advances in carbon cycle research. *Trends in Ecology and Evolution* 17(4): 156-158.
12. **Pataki DE**. 2002. Atmospheric CO₂, climate and evolution – lessons from the past. *New Phytologist* 154:10-14.
11. Oren R, **Pataki DE**. 2001. Transpiration in response to variation in microclimate and soil moisture in southeastern deciduous forests. *Oecologia* 127: 549-559.
10. Oren R, Sperry JS, Ewers BE, **Pataki DE**, Phillips N, Megonigal JP. 2001. Sensitivity of mean canopy stomatal conductance to vapor pressure deficit in a flooded *Taxodium distichum* L. forest: hydraulic and non-hydraulic effects. *Oecologia* 126:21–29.
9. **Pataki DE**, Huxman TE, Jordan DN, Zitzer SF, Coleman JS, Smith SD, Nowak RS, Seemann JR. 2000. Water use of two Mojave Desert shrubs under elevated CO₂. *Global Change Biology* 6(8): 889-898.
8. **Pataki DE**, Oren R, Smith WK. 2000. Sap flux of co-occurring species in a western subalpine forest during seasonal soil drought. *Ecology* 81(9) 2557-2566.
7. Oren R, Phillips N, Ewers BE, **Pataki DE**, Megonigal JP. 1999. Sap-flux-scaled transpiration responses to light, vapor pressure deficit, and leaf area reduction in a flooded *Taxodium distichum* forest. *Tree Physiology* 19:337-347.

6. Oren R, Sperry JS, Katul GG, **Pataki DE**, Ewers BE, Phillips N, Schäfer KVR. 1999. Survey and synthesis of intra- and interspecific variation in stomatal sensitivity to vapour pressure deficit. *Plant, Cell and Environment* 22: 1515-1526.
5. **Pataki DE**, Oren R, Phillips N. 1998. Responses of sap flux and stomatal conductance of *Pinus taeda* L. trees to stepwise reductions in leaf area. *Journal of Experimental Botany* 49: 871-878.
4. **Pataki DE**, Oren R, Tissue DT. 1998. Elevated carbon dioxide does not affect stomatal conductance of *Pinus taeda* L. *Oecologia* 117: 47-52.
3. **Pataki DE**, Oren R, Katul G, Sigmon J. 1998. Canopy conductance of *Pinus taeda*, *Liquidambar styraciflua* and *Quercus phellos* under varying atmospheric and soil moisture conditions. *Tree Physiology* 18: 307-315.
2. Oren R, Phillips N, Katul G, Ewers BE, **Pataki DE**. 1998. Scaling xylem sap flux and soil water balance, and calculating variance: a method for partitioning water flux in forests. *Annales des Sciences Forestieres* 55: 191-216.
1. Katul G, Todd P, **Pataki DE**, Kabala ZJ, Oren R. 1997. Soil water depletion by oak trees and the influence of root water uptake on the moisture content spatial statistics. *Water Resources Research* 33(4):611-623.

Conference and invited presentations

- “Multidisciplinary water science: Linking social, physical, computational and ecological approaches to sustainable water resources”, Utah State University (invited), April 2012
- American Geophysical Union fall meeting (invited), December 2011
- UK Royal Horticultural Society, John McLeod Annual Lecture (invited), London, November 2011
- Ecological Society of American meeting (invited), Austin, TX, August 2011
- Stanford University, Dept. of Environmental Earth System Science (invited), May 2011
- University of Utah, Global Change and Ecosystem Center (invited), April 2011
- UCLA, Institute of the Environmental and Sustainability (invited), February 2011
- American Geophysical Union fall meeting (invited), December 2010
- ACES conference: A Community of Ecosystem Services (invited), December 2010
- UCLA, Dept. of Ecology & Evol. Biology (invited), October 2010
- Ecological Society of America meeting (invited), Pittsburgh, PA, August 2010
- UC Irvine Discover the Physical Sciences Breakfast Lecture (invited), May 2010
- UCLA, Dept. of Geography (invited), April 2010
- MillionTreesNYC, Green Infrastructure, and Urban Ecology: A research symposium (invited), New York City, March 2010
- Atmospheric Sciences Symposium, UC Berkeley (keynote), February 2010
- American Geophysical Union fall meeting (invited), December 2009
- UC Irvine Allergan Lecture, October, 2009
- AGU Chapman Conference: Examining Ecohydrological Feedbacks of Landscape Change Along Elevation Gradients in Semiarid Regions (invited), Sun Valley, ID October, 2009

- National Science Foundation Environmental Research and Education (ERE) committee presentation (invited), September 2009
- Ecological Society of America meeting (Recent advances keynote address), Albuquerque, NM, August 2009
- Ecological Society of America Congressional Briefing (invited), U.S. Congress, Washington DC, July 2009
- University of Maryland, Baltimore County (invited), February 2009
- American Geophysical Union meeting (invited), San Francisco, CA, December 2008
- Arizona State University, Tempe, AZ (invited), September 2008
- California Energy Commission Climate Change conference (invited), Sacramento, CA September 2008
- Oxford University (invited), Oxford, UK, July 2008
- Center for Urban Horticulture, UC Davis (invited), May 2008
- Isoscapes Conference (invited), Santa Barbara, CA, April 2008
- University of Illinois (invited), Chicago, IL, April 2008
- Northeast Section of the American Society of Plant Biologists (keynote address), Storrs, CT, April 2008
- San Diego State University (invited), March 2008
- National Center for Ecological Analysis and Synthesis (invited), January 2008
- American Geophysical Union meeting, San Francisco, CA, December 2007
- Cornell University (invited), November 2007
- Ecological Society of America meeting, San Jose, CA, August 2007
- Cites and Global Climate Change Conference (invited), Irvine, CA April 2007
- Stanford University (invited), Palo Alto, CA, February 2007
- American Geophysical Union meeting, San Francisco, CA, December 2006
- IUFRO Canopy Processes workshop: Regional forest responses to environmental change (invited), Northeastern U.S., October 2006.
- 3rd Annual California Energy Commission Climate Change Conference, September 2006
- Global Carbon Project Conference: Carbon Management at Urban and Regional Levels - Connecting Development Decisions to Global Issues, Mexico City, September 2006
- Isotopes as Tracers of Ecological Change, Tomar, Portugal, March 2006
- University of New Hampshire (invited), Durham, NC, February 2006
- University of California, Riverside (invited), January 2006
- American Geophysical Union meeting, San Francisco, CA, December 2005
- CSIRO, Australia (invited), April 2005
- 11th Annual U.S.-Japan Workshop on Global Change (invited), Yokohama, Japan 2005
- University of Illinois, Urbana-Champaign (invited), March 2005
- California State University, Los Angeles (invited), February 2005
- Ecological Society of America meeting, Montreal, Canada, August 2005
- 21st Conference on Weather Analysis and Forecasting/17th Conference on Numerical Weather Prediction, Washington D.C., August 2005
- American Geophysical Union meeting, San Francisco, CA, December 2004
- BASIN/SIBAE meeting: Partitioning of fluxes between the biosphere and the atmosphere across spatial scales, Interlaken, Switzerland, April 2004.
- BASIN/SIBAE meeting: Oxygen isotopes as a tracer linking global O₂, CO₂, and H₂O cycles, Marshall, California, September 2004.
- American Geophysical Union meeting, San Francisco, CA, December 2003
- Ecological Society of America Conference, Savannah, GA, August 2003

- Integrating Science and Management on the Colorado Plateau, Flagstaff, AZ., November 2003
- CO₂ and Water Workshop, Basel, Switzerland, August 2002
- Ecological Society of America Conference, Tuscon, AZ, August 2002
- BASIN workshop, Banff, Canada, May 2002
- Ninth Annual Workshop on Weather Prediction in the Intermountain West, Salt Lake City, UT, November 2002.
- American Geophysical Union meeting, San Francisco, CA, December 2001
- Ecological Society of America meeting Madison, WI, August 2001.
- Sixth CO₂ conference, Sendai, Japan, October 2001
- American Geophysical Union meeting, San Francisco, CA, December 2000
- Great Basin Biological Research Conference, Reno, NV, October 1999
- Ecological Society of America meeting, Spokane, WA, August 1999
- American Geophysical Union meeting, San Francisco, CA, December 1998
- Ecological Society of America meeting, Albuquerque, NM, August 1997
- Ecological Society of America meeting, Providence, RI, August 1996

Grants

“Energy neutral sustainable cities: balancing local supply and demand with renewable resources,” NSF SEP, \$2,000,362, 8/1/12-7/31/16, Pardyjak, Burian, Metzger, Pataki, Yin (pending)

“Multi-scale linkages between greenhouse gases and air quality: from local urban land use to regional atmospheric composition,” NASA IDS, \$1,224,582, 8/1/12-7/31/15, Lin, Dennison, Pataki, Strong, Ehleringer (pending)

“WSC-Category 3: Collaborative: The role of local water resources in the water sustainability of Los Angeles,” NSF, Univ of Utah portion \$459,140, 7/1/12-6/30/16, Pataki, Pincetl, Hogue (pending)

“iUtah-innovative Urban Transitions and Aridregion Hydro-sustainability”, NSF EPSCoR, \$20,000,000, 8/1/12-7/31/17, Crowl, Baker, Ehleringer, Jackson-Smith, Pataki (pending)

“Mobile greenhouse gas flux analyzer for unmanned aerial vehicles,” NASA SBIR, Univ of Utah subcontract \$75,000, 1/1/13-12/31/13, primary awardee Los Gatos Research, Inc. (current)

“Collaborative research: Mechanisms for the decline of leaf hydraulic conductance with dehydration, and plant- and environment-level impacts dehydration, and plant- and environment-level impacts,” NSF IOS, UCI portion \$198,849, 2/1/12-1/31/15, Sack, Pataki, Buckley (current)

“Collaborative research: Ecological homogenization of urban America,” NSF-Macrosystems, UCI portion \$222,634, 6/30/11-7/1/14, Groffman, Grove, Hobbie, Cavender-Bares, Nelson, Polsky, Hall, Larson, Heffernan, Ogden, Neill, Pataki, Chowdhury (current)

“Collaborative Research: Toward a biogeography of urban forests,” NSF-DEB, \$691,498, 9/1/09-8/31/12, Pataki, Jenerette, Pincetl, Gillespie (current)

“Dynamics of urban ecosystem services and their relationship to ecohydrology: Exploratory study for a Los Angeles Urban Long-term Research Site (LA-ULTRA)”, NSF-ULTRA, \$299,429, 1/1/10-12/31/11, Pincetl, Boone, Hogue, McFadden, Pataki (current)

“Reductions in urban outdoor water use as an adaptation to rising temperatures and declining water supplies in southern California,” California Energy Commission PIER, \$199,737, 4/1/10 – 3/31/12, Pataki, Hogue, Pincetl (current)

“Forest-Atmosphere Carbon Transfer and Storage (FACTS-1)”, U.S. Dept. of Energy, UCI subcontract \$66,068, 12/1/09-11/30/12, Oren

“Creating sustainability indicators to assess the physical, social, and economic values of greening cities,” EPA-STAR, \$369,577, 5/07-8/10, Saphores and Pataki, UCI, Pincetl and Saatchi, UCLA

“Distinguishing between greenhouse gas emissions from cropland, animal operations, and urban land cover with isotopic tracers,” USDA Air Quality, \$499,276, 1/1/07 – 12/31/10, Pataki, Tyler, Trumbore

“Collaborative Research: A study in the dynamics of human behavior in institutional innovation and learning,” NSF-HSD, \$748,712, 9/1/06 – 10/31/10, Pincetl and Saatchi, UCLA, Pataki and Saphores, UCI

“The spatial distribution of isotopic tracers in urban organic matter: understanding multiple and confounding effects of human activities on urban vegetation” NSF Geography, \$299,914, 8/06 – 1/10, Pataki

“Sources of dissolved nitrogen to urban watersheds in Orange County, California,” UCI CORCLR, \$24,876, 7/1/07-6/30/06, Pataki and Cooper

“Acquisition of capability for single-compound AMS measurement of organic matter at the W.M. Keck Carbon Cycle Accelerator Mass Spectrometry Facility at UC Irvine” NSF EAR, \$411,163, Druffel, Pataki, Southon, Treseder, Trumbore, 11/05 – 10/08

“Improving greenhouse gas emissions inventories in California with atmospheric measurements,” UC Energy Institute, \$35,000, 7/06 – 6/07, Pataki

“Controls on C and N cycling in a Southern California urban turfgrass ecosystem” Kearney Foundation of Soil Science, \$39,951, 1/06 – 12/06, Pataki

“Plant water use in Owens Valley, CA: Understanding the influence of climate and depth to groundwater.” UC Center for Water Resources, \$57,882, Pataki, 7/05 – 6/07

Research Experience for Undergraduates, NSF cross-directorate, \$30,000, Forster, Pataki, Emmi, Klewicki and Peterson, 1/04-2/07

“Urban trace-gas emissions study (UTES): Interactions between canopy processes, anthropogenic emissions, and social institutions in the Salt Lake Valley, Utah.” NSF-biocomplexity, \$1,498,173, Pataki, Emmi, Forster, Klewicki, Peterson, 9/02-2/07

“Is carbon sequestration a feasible management goal for urban soils? Exploratory research in the Los Angeles Basin” Newkirk Center for Science and Society, \$12,500, Pataki and Trumbore, 9/05 – 9/06

Workshop: “Carbon respiration from terrestrial ecosystems – reducing uncertainties in the role played by respiration in the global carbon cycle.” NSF-CaRTE, \$72,277, Trumbore, 9/02-8/04

“Support of the GCTE Focus 1 Office (Ecosystem Processes in Biogeochemical Cycles)”, NASA, \$170,660, Ehleringer and Pataki, 2/02-12/03

Workshop: “Tracing carbon in elevated CO₂ experiments: A workshop on isotopic analyses of where the carbon is going.” DOE \$19,774, Ellsworth and Pataki, 1/01-1/02

Teaching

Courses Taught at UC Irvine:

ESS 226 Land surface processes (graduate)

ESS 218 Terrestrial Ecology (graduate)

ESS 60B Local and Regional Environmental Issues (undergraduate lower division)

BIO E127/ESS 168/268 Physiological Plant Ecology (undergraduate upper division/graduate)

BIO 2B The Ecology of Your Backyard (freshman seminar)

BIO 2B Water in the West (freshman seminar)

BIO 2B Trees of the World (freshman seminar)

US 13A Environmental Studies (undergraduate lower division)

Graduate students supervised:

Christine Goedhart, Ph.D., 2010, now a lecturer, Citrus College

Neeta Bijoor, Ph.D., 2010, now a post-doctoral researcher, UC Irvine

Sonja Djuricin, Ph.D., 2011, now a post-doctoral researcher, UC Irvine

Elizaveta Litvak, current

Wenwen Wang, current

Post-doctoral researchers supervised:

Amy Townsend-Small, now an Asst. Prof, University of Cincinnati

Heather McCarthy, now an Asst. Prof, University of Oklahoma

Other professional activities

Conferences and Events

Co-organizer, “Ecological monitoring and research to support adaptive management of Orange County open space.” January 27, 2012, Irvine, CA, USA.

Co-organizer, “Non-steady state isotopic enrichment of leaf water” December 4, 2005, San Francisco, CA.

Steering committee, “Modeling ecosystem responses to global change: Techniques and recent advances” January 9-12, 2005, Fort Meyers Fl, USA

Co-organizer, "Oxygen isotopes as a tracer linking global O₂, CO₂, and H₂O cycles." September 19-22, 2004, Marshall, California, USA.

Co-organizer, "Carbon Respiration from Terrestrial Ecosystems: Reducing uncertainties in the role played by respiration in the global carbon cycle." January 21-24, 2004, Laguna Beach, California, USA.

Steering committee, "Interactions between increasing CO₂ and temperature in terrestrial ecosystems." April 27-30, 2003, Lake Tahoe, California, USA.

Co-organizer, "CO₂ and water: The biosphere-atmosphere-hydrosphere loop driven by plant responses to CO₂ enrichment." Aug. 17-20, 2002, Basel, Switzerland.

Steering committee, "Biological controls on the stable isotope composition of atmospheric carbon dioxide, methane and nitrous oxide: processes and applications." May 12-14, 2002, Banff, Canada.

Steering committee, "From transient to steady state responses of ecosystems to CO₂ enrichment and global warming." April 28-May, 2002, Durham, NH, USA.

Co-organizer, "Tracing carbon in elevated CO₂ experiments: a workshop on isotopic analyses of where the carbon is going." Oct. 19-21, 2001, Durham, NC, USA

Co-organizer, "Progressive nitrogen limitation of plant and ecosystem responses to elevated CO₂." May 10-12, 2001, Santa Barbara, CA, USA (continuing NCEAS series).

Steering committee, "FACE 2000 conference." June 25-30, 2000, Tsukuba, Japan.

Memberships

Ecological Society of America
American Geophysical Union
International Association for Urban Climate