

## YIQI\* LUO

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September 30, 2009  
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### EDUCATION

- Postdoctoral fellow, Stanford University. 1992-94.
- Postdoctoral fellow, University of California, Los Angeles. 1991-92.
- Ph.D. in Ecology, University of California, Davis. 1991.
- Advanced studies in mathematics, China, 1982-85.
- B.S. Agronomy, Yangzhou University (formerly Jiangsu Agriculture College), China. 1982.

### ACADEMIC APPOINTMENTS

- 2001-pres. Professor, Department of Botany and Microbiology. University of Oklahoma.
- 2008-pres. Director, Center of Ecological Forecasting and Data Assimilation, University of Oklahoma.
- 2008-pres. Visiting Professor, Department of Ecology and Evolutionary Biology, Fudan Univ. China
- 2005-06. Visiting Fellow, Department of Ecology and Evolution, Princeton University.
- 2005-08. Visiting professor, Institute of Geographical Sciences and Natural Resources Research, Chinese Academy of Sciences, Beijing, China
- 2003-pres. Interim Director for Global Change Ecology Research Center, University of Oklahoma.
- 2003-08. China's Ministry of Education Chang-Jiang Chair Professor, Fudan University, China.
- 1999-2001. Associate Professor, Department of Botany and Microbiology. University of Oklahoma.
- 1997-98. Associate Research Professor. Desert Research Institute, University of Nevada.
- 1994-97. Assistant Research Professor. Desert Research Institute, University of Nevada.
- 1997-98. Graduate faculty, Hydrological Sciences program, University of Nevada, Reno.
- 1996. Visiting lecturer, Department of Economics, University of Nevada, Reno.
- 1994-98. Graduate faculty, Ecology, Evolution and Conservation Biology program, University of Nevada, Reno.
- 1981-85. Lecturer and research associate, Dep't of Agronomy, Yangzhou University, China.

### TEACHING AND SUPERVISING EXPERIENCE

- 1994-pres. Supervised 20 postdocs, 22 graduate students, 18 undergraduates/high school students, and 5 technicians; hosted 19 international and national visiting scholars and professors.
- Presently, about 20 people in my lab.

#### Lecturing

- 2002-pres. BOT 4810/5810. *Ecosystem Ecology*, University of Oklahoma.
- 2001-pres. BOT/ZOO/MBIO 6003. *Ecological Modeling*. University of Oklahoma
- 1999-pres. BOT 3453. *Principles of Plant Ecology*. University of Oklahoma
- 2004. *Research Methods in Global Change and Ecosystem Science in Ecology Lecture Series*, Fudan University, China
- 2003, 2008, 2009. *Global Change Ecology*, a short summer course at Fudan University, China.
- 2000. BOT 4810/5810. *Global Change Biology*. University of Oklahoma
- 1998. BIO 325 *Computer acquaintance and applications in biological sciences*. University of Nevada, Reno.
- 1997. BIO712 *Ecological Modeling*. University of Nevada, Reno.

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\*Pronounced as E-chee

1996. ECO 350. *Principles of Statistics*. University of Nevada, Reno.  
1982-85. *Experimental Design and Biostatistics*. Yangzhou University.  
1983. *Regression Analysis*. Yangzhou University.

Teaching Assistant

1990. *Plant-Soil-Water Relationships*. University of California, Davis.  
1990. *Energy, Society, and Environment*. University of California, Davis.  
1980-82. *Experimental Design and Biostatistics*. Yangzhou University.

**HONORS, AWARDS, AND SCHOLARSHIPS**

2008. The Best Paper Award in Journal of Integrative Plant Biology  
2003-08. Changjiang Scholarship, Minister of Education, China  
2001. Honored student adviser, University of Oklahoma Student Association  
1999. Research Award to Foreign Specialist, National Institution of Agro-Environmental Science, Japan.  
1993. Travel award to present a paper in a symposium in honor of the 60th birthday of Dr. Paul J. Crutzen, a Nobel prize Laureate, held at Boulder, Colorado.  
1988. Honorary membership in Phi Sigma Society, Gamma Delta Chapter.  
1985-86. Overseas Study Scholarship. Education Commission, China.  
1985. Achievements Award in Science and Technology, Jiangsu Province, China.

**RESEARCH GRANTS**

Funded projects (Totaling USD \$28,672,440, Chinese Yuan ¥1,015,000, 143,100€EURO's)

44. 2009-2012. The State of Oklahoma, Regents for Higher Education \$300,000 (match) (Co-PI and PI: Paul Risser) “Collaborative Research: EPSCoR RII Track 2 Oklahoma and Kansas: A cyberCommons for Ecological Forecasting”  
43. 2009-2012. NSF EPSCoR \$6,000,000 (Co-PI and lead scientist for Oklahoma, PI: Paul Risser) “Collaborative Research: EPSCoR RII Track 2 Oklahoma and Kansas: A cyberCommons for Ecological Forecasting”  
42. 2009-2012. NSF \$1,079,454 (Principle Investigator): Development of a Data Assimilation Capability towards Ecological Forecasting in a Data-Rich Era  
41. 2009-2010. Oklahoma Bioenergy Center \$250,000 (Co-PI, PI: Liyou Wu) System-level understanding the factors controlling feedstock productivity and sustainability.  
40. 2009-2010. NSF \$13,000 and DOE \$15,000 (Principal Investigator): DOE-NSF Workshop: Coordinated Approaches to Address Long-Term Issues in Global Change Experiments  
39. 2009-2014. NSF \$500,000 (Principal Investigator): RCN: **F**orecasts **O**f **R**esource and **E**nvironmental **C**hanges: data **A**ssimilation **S**cience and **T**echnology (FORECAST)  
38. 2008-2010. NCEAS (National Center for Ecological Analysis and Synthesis) \$86,400 (Co-PI, PI: Richard Norby, Oak Ridge National laboratory), Benchmarking Ecosystem Response Models with Experimental Data from Long-term CO<sub>2</sub> Enrichment Experiments.  
37. 2008-2009. University of Oklahoma College Center Investment Fund \$55,000 (PI). Center for Ecological Forecasting and Data Assimilation (CEFDA)  
36. 2008-2010. State of Oklahoma \$380,838 (Co-PI, PI: J. Zhou) Linking community structure to functions: Metagenomic analysis of Feedstock-Related Microbial Communities using GeoChip and Pyrosequencing  
35. 2008-2013. NSF \$450,000 (Principal Investigator) LTREB: Effects of Warming and Clipping on Coupling of Carbon and Water Cycles in a Tallgrass Prairie  
34. 2008-2011. DOE NICCR (National Institute of Climate Change Research) \$388,141 (Principal Investigator) Experimental and modeling study of interactive effects of warming and altered precipitation on function and structure of a tallgrass prairie in the Great Plains.  
33. 2007-2011. EPA. \$899,091. (Co-PI, PI: D. Obrist, Desert Research Institute) Effects of Global

- Change on the Atmospheric Hg Burden and Atmospheric Hg Sequestration through Changes in Ecosystem Carbon Pools.
32. 2007-2008. Bridge fund, Vice President of Research Office, University of Oklahoma, \$22,158.
  31. 2007-2008. NSF. \$48,000 (Principal Investigator). Workshop: Data-Model Assimilation in Ecology: Techniques and Applications.
  30. 2006-2009. DOE. \$750,000 (Principal Investigator). Data-Model Assimilation at the FACE and AmeriFlux Sites Toward Predictive Understanding of Carbon Sequestration at Ecosystem and Continental Scales
  29. 2005-2006. Europe Union Science Foundation, 143,100€EURO's (Co-I) EPRECOT: Effects of PREcipitation Change on Terrestrial ecosystems – a workshop and networking activity. (PI: Claus Beier, RISOE National Laboratory, Denmark).
  28. 2005-2006. DOE. \$260,000 (Principal Investigator). Data-Model Assimilation at the Duke FACE Site Toward Predictive Understanding of Carbon Sequestration at Ecosystem and Regional Scales
  27. 2005-2008 NSF. \$260,000 (Principal Investigator) Data-Model Fusion at AmeriFlux Sites: Towards Predictive Understanding of Seasonal and Interannual Variability in Net Ecosystem Exchange.
  27. 2004-2008. Vice President of Research Fund, University of Oklahoma, \$66,308.
  26. 2003-2008. China's Ministry of Education, Chinese Yuan ¥1,000,000 (≈USD \$121,000) (Principal Investigator). Development of a research program at Fudan University and execution of relevant research projects.
  25. 2003-2005. DOE Office of Fossil Energy, 1,600,000 (Co-I) Carbon Sequestration Regional Partnerships: Southwest Regional Partnership for Carbon Sequestration. (PI: Brian McPherson, New Mexico Institute of Mining and Technology).
  24. 2003-2004. National Institute of Global Environmental Change, DOE, \$108,927. (Principal Investigator) Interannual Variability in Net Ecosystem Exchange in Colorado Subalpine Forest: Partitioning into Causes between Climatic Variability and Functional Changes
  23. 2001-2005. DOE. \$981,565 (Principal Investigator). Modeling Studies in the Duke Forest Free-Air CO<sub>2</sub> Enrichment (FACE) program.
  22. 2001-2006. NSF. \$499,997 (Co-I) Research Coordination Network: Terrestrial Ecosystem Responses to Atmospheric and Climate Change. (PI: L. Rustad. USDA Forest Service)
  21. 2000-2003. National Center of Ecological Analysis and Synthesis (NCEAS). \$38,000. (Principal Investigator) Progressive Nitrogen Limitation of Plant and Ecosystem Responses to Elevated CO<sub>2</sub>.
  20. 2000-2005. NSF Integrated Research Challenge in Environmental Biology. \$3,000,000. (Co-PI) IRCEB: Interannual climate variability and ecosystem processes – A quantitative assessment combining modeling with field and mesocosm experiments. (PI: J. Arnon III, Desert Research Institute)
  19. 2000-2003. National Institute of Global Environmental Change, DOE, \$349,000. (Principal Investigator) Modeling Studies of Forest/Atmosphere Carbon Fluxes in a Colorado Subalpine Ecosystem.
  18. 2000-2001. Oklahoma NASA EPSCoR, \$28,527. (Principal Investigator) Human Impacts on Ecosystem Biodiversity and Functions: Development of Partnerships with NASA Goddard Space Flight Center
  17. 1998-2001. TECO (Terrestrial Ecosystem and Global Change), a NSF/DOE/ NASA/USDA/NOAA joint program through DOE. \$696,693 (Principal Investigator) Transient responses in ecosystem Free-Air CO<sub>2</sub> Enrichment (FACE) experiments and a deconvolution analysis.
  16. 1998-2001. DOE. \$2,850,017 (Co-PI) Forest-Atmosphere Carbon Transfer and Storage (FACTS-I): Continuation. (PI: W. Schlesinger, Duke University)
  15. 1999-2000. University of Oklahoma Research Council, \$9,995 (Principal Investigator). Effects of global warming on ecosystem structure and function: Establishing a field experiment to collect preliminary data.
  14. 1997-2000. Andrew Mellon Foundation and Desert Research Institute. \$500,000 (Co-PI). A

- mesocosm study of ecosystem N dynamics. (PI: J. Coleman, Desert Research Institute).
13. 1998-99. US Forest Service. \$1,000,000 (Co-PI) Integrative assessments on the forest watershed in Lake Tahoe Basin.
  12. 1998. Nevada Applied Research Initiative. \$30,012 (Principal investigator). Watershed research in the Lake Tahoe Basin.
  11. 1997. The Canada Center of Remote Sensing. CND\$5,000. (Principal Investigator) Quantification of carbon sink in Canada land area.
  10. 1997-98. DOE. \$100,000 (Co-PI) Continuation of CMEAL (CO<sub>2</sub> Models/Experiments Activity for improved Links) project. (PI: C.B. Field, Carnegie Institution of Washington)
  9. 1996-98. Desert Research Institute \$13,551 (Principal Investigator) Global terrestrial carbon sink and its spatial distribution
  8. 1996-97. DOE EPSCoR \$400,000 (Co-PI) Responses of desert vegetation to elevated atmospheric carbon dioxide: The NTS desert FACE facility. (PI: J.S. Seemann, the University of Nevada, Reno).
  7. 1995-98. DOE. \$2,455,000 (Co-PI) Forest-Atmosphere Carbon Transfer and Storage (FACTS-I): The Duke Forest FACE (Free Air CO<sub>2</sub>-Enrichment) experiment. (PIs: W. Schlesinger, Duke University, and G. Hendrey, Brookhaven National Laboratory).
  6. 1995-97. DOE. \$300,000 (Co-PI) CMEAL: CO<sub>2</sub> Models/Experiments Activity for improved Links. (PI: C.B. Field, Carnegie Institution of Washington).
  5. 1995-98. NSF \$415,000 (Co-PI) Effects of elevated CO<sub>2</sub> on a Mojave desert ecosystem (PI: S.D. Smith, University of Nevada, Las Vegas).
  4. 1995-96. USDA and Cornell University. \$10,000 (Co-PI) Workshop: Plant acclimation to elevated CO<sub>2</sub>. (PI: D. Wolfe, Cornell University).
  3. 1994-97. DOE and Electric Power Research Institute (EPRI). \$1,400,000 (Co-PI). Continuation of Experimental Work on Forest Response to CO<sub>2</sub>. (PI: J.T. Ball, Desert Research Institute).
  2. 1994-96. USDA. \$107,000 (Principal Investigator). Test of a model predicting photosynthetic responses to elevated CO<sub>2</sub>.
  1. 1982-85. Agriculture and Forestry Department of Jiangsu Province, China. 15,000 Chinese Yuan. Quantitative genetic studies of corn and wheat.

## PUBLICATIONS

### Books

6. Changming Fang, Bo Li, Yiqi Luo, Jiquan Chen, Jiakuan Chen, (eds.) Ecology in Yangtze River Estuary to be published by Springer "Ecology Studies Series"
5. Luo, Y. and X. Zhou. 2006. *Soil Respiration and the Environment*. Academic Press/Elsevier, San Diego. Pp 328. (Chinese version to be published in 2007 by Higher Education Press, Beijing)
4. Li B, Zhao B, Peng RH, Luo Y. et al. 2005. Translation of book *Principles of Terrestrial Ecosystem Ecology* by Chapin FS, Matson PA, and Mooney HA from English to Chinese. Higher Education Press, Beijing, China.
3. Luo, Y. and H.A. Mooney. (Eds.) 1999. *Carbon Dioxide and Environmental Stress*. Academic Press, San Diego. Pp 418.
2. Mo, H., J. Chang, Y. Luo, J. Kua. 1984. Translation of book *Principles of Crop Improvement* by N.W. Simmonds from English to Chinese. Jiangsu Science & Technology Press, China.
1. Luo, Y. 1983. A Textbook *Agricultural Experimentation: Design and Analysis*. 137p. Jiangsu Agricultural College, China.

### Book chapters/encyclopedia essays

17. Luo, Y.Q. 2009. Residence times. In Steven I. Dutch (ed.) *Encyclopedia of Global Warming*, Salem Press, Pasadena, CA
16. Luo, Y.Q. 2009. Nitrogen fertilization. In Steven I. Dutch (ed.) *Encyclopedia of Global Warming*, Salem Press, Pasadena, CA
15. Luo, Y.Q. 2009. Carbon Dioxide Fertilization. In Steven I. Dutch (ed.) *Encyclopedia of Global Warming*,

Salem Press, Pasadena, CA

14. Luo, Y.Q. 2009. Ecosystems. In Steven I. Dutch (ed.) *Encyclopedia of Global Warming*, Salem Press, Pasadena, CA.
13. Luo, Y. and L. Zhang, Assimilation of multi-scale and multi-source ecological data: Techniques and its application to carbon cycle research. In: Yu GR et al. (eds). *Human Activities and Ecosystem Dynamics*. Science Press, Beijing (Chinese with English abstract).
12. Luo, Y. and D. Hui, 2008. Gradual global environmental change in the real world and step manipulative experiments in laboratory and field: the need of inverse analysis. In: Miao SL, Carstenn S, Nungesser M (eds). *Real World Ecology: Large-scale and Long-term Case Studies and Methods*. Springer, New York.
11. Canadell, J.G., D. Pataki, R. Gifford, R. Houghton, Y. Luo, M. Raupach, P. Smith, W. Steffen. 2007. Saturation of the Terrestrial Carbon Sink. Pp. 81-100. In: Canadell JG, Pataki D, Pitelka L (eds) *Terrestrial Ecosystems in a Changing World*. IGBP Series, Springer, Berlin
10. Chen, J., B. Lu, Y. Luo, and Q. Don. 2005. Scientific writing and publication procedure. Pp. 198-222. (In Chinese) In: J. Chen, L. Bo, Z. Ma, and B. Zhao (eds.), *Challenges Facing Ecologists: Questions and Approaches*, Higher Education Press, Beijing, China. 244pp
9. Luo, Y. 2003. Biomes, definitions and determinants. Pp. 147-150. In B.D. Ness (editor). *Magill's Encyclopedia of Science: Plant Life*. Salem Press, Pasadena, California.
8. Luo, Y. 2003. Nutrient cycling. Pp. 732-734. In B.D. Ness (editor). *Magill's Encyclopedia of Science: Plant Life*. Salem Press, Pasadena, California.
7. Miao, S., Y. Luo, Y. Liu, D. Hui. 2002. Structure and Functional Response of Plants to Global Climate Change. Pp. 121-143. In Wu, J. and X. Han (eds). *Lectures in Modern Ecology: From Basic Science to Environmental Issues*. Science Press, Beijing. China. (In Chinese with English abstract).
6. Luo, Y. 1999. Scaling against environmental and biological variability: General Principles and A case study. Pp. 309-331. In: Luo, Y. and H.A. Mooney. (Eds.) *Carbon Dioxide and Environmental Stress*. Academic Press, San Diego.
5. Luo, Y., Canadell, J. and H.A. Mooney. 1999. Interactive effects of carbon dioxide and environmental stress on plants and ecosystems: A synthesis. Pp.393-408. In: Luo, Y. and H.A. Mooney. (Eds.) *Carbon Dioxide and Environmental Stress*. Academic Press, San Diego.
4. Mooney, H.A. and Y. Luo. 1999. Preface. Pp. xiii-xiv. In: Luo, Y. and H.A. Mooney. (Eds.) *Carbon Dioxide and Environmental Stress*. Academic Press, San Diego.
3. Luo, Y. 1997. Quantifying global terrestrial carbon influx and storage as stimulated by an increase in atmospheric CO<sub>2</sub> concentration. pp. 129-140. In C.M. Isaacs and V.L. Tharp (eds.) *Proceedings of the Thirteen Annual Pacific Climate (PACLIM) Workshop, April 15-18, 1996*. Interagency Ecological Program, Technical Report 53. California Department of Water Resource.
2. Luo, Y. and H.A. Mooney. 1996. Stimulation of global photosynthetic carbon influx by an increase in atmospheric carbon dioxide concentration. pp. 381-397. In G.W. Koch and H.A. Mooney (eds.) *Carbon Dioxide and Terrestrial Ecosystems*. Academic Press, San Diego.
1. Loomis, R.S., Y. Luo, and P. Kooman, 1990. Integration of activities in the higher plant. pp. 105-124. In R. Rabbinge, J. Goudriaan, H. van Keulen, F.W.T. Penning de Vries, and H.H. van Laar (eds.). *Theoretical Production Ecology: reflections and prospects*. Pudoc, Wageningen, The Netherlands. 318p.

Papers in peer-reviewed journals

123. Bell JE, R. Sherry, YQ Luo. 20xx Changes in soil water dynamics due to variation in precipitation and temperature: an ecohydrological analysis in a tallgrass prairie. *Water Resource Research*. In press.
122. Cheng XL, YQ Luo, B. Su, PSJ Verburg, DF Hui, D Obrist, JA Arnone III, DW Johnson, RD Evans. Responses of net ecosystem CO<sub>2</sub> exchange to nitrogen fertilization in experimentally manipulated grassland ecosystems. *Agricultural and Forest Meteorology*.
121. Piao SL, S. Luysaert, P. Ciais, I. Janssens, AP Chen, C Cao, P Friedlingstein, YQ Luo, SP Wang

- Forest annual carbon cost: A global-scale analysis of autotrophic respiration. *Ecology*. In press
120. Cheng XL, YQ Luo, Q Xu, GH Lin, QF Zhang, JK Chen, B Li. Seasonal variation in CH<sub>4</sub> emission and its <sup>13</sup>C-isotopic signature from *Spartina alterniflora* and *Scirpus mariqueter* soils in an estuarine wetland. *Plant and Soil*
119. Zhou T, PJ Shi, DF Hui and YQ Luo 2009. Global pattern of temperature sensitivity of soil heterogeneous respiration (Q<sub>10</sub>) and its implications for carbon-climate feedback. *Journal of Geophysical Research – Biogeosciences*. 114, G02016, doi:10.1029/2008JG000850
118. Williams M, A. D. Richardson, M. Reichstein, P.C. Stoy, P. Peylin, H. Verbeeck, N. Carvalhais, M. Jung, D. Y. Hollinger, J. Kattge, R. Leuning, Y. Luo, E. Tomelleri, C. Trudinger, and Y.-P. Wang. 2009. Improving land surface models with FLUXNET data. *Biogeosciences Discuss.*, 6, 2785-2835.
117. Wu XW, YQ Luo, ES Weng, L White, Y Ma, and XH Zhou. 2009. Conditional inversion to estimate parameters from eddy flux observations. *Journal of Plant Ecology*. 2:55-68.
116. Yuan W, Luo Y, Richardson AD, Oren R, Luysaert S, Janssens IA, Ceulemans R, Zhou X, Grünwald T, Aubinet M, Berhofer C, Baldocchi DD, Chen J, Dunn AL, Deforest J, Dragoni D, Goldstein AH, Moors E, Munger JW, Monson RK, Suyker AE, Starr G, Scott RL, Tenhunen J, Verma SB, Vesala T, Wofsy SC, 2009. Latitudinal Patterns of Magnitude and Interannual Variability in Net Ecosystem Exchange Regulated by Biological and Environmental Variables. *Global Change Biology*. In press.
115. Zhou T, PJ Shi, DF Hui and YQ Luo. 2009. Inverse modeling of spatial pattern in temperature sensitivity (Q<sub>10</sub>) of soil respiration in China. *Science in China Series D: Earth Sciences* In press.
114. Hungate BA, van Groenigen KJ, Six J, Jastrow JD, Luo Y, de Graaff MA, van Kessel C., Osenberg CW. 2009. Assessing the effect of elevated CO<sub>2</sub> on soil carbon: a comparison of four meta-analyses. *Global Change Biology*. 15:2020-2034.
113. Jiang LF, YQ Luo, JK Chen, and B Li, 2009. Ecophysiological characteristics of invasive *Spartina alterniflora* and native species in salt marshes of Yangtze River estuary, China. *Estuarine, Coastal and Shelf Science*. 81:74-82.
112. Belay-Tedla A. XH Zhou, B Su, SQ Wan and YQ Luo. 2009. Labile, recalcitrant, and microbial carbon and nitrogen pools of a tallgrass prairie soil in the US Great Plains subjected to experimental warming and clipping. *Soil Biology & Biochemistry*. 41: 110-116.
111. Verburg PSJ, Johnson DW, Schorran DE, Wallace LL, Luo YQ and Arnone III JA. 2009. Impacts of an anomalously warm year on nutrient availability in experimentally manipulated intact tallgrass prairie ecosystems. *Global Change Biology*. 15: 888-900.
110. Luo YQ, R. Sherry, XH Zhou, SQ Wan. 2009. Terrestrial Carbon-Cycle Feedback to Climate Warming: Experimental Evidence on Plant Regulation and Impacts of Biofuel Feedstock Harvest. *GCB Bioenergy*. 1:62-74. doi: 10.1111/j.1757-1707.2008.01005.x
109. Liu M, HL He, GR Yu, YQ Luo, XM Sun and HM Wang. 2009. Uncertainty analysis of CO<sub>2</sub> flux components in subtropical evergreen coniferous plantation. *Science in China Series D: Earth Sciences*. 52:257-268.
108. Luo YQ, ES Weng, XW Wu, C Gao, XH Zhou, L. Zhang. 2009. Parameter Identifiability, Constraint, and Equifinality in Data Assimilation with Ecosystem Models. *Ecological Applications*. 19:571-574.
107. Arnone III JA, PSJ Verburg, DW Johnson, JD Larsen, RL Jasoni, AJ Lucchesi, CM Batts, C von Nagy, WG Coulombe, DE Schorran, PE Buck, RH Braswell, JS Coleman, RA Sherry, LL Wallace, YQ Luo, DS Schimel. 2008. Prolonged Suppression of Ecosystem Carbon Dioxide Uptake After an Anomalously Warm Year. *Nature*. 455:383-386.
106. Cheng, XL, JQ Chen, YQ Luo, R. Henderson, SQ An, QF Zhang, JK Chen and B.Li. 2008 Assessing the effects of short-term *Spartina alterniflora* invasion on labile and recalcitrant C and N pools by means of soil fractionation and stable C and N isotopes. *Geoderma*. 145: 177-184.
105. Sherry RA, Weng E, . Arnone III JJ, Johnson DW, Schimel DS,. Verburg PS, Wallace LL, Luo Y. 2008. Lagged Effects of Experimental Warming and Doubled Precipitation on Annual and Seasonal

- Aboveground Biomass Production in a Tallgrass Prairie. *Global Change Biology*. 14: 2923-2936.
104. Zhou T and YQ Luo. 2008. Spatial Patterns of Ecosystem Carbon Residence Time and NPP-Driven Carbon Uptake in the Conterminous United States. *Global Biogeochemical Cycles*. 22, GB3032, doi:10.1029/2007GB002939.
103. Knapp AK, C Beier, DD Briske, AT Classen, YQ Luo, M Reichstein, MD Smith, SD Smith, JE Bell, PA Fay, JL Heisler, SW Leavitt, R Sherry, B Smith and ES Weng. 2008 Consequences of more extreme precipitation regimes for terrestrial ecosystems. *BioSciences* 58: 811-821.
102. Gerten D, Luo Y, le Maire G, Parton WJ, Keough C, Weng E, Beier C, Ciais P, Cramer W, Dukes JS, Emmett B, Hanson PJ, Knapp A, Linder S, Nepstad D, Rustad L. 2008. Modelled Effects of Precipitation on Ecosystem Carbon and Water Dynamics in Different Climatic Zones. *Global Change Biology*. 2365–2379.
101. Luo Y, Gerten D, le Maire G, Parton WJ, Weng E, Zhou X, Keough C, Beier C, Ciais P, Cramer W, Dukes JS, Emmett B, Hanson PJ, Knapp A, Linder S, Nepstad D, Rustad L. 2008. Modelled Interactive Effects of Precipitation, Temperature, and CO<sub>2</sub> on Ecosystem Carbon and Water Dynamics in Different Climatic Zones. *Global Change Biology*. 14: 1986-1999.
100. Liao CZ, YQ Luo, CM Fang, JK Chen, and B Li. 2008. Litter pool sizes, decomposition, and nitrogen dynamics in *Spartina alterniflora*-invaded and native coastal marshlands of the Yangtze Estuary. *Oecologia*. 156:589–600.
99. Chen, JQ, B Zhao, WW Ren, SC Saunders, ZJ Ma, B Li, YQ Luo, JK Chen. 2008. Invasive *Spartina* and Reduced Sediments: Shanghai's Dangerous Silver Bullet. *Journal of Plant Ecology*. 1:79-84.
98. Weng ES and YQ Luo. 2008. Soil hydrological properties regulate grassland ecosystem responses to multifactor global change: a modeling analysis. *Journal of Geophysical Research – Biogeosciences* 113, G03003, doi:10.1029/2007JG000539
97. White L and YQ Luo, 2008. Modeling and inversion of net ecological exchange data using an Ito stochastic differential equation approach. *Applied Mathematics and Computation*. 196:686-704.
96. Zhang DQ, DF Hui, YQ Luo, and GY Zhou. 2008. Rates of Litter Decomposition in Terrestrial Ecosystems: Global Patterns and Controlling Factors. *Journal of Plant Ecology*. 1:85-93. doi: 10.1093/jpe/rtn002
95. Liao CZ, RH Peng, YQ Luo, XH Zhou, XW Wu, CM Fang, JK Chen, B Li. 2008. Altered ecosystem carbon and nitrogen cycles by plant invasion: A meta-analysis. *New Phytologist*. 177: 177, 706-714. doi: 10.1111/j.1469-8137.2007.02290.x
94. Zhou, X., E.Weng, Y. Luo. 2008. Modeling patterns of nonlinearity in ecosystem responses to temperature, CO<sub>2</sub>, and precipitation changes. *Ecological Applications*. 18: 453-466
93. Liao CZ, YQ Luo, LF Jiang, XH Zhou, XW Wu, CM Fang, JK Chen, and B Li. 2007. Invasion of *Spartina alterniflora* Enhanced Ecosystem Carbon and Nitrogen Stocks in the Yangtze Estuary, China. *Ecosystems*, DOI: 10.1007/s10021-007-9103-2.
92. Quan WM, CZ Fu, BS Jin, YQ Luo, B Li, JK Chen, JH Wu. 2007. Tidal Marshes as energy sources for commercially important nektonic organisms: Stable isotope analysis. *Marine Ecology progress Series*, 352:89-99. doi: 10.3354/meps07160.
91. Luo, Y. 2007. Terrestrial Carbon-Cycle Feedback to Climate Warming. *Annual Review of Ecology, Evolution, and Systematics*. 38: 683-712.
90. Cheng, XL, R.H. Peng, J.Q. Chen, Y.Q. Luo, Q.F. Zhang, S.Q. An, , J.K. Chen and B.Li. 2007. CH<sub>4</sub> and N<sub>2</sub>O emissions from *Spartina alterniflora* and *Phragmites australis* in experimental mesocosms. *Chemosphere*.68:420-427.
89. Zhou X, Wan S, Luo Y. 2007. Source components and interannual variability of soil CO<sub>2</sub> efflux under experimental warming and clipping in a grassland ecosystem. *Global Change Biology*. 13, 761–775, doi: 10.1111/j.1365-2486.2007.01333.x
88. Pataki, D.E., T. Xu, Y. Luo, J.R. Ehleringer. 2007. Inferring biogenic and anthropogenic CO<sub>2</sub> sources across an urban to rural gradient. *Oecologia*. 152:307-322.
87. Cheng, X., S. An, J.Chen, B. Li, Y. Luo, J. Chen, S. Liu, and Y. Liu. 2007. Spatial relationships

- among species, aboveground biomass, N, and P in disturbed prairie communities. *Journal of Arid Environment* 68: 652-667.
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#### **PRESENTATIONS/ABSTRACTS**

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  19. Luo, Y., D.A. Sims, 1996. Gradient studies of photosynthetic responses to CO<sub>2</sub>, light, and nitrogen. In annual ESA meeting held in Providence, Rhode Island 10-14 August 1996. *Bulletin of the Ecological Society of America* 77: 275.
  18. Sims, D.A., Y. Luo, 1996. Comparative studies of photosynthetic acclimation to CO<sub>2</sub>, light, and nitrogen. In annual ERA meeting held in Providence, Rhode Island 10-14 August 1996. *Bulletin of the Ecological Society of America* 77: 409.
  17. Luo, Y., K. Raffiee, and S. Song. 1996. Balancing recovery of endangered species and economic development in the Truckee River basin in the context of global change. In an international conference organized by Water Environment Federation, *Proceedings of Watershed 1996: Moving Ahead Together*. 509p.
  16. Luo, Y. 1996. Issues in studying terrestrial carbon processes for quantifying carbon sinks. In the annual meeting of DOE TCP funding program held in Lake Tahoe, California 26-28 June 1996.
  15. Luo Y. 1996. Whole-plant acclimation to elevated CO<sub>2</sub>: Gap between theory and data. In an IGBP-GCTE workshop of Plant Acclimation to Elevated CO<sub>2</sub> held in Lake Tahoe, California 19-23 May 1996.
  14. Luo, Y. 1996. Potential terrestrial carbon sequestration is 2.5 times "the missing sink" in the Thirteen Annual Pacific Climate (PACLIM) Workshop, Asilomar, Calif. April 14-17, 1996.
  13. Luo, Y. 1995. An global terrestrial carbon sequestration model to quantify potential carbon sink. In an EPRI global carbon cycle modeling review meeting held in Garmisch-Partenkirchen, Germany, 1-4 October 1995.
  12. Luo, Y. and J.T. Ball, 1995. Changes in global terrestrial carbon influx directly associated with an increase in atmospheric CO<sub>2</sub> concentration. In *Global Analysis, Interpretation, and Modeling: First Science Conference* held Garmisch-Partenkirchen, Germany, 25-29 September 1995.
  11. Luo, Y. 1995. A conceptual framework to quantify ecosystem carbon sequestration in response to rising atmospheric CO<sub>2</sub> concentration. In an IGBP-GCTE workshop of Plant-Soil Carbon Belowground: The Effects of Elevated CO<sub>2</sub> held in Oxford, UK, 20-23 September 1995.
  10. Sims, D.A., Y. Luo, and J.T. Ball, 1995. Photosynthetic acclimation to high CO<sub>2</sub> concentration varies with a plant's capacity to adjust leaf thickness and nitrogen concentration. In annual ERA meeting held in Snowbird, Utah 30 July - 3 August 1995. *Bulletin of the Ecological Society of America* 76: 245.
  9. Luo, Y., D.A. Sims, and J.T. Ball, 1995. An analytic approach to estimate global terrestrial carbon influx and storage associated with an increase in atmospheric CO<sub>2</sub> concentration. In annual ERA meeting held in Snowbird, Utah 30 July - 3 August 1995. *Bulletin of the Ecological Society of America* 76: 162.
  8. Luo, Y. 1995. Photosynthetic carbon uptake: coping with multiple stresses in scaling-up studies from leaf to globe. In an IGBP-GCTE workshop of Stress Effects on Future Terrestrial Carbon Fluxes held in Lake Tahoe, California 14-18 May 1995.

7. Luo, Y., H.A. Mooney, C.B. Field, J. Chen, and J.F. Reynolds, 1994. Applying GePSi to an annual grassland: A test of its generality. In Symposium of Modularity in Models of Plant Growth, annual meeting of International Society for Ecological Modeling, North American Chapter held in Knoxville, Tennessee, 7-11 August 1994. Proceedings, 26p.
6. Luo, Y., R.B. Jackson, C.B. Field, and H.A. Mooney, 1994. Responses of soil respiration to elevated CO<sub>2</sub> in two California grassland ecosystems. In annual meeting of ERA held in Knoxville, Tennessee, 7-11 August 1994. Bulletin of the Ecological Society of America 75: 139.
5. Luo, Y. H.A. Mooney, 1994. Global photosynthetic carbon uptake as stimulated by CO<sub>2</sub> increase in the atmosphere. In First GCTE Science Conference held in Woods Hole, Massachusetts, 23-27 May 1994, Book of Abstract, 41p.
4. Luo Y. 1994. Mechanisms of photosynthetic responses to elevated CO<sub>2</sub>. In EPRI 1993 Annual Review of Forest Response to CO<sub>2</sub> held at Incline Village, Nevada 11-14 January 1994.
3. Luo, Y. 1993. Stimulation of global carbon uptake by rising atmospheric CO<sub>2</sub> concentration. Symposium on Challenges in Atmospheric Chemistry and Global Change: Yesterday, Today and Tomorrow for celebrating the 60th birthday of Dr. Paul J. Crutzen held at National Center of Atmospheric Research, Boulder, Colorado, 5-7 December 1993.
2. Luo, Y., H.A. Mooney, and C.B. Field, 1993. An explanation of variable responses of photosynthesis and root/shoot ratio to elevated CO<sub>2</sub>. In annual meeting of ERA held in Madison, Wisconsin, 31 July-4 August 1993. Bulletin of the Ecological Society of America 74: 339.
1. Luo, Y. and P.S. Nobel, 1992. Carbon partitioning patterns and compartmental analysis for *Opuntia ficus-indica*. In annual meeting of ERA held in Honolulu, Hawaii, 9-13 August 1992. Bulletin of the Ecological Society of America 73: 256-257.

## STUDENTS, POST-DOCS, AND VISITORS

### Visiting professors and Scientists (19)

- 2009-2010, Lihua Zhou, Associate Professor, Institute of Cold and Dry Region Environment and Engineering, Chinese Academy of Science, Lanzhou, China.
2009. Chuankuan Wang, Professor, Northeastern Forestry University, Herbin, China.
- 2008-09. Xiaohong Jia, Associate Professor, Institute of Cold and Dry Region Environment and Engineering, Chinese Academy of Science, Lanzhou, China.
2008. Shuli Niu. Associate Professor, Institute of Botany, Chinese Academy of Sciences.
- 2007-09. Xiaoli Cheng, Associate Professor, Wuhan Botanical Garden, Chinese Academy of Sciences.
2006. Sarah Briden, Graduate student, University of West Virginia.
2006. 2007-09. Xian Xue, Associate Professor, Institute of Cold and Dry Region Environment and Engineering, Chinese Academy of Science, Lanzhou, China.
2006. Tao Wang, Director and Professor, Institute of Cold and Dry Region Environment and Engineering, Chinese Academy of Science, Lanzhou, China.
2006. Wenwei Ren, Associate Professor from Fudan University, Shanghai, China. Environmental Sustainability
- 2003-04 Yuan An, Associate Professor from Jiatong University, Shanghai, China. Grassland ecology.
2003. Jianchan Yang. Professor from Yangzhou University, China. Physiological ecology
2002. 2003. Deqiang, Zhang, Associate Professor of South China Institute of Botany, Guangzhou, China. Global patterns of controlling factors of litter decompositions in terrestrial ecosystems
- 2001-2002. Meichun Yan from Nanjing Agricultural University, China.
- 1999-2000. Asfaw Belay Tedla from University of Pretoria, South Africa
- 1999-2000. Antonio Cueto from Universidade de Santiago de Compostela, Spain.
- 1998-99 Shiqiang Wan. Ecosystem and watershed ecology.
1999. Belinda Medlyn from U. of Edinburgh. Modeling canopy carbon uptake in forests.
1998. Jesus M. Txurruka, Professor from U. of Basque Country, Spain. Growth modeling of *Arion*

ate.

1997-98. Hui Dafeng from Yangzhou U, China. Ecosystem modeling.

1995. Xueli Cheng from Desert Research Institute, China. Ecophysiology of desert plants.

Post-docs and research associates (a total of 20, currently 4)

2009-pres. Shuli Niu. Warming effects on carbon, water, and nutrient dynamics.

2008-pres. Yuanhe Yang, Nitrogen-carbon interactions during forest success and in response to elevated CO<sub>2</sub>.

2008-08. Xiaoli Cheng, Nutrient dynamics and litter decomposition under warming.

2007-pres. Xuhui Zhou, Inverse analysis.

2002-2008 Research Associate; 2008-pres. Assistant Research Professor, Rebecca A Sherry.  
Ecosystem carbon exchange under warming.

2007-2008. Wenping Yuan, Interannual variability of net ecosystem exchange of carbon and water.

2005. Tao Xu, Inverse analysis of biogeochemical cycles in terrestrial ecosystems

2005-07. Weng, Ensheng, Modeling ecosystem responses to multiple global change factors

2004. Asfaw Tedla. Microbial and genomic responses to experimental warming in tallgrass prairie.

2003-2005. Xiaoli Cheng. Trace emission from salt marsh (located in Fudan Univ. Shanghai, China)

2003-2005. Lifeng Jiang. Ecosystem C cycling in salt marsh (located in Fudan Univ. Shanghai, China)

2003-2005. Tao Zhou. Regional ecosystem modeling

2002-04. Dafeng Hui. Interannual variability in terrestrial ecosystem exchange of carbon and water.

2002-03. Ilkka Lenenoin, Modeling study of responses of Duke Forest to elevated CO<sub>2</sub>.

2000-02. Xiaodong Liu. Plant ecophysiology in response to global environmental change.

2000-01. Valérie Le Dantec. Modeling analysis of forest/atmosphere carbon exchange using eddy-flux data.

1999-2001. Lianhai Wu. Nutrient cycling in forests as affected by rising atmospheric [CO<sub>2</sub>]

1999-2000 Uwe Gruters. Hydrological cycle in forests as affected by rising atmospheric [CO<sub>2</sub>]

1998-99. Shi Kui Xue. Watershed ecology and modeling. (currently Senior Scientist, South Florida Water Management District [so-called Everglade Restoration Program])

1996-98. Andrew Peterson, Meta-data analysis.

1994-96. Daniel Sims. Plant physiological ecology.

Graduate students (a total of 22, currently 11, 8 at OU and 3 in China)

2009-pres. Jin Cai (Ph.D.) Interannual variability of ecosystem responses to warming

2008-pres. Oleksandra Hararuk (Ph.D.) Modeling study of mercury dynamics in terrestrial ecosystems.

2008-pres. Xia Xu (Ph.D.) Temperature sensitivity of soil organic matter.

2008-pres. Yan Xiaolei (Ph.D.) Modeling study of biogeochemical cycling.

2007-Pres. Shenfeng Fei (Ph.D.) inverse modeling and isotope study

2006-pres. Amada Hess (MS). Plant responses to experimental warming.

2006-pres. Li Zhang (Ph.D.) Parameter estimation of ecosystem carbon process model at a southern China Forest (located at Institute of Geographical Sciences and Natural Resources Research, Chinese Academy of Science, Beijing)

2006-08. Chao Gao (MS.) Inverse analysis of carbon processes at Duke Forest CO<sub>2</sub> experiment.

2006-09. Yixin Wen (MS) carbon and nitrogen dynamics during litter decomposition (located at Fudan Univ. Shanghai, China)

2005-pres. Meng Lu (Ph.D.) Meta-analysis of carbon and nitrogen interactions under fertilization (located at Fudan Univ. Shanghai, China)

2004-pres. Jesse Bell (Ph.D.) Plant-soil water relationship under warming.

2005-08. Zhao Ke (MS) carbon and nitrogen fluxes in coastal ecosystems (located at Fudan Univ. Shanghai, China)

2005-07. Wu, Xiaowen (MS) Thesis: "Conditional inversion to estimate parameters from eddy flux

observations”.

- 2004-07. Weimin Quan (Ph.D.) Biogeochemical cycles and food webs (located at Fudan Univ. Shanghai, China)
- 2003-05 Xiaowen Wu (MS) modeling study of invasive effects on carbon and nitrogen cycles (located at Fudan Univ. Shanghai, China)
- 2003-07. Chengzhang Liao (Ph.D.) Dissertation: “The effects of invasive alien plants on ecosystem carbon and nitrogen cycles: A case study of *Spartina alterniflora* invasion in the Yangtze estuary and a meta-analysis” (located at Fudan Univ. Shanghai, China)
- 2003-07. Xuhui Zhou (Ph.D.) Dissertation: “Responses of soil respiration and ecosystem productivity to climate change in southern Great Plains”.
- 2002-05. Afzal Subedar (MS). Thesis: “Effects of warming and clipping on carbon and nitrogen content and their isotope ratios in soil organic matter aggregates in a tall grass prairie ecosystem”.
- 2001-04. Asfaw Tedla (MS) Thesis: “Carbon and nitrogen dynamics and microbial community structure of a tall grass prairie soil subjected to simulated global warming and clipping”.
- 2000-02. Sara Bowdish (MS, coadvised with Linda Wallace). Thesis: “The effects of warming and land-use on species composition in the tallgrass prairie”
- 2000-05. Bo, Su (Ph.D.) Dissertation: “Interactions Between Ecosystem Carbon, Nitrogen and Water Cycles under Global Change: Results from Field and Mesocosm Experiments”.
- 2000-2002. Shiqiang Wan (Ph.D.) Dissertation: “Responses of a Tallgrass Prairie to Experimental Warming”.
- 1999-2002. Dafeng Hui (Ph.D.) Dissertation: “Experimental and Modeling Studies of Canopy Radiation and Water Use Efficiencies, Soil Respiration and Net Ecosystem Carbon Exchange”.

Undergraduate and high school students (a total of 18, currently 2 in the lab)

2008. Nathan Fite, Ecohydrological responses to climate change
2008. Michael Kistenmacher, Modeling of species dynamics
2007. Connor Ferguson from Norman High School: Summer intern.
2007. Rachael Carnes from Hendrix College: Summer intern
2007. Christopher Clary: Capstone project on soil crust in grasslands.
2006. William Snodgrass: Lab assistance
- 2004, summer. Jack Miller. Lab and office assistance.
- 2002-05. Taylor Clark, Assistance in literature study and office work.
- 2002 Ryan Hook from U. of Oklahoma. Ecosystem warming experiment.
- 2002-2003 Cody Sheik from U. of Oklahoma. Ecosystem warming experiment.
2001. Cassy Harnes from U. of Oklahoma. Ecosystem warming experiment.
2000. Tze-yuin Loh from U. of Oklahoma, ecosystem nitrogen cycling
- 2000-01. Gwen Cloud from U. of Oklahoma, biocomplexity and global warming effects on prairie.
1999. Edmond H. Mamou from Kalamazoo college, MI. Mathematical Ecology of carbon processes.
- 1999-2000. Luke Farbar from U. of Oklahoma, study global warming effects on tallgrass prairie.
1998. Vicker Rameker from Colorado State U. Human interactions in the Tahoe Basin ecosystems.
- 1995-97. Gavin Chandler from the University of Nevada, study plant responses to elevated CO<sub>2</sub>.
- 1994-95. Susan Pederson from the University of Nevada, study plant responses to elevated CO<sub>2</sub>.

Technician and Others (5)

- 2008-pres. Cory Buchanan, Construction of a warming and precipitation experimental facility.
- 2000-pres. Lynda Snake, accountant for financial management of research projects.
- 2002-03. Solja Lipitsainen. Field technician for the warming experiments.
- 2002-05. Nancy Zehrbach. Field/lab technician for the warming experiments.
- 2001-02. DeLora Mowery, Field technician for global warming studies.

**PROFESSIONAL ACTIVITIES**

Invited seminars/talks

2009

AmeriFlux annual meeting at DC, Sept. 21-23.

Keynote speech, 8<sup>th</sup> International Carbon Dioxide Conference, Jena, Germany, Sept 14-18.

High School teachers workshop, Oklahoma School of Science and Mathematics, Oklahoma City, June 10

Carbo-Extreme, European research project, Jena, Germany, June 2.

Fudan Ecology Summer School, Shanghai, China, May 22.

National Oceanic and Atmospheric Administration (NOAA) Earth System Research laboratory, Boulder, CO. April 2.

National Center for Atmosphere Research (NCAR) Land Modeling working group (LMWG) and

Biogeochemistry working group (BGCWG) annual meeting, Boulder CO. March 30-April 1.

Department of Ecosystem Science and Management, Texas A&M University, March 24.

Blackland Research Center, Texas A&M University, Temple March 23.

North America Carbon Program 2<sup>nd</sup> open science conference, San Diego, CA, Feb. 19.

Department of Biological Sciences, University of Arkansas, Jan. 22.

Department of Ecology and Evolution, College of Life sciences, Fudan University (Jan. 4)

2008

Department of Biological Science, College of Life Sciences, Zhejiang University, China, Dec. 29

School of Life Sciences, Nanjing University, China, Dec. 25

China's Ecology Lecture Series, Chinese Academy of Sciences, Beijing, Dec. 21

Department of Ecosystem Science and Management, Texas A&M University, September 26.

Laboratoire des Sciences du Climat et de l'Environnement, UMR CEA-CNRS-UVSQ, France, June 9.

Land surface models and FluxNET data workshop, Edinburgh, UK June 5.

Department of Ecology, Nanjing Forestry University, May 23.

International Institute of Earth System Sciences, Nanjing University, May 23.

Southern China Botany Garden, Chinese Academy of Sciences, Guangzhou, China, April 30.

Department of Environmental and Natural Resources, Haiyin Engineering College, China, April 28.

2007

Department of Ecology, Beijing University, (Dec. 26)

Department of Ecology and Evolution, College of Life sciences, Fudan University (Dec. 20)

NSF workshop on data-model assimilation in ecology: Techniques and application, Norman, OK (Oct. 22-24)

AmeriFlux annual meeting, Boulder CO (Oct. 17-19)

International workshop on Automatic soil respiration measurement and analysis, Durham, New Hampshire, (Sep 10-12)

4<sup>th</sup> international conference on nitrogen, Salvador, Brazil (Oct. 1-5)

EcoVision seminar series, Institute of Geographical Sciences and Natural Resources Research, Chinese Academy of Sciences, Beijing, China (May 21)

Oklahoma EPSCoR, Oklahoma City, (Apr 25)

C-QUEST open science meeting, Oxford, UK (Mar 26-28)

2006

Kessler Farm Field Laboratory seminar series, University of Oklahoma (Nov. 6)

Chinese Science and Technology Association, Changchun, China (Sept. 26).

Department of Physical and Atmospheric Sciences, Jackson State University, Mississippi (Sept 11)

Institute of Cold and Dry Region Environment and Engineering, Chinese Academy of Science (July 31)

NSF-funded workshop on effects of changes in precipitation on ecosystem functioning in terrestrial ecosystems in Helsingør, Denmark, (May 22-25)

Grazingland Research Laboratory, USDA, El Reno, Oklahoma (Feb. 24)  
Symposium on Environmental Sustainability in Rapidly Developing Countries, Lessons from China to be held at the annual AAAS meeting at St Louis in February.

2005

Institute of Geographical Sciences and Natural Resource Research, Chinese Academy of Science (Dec. 30)  
Labtea, Department of Ecology and Evolutionary Biology, Princeton University (Dec. 7)  
Steve Pacala's lab, Princeton University (Nov. 22)  
Ecology Graduate Program, Pennsylvania State University (Oct. 26)  
Ecology Graduate Program, Rutgers University (Oct. 7)  
Lars Hedin's lab, Princeton University (Sept 20)  
Advance Training Class of Ecology, Fudan University, Shanghai, China (Jul. 8)  
Institute of Geography and Natural Resources, Chinese Academy of Science (Feb. 24)  
Program of geography, Beijing Normal University (Feb. 22)  
Institute of Botany, Chinese Academy of Science, China (Feb 21)  
Planning workshop on data-model fusion at Duke FACE, Durham, NC (Jan. 13-14)  
NSF-funded workshop Modeling Ecosystem Responses to Global Change: Techniques and Recent Advances, Ft Myers, Florida (Jan. 9-12)

2004

Department of Ecology and Evolutionary Biology, University of Arizona (Feb. 9)  
Department of Biological Science, University of Oregon (Jan. 28)  
NSF-funded workshop, Carbon Respired by Terrestrial Ecosystems. (Jan. 21-23)

2003

College of Agricultural Sciences, Yangzhou University (Dec. 28)  
Division of Biological Sciences, Kansas State University. (Nov. 20)  
6<sup>th</sup> Meeting of the Carbon Cycle Science Steering Group, Arlington, VA (May 15)  
International workshop on "CO<sub>2</sub> x Temperature Interactions" organized by Terrestrial Ecosystem Responses to Atmospheric and Climate Change, Lake Tahoe, CA (April 28-May 1).  
Department of Environmental Science, Policy, and Management, University of California at Berkeley (Feb 10)

2002

Steve Wofsy's labs, Harvard University (May 2).  
International workshop on "Transient and Long-Term Responses of Ecosystems to Warming and Elevated CO<sub>2</sub>" organized by Terrestrial Ecosystem Responses to Atmospheric and Climate Change, Durham, New Hampshire. (April 28-May 1).  
2<sup>nd</sup> International conference on Astrobiology, Ames, California (April 7-11)  
Department of Urban Environment, Beijing University, Beijing, China (March 21)  
Institute of Botany, Chinese Academy of Science, Beijing, China (March 18)  
College of Agronomy, Yangzhou University, Yangzhou, China (March 14)  
College of Hydrological Science, Yangzhou University, Yangzhou, China (March 13)  
Biodiversity Science Institute, Fudan University, Shanghai, China (March 9)

2001

6<sup>th</sup> International Carbon Dioxide Conference, Sendai, Japan (October 1-5)  
College of Agriculture, Shanghai Jiaotong (transportation) University, Shanghai, China (March 22)  
Institute of Applied Ecology, Chinese Academy of Science, Shenyang, China (March 14)

Workshop on the Rice-Wheat Free-Air CO<sub>2</sub> Enrichment (FACE) study organized jointly by Japan National Institution of Agro-Environmental Science and Institute of Soil Research, Chinese Academy of Science, Nanjing, China (March 5-9)

Workshop on Biocomplexity in Pinyon-Juniper Woodlands, Northern Arizona University (Jan. 29-31)  
Department of Ecology, Evolution, and Organism Biology, The Ohio State University (Jan 11)

2000

Applied Biomathematics, Stony Brook, NY (Nov. 30)

Oklahoma School of Science and Mathematics (Nov. 28)

FACE2000, Synthesis of Free-Air CO<sub>2</sub> Enrichment (FACE) research results workshop at Tsukuba, Japan (June 23-30)

AmeriFlux NEP Workshop, Michigan (May 4-7)

Department of Plant Biology, University of Illinois at Urbana-Champaign (March 30)

Department of Biological Sciences, University of Illinois at Chicago (March 28)

Department of Plant and Soil Sciences, Oklahoma State University (January 24)

1999

Department of Biological Sciences, Tohoku University, Sendai, Japan (Dec)

National Institute of Agro-Environmental Sciences at Tsukuba, Japan (Dec)

Tohoku National Agricultural Experimental Station, at Morioka, Japan (Dec)

Symposium: Plant Responses to the Environment: From Molecules to Populations. Oklahoma Academy of Science, Oklahoma City (Nov)

Department of Botany, Oklahoma State University (September)

Department of Botany, Duke University (March)

1998

Department of Botany and Microbiology, University of Oklahoma

Department of Biological Sciences, University of Pittsburgh, Pennsylvania

Atmospheric Sciences Center, Desert Research Institute.

1997

Westvaco Forest Science Laboratory, South Carolina

Canada Centre of Remote Sensing, Ottawa, Canada

Daniel B. Warnell School of Forest Resources. University of Georgia.

An IGBP (International Geosphere-Biosphere Programme)-GCTE (Global Change and Terrestrial Ecosystems)/EUROFLUX Workshop "Representing structure and function in ecosystem models -- simplification vs. Complexity in approaches for regional and climate change assessments", Duke University, North Carolina.

Department of Integrative Biology, University of California, Berkeley

Department of Environmental Studies and Regional Planning, Washington State University.

Department of Biology, Hong Kong University of Science and Technology.

Department of Agronomy, Nanjing Agricultural University, China

Agricultural College, Yangzhou University, China.

1996

Department of Biology, New Mexico State University.

Department of Biology and Microbiology, South Dakota State University.

Annual meeting of the DOE Terrestrial Carbon Processes funding program, Lake Tahoe.

An IGBP-GCTE workshop "Plant Acclimation to Elevated CO<sub>2</sub>", Lake Tahoe, USA.

Center of Environmental Sciences and Resources, Portland State University

Center for Environmental Sciences and Education, Northern Arizona University

1995

An IGBP-GCTE workshop "Plant-Soil Carbon Belowground: The Effects of Elevated CO<sub>2</sub>", Oxford, UK.

An EPRI global carbon cycle modeling meeting, Garmisch-Partenkirchen, Germany.

An IGBP-GCTE workshop "Stress Effects on Future Terrestrial Carbon Fluxes", Lake Tahoe, USA.

Scripps Institution of Oceanography, University of California, San Diego

Jiangsu Agricultural College, Yangzhou University, China.

1994

International Society of Ecological Modeling. Symposium on Modularity in Models of Plant Growth.

1993

National Center of Atmospheric Research. Symposium on Challenges in Atmospheric Chemistry and Global Change: Yesterday, Today and Tomorrow.

Desert Research Institute, University and Community College System of Nevada.

Department of Botany, Duke University.

1992. Department of Biological Sciences, Stanford University.

1990. Department of Plant Biology, Carnegie Institution of Washington.

#### Memberships

American Association for the Advancement of Science (1988-pres.).

American Association of Agronomy (1988-1998).

American Geophysical Union. (1998-pres.)

American Institute of Biological Sciences (1990-95, 2001-2005)

Crop Science Society of America (1988-1998).

Botany Society of America (2003-04)

Ecology Society of America (1988-pres.)

Soil Science Society of America (1988-1998).

Society for Experimental Biology, UK (2003-04).

#### Editorial and review Services

Editorial boards, *Global Change Biology* (2009-pres.), *Ecological Applications* (2005-pres.), *Integrative Journal of Plant Biology* (2005-pres.), *Journal of Plant Ecology* (2007-pres.), *Acta Agronomica Sinica* (2007-pres.)

Advisory boards to editors, *Global Change Biology* (2007-2008), *New Phytologist* (2007-pres.).

Guest editor, *Ecology* (2004-06) for a special feature on Pool-Based Nitrogen Limitation Hypotheses.

Review of portfolios of professors for tenure and promotion at

Harvard University (2006)

Indiana University (2006)

University of California at Berkeley (2005)

University of California at Santa Cruz (2004)

University of Illinois at Chicago (2004)

University of Toledo (2000, 2002).

2008. Panel for the Midwest Center of the National Institute of Climate Change Research. Oct.

2006. Panel for the Northeast Center of the National Institute of Climate Change Research. April.

Overseas reviewers of applications to Changjian Scholarship program, China's Minister of Education (2005, 2006)

2004. Scientific Program Panel Review on DOE Consortium for Research on Carbon Sequestration in

- Terrestrial Ecosystems (CSITE). 8-9 December 2004, Washington, DC
2002. WESTGEC Regional Scientific Review Board of National Institute of Global Environmental Change (NIGEC), US DOE.
2000. Panelist for the NSF Biocomplexity program.
- 1994-pres. Review grant proposals for  
EPA (Environmental Protection Agency), Water and Watersheds  
NSF (National Science Foundation), International, Ecosystem, Evolution and Ecology  
Physiology, Biocomplexity.  
USDA NRI (Department of Agriculture, National Research Initiative), Plant responses.  
DOE Terrestrial Carbon Processes  
NICCR (National Institute of Global Environmental Change), US Department of Energy  
NIGEC DOE (National Institute of Global Environmental Change, Department of Energy)  
Water Resources Research, Regional Competitive Grants Program, Western Region
- 1994-pres. Review papers for Science, Nature, Ecology, Ecological Applications, Global Biogeochemical Cycles, Journal of Geophysical Research, Oecologia, Ecological Modeling, Plant, Cell & Environment, Global Change Biology, Tree Physiology, Functional Ecology, Environmental Science -- International Journal of Policy & Research, Plant Ecology, New Phytologists, Annals of botany, Environmental Science & Technology, Physiologia Plantarum, Acta Ecologica Sinica, Ecology Letter.
- 1989-92. Associate editor. CAASS (Chinese Association of Agricultural Students and Scholars in America) Journal.
- 1981-85. Editor for English abstracts. Journal of Jiangsu Agriculture College, China.

Services (professional societies and research community)

- 2009-pres. Scientific Steering Committee of the Earth Science Initiative of Tsinghua University, Beijing, China.
- 2009-2012. Advisor to an European Union project “The terrestrial Carbon cycle under Climate Variability and Extremes – a Pan-European synthesis: *CARBO-Extreme*”
2009. Co-organizer of a symposium: “The role of biodiversity for ecosystem processes and services under climate change” for the DIVERSITAS Open Science Conference, Cape Town, October 2009.
- 2008-11. Co-organizer of National Center for Ecological Analysis and Synthesis working group on Benchmarking ecosystem response models with experimental data from long-term CO<sub>2</sub> enrichment.
- 2008-09. Organizing committee for North America Carbon Program open science meeting, February 2009, San Diego, CA
- 2008-09. Co-organizer of New Phytologist Symposium: Carbon cycling in tropical forests, Guangzhou, China, November 2009.
2008. Organizer of an Ecological Society of America Symposium “Toward ecological forecasting, Applications of data-model fusion techniques.
2007. Organizer of a NSF workshop: Data-Model Assimilation in Ecology: Techniques and Applications to be held at Norman, Oklahoma in October
2007. Organizer of one session in Annual AmeriFlux meeting on “Data assimilation and uncertainty analysis”
2007. Co-organizer of organized oral session for 2007 ESA meeting: Ecosystem responses to experimental warming and other global change factors to be held in San Jose, CA in August
2007. Co-organizer of an international symposium for the 2007 Eco-Summit: Back to the Primaries of Ecosystem Mass Transfer: Carbon and Water Cycles, to be held in Beijing, China in May
- 2006 Organizer of the symposium on Environmental Sustainability in Rapidly Developing Countries, Lessons from China held at the annual AAAS meeting at St Louis in February, 2006.
2006. Co-organizer of the international workshop on effects of changes in precipitation on ecosystem

- functioning in terrestrial ecosystems held in Helsingør, Denmark, May 2006
2005. Co-organizer of an international workshop on Modeling Ecosystem Responses to Global Change: Techniques and Recent Advances held at Sannibel, FL in January 2005.
2003. Organizer of ESA symposium "Progressive Nitrogen Limitation of Plant and Ecosystem Responses to Elevated CO<sub>2</sub>"
- 2002-04. Working group member, IBRCS (Infrastructure for Biology at Regional to Continental Scales) – a version of NEON (National Ecological Observation Network), American Institute of Biological Sciences.
2003. Co-organizer of an international workshop on interactive responses of ecosystems to elevated CO<sub>2</sub> and global warming held at Lake Tahoe, CA.
- 2002 Co-organizer of the international workshop on Transient and long-term responses of ecosystems to elevated CO<sub>2</sub> and global warming.
2001. Invited participant for the strategic planning meeting on the National Phytotron at Duke University, Durham, NC. (Oct. 25-27)
2001. Member, the US science delegation to participate the 9<sup>th</sup> US-Japan workshop on global change, Tokyo, Japan (Oct. 8-10)
2001. Invited participant, workshop on nonlinear responses to global environmental change: critical thresholds and feedbacks. Durham, NC May 26-29.
- 2000-2003. Leader of an international working group on carbon and nitrogen interactions under elevated CO<sub>2</sub>. sponsored by NCEAS.
- 2000-2007 Steering Committee, International Global Warming and Elevated CO<sub>2</sub> Research Consortium.
- 2000-01. Chair, Asian Ecology Section, Ecological Society of America
2000. Co-organizer of the International conference FACE 2000 at Tsukuba, Japan
1999. Invited participant, An IGBP (International Geosphere-Biosphere Programme)-GCTE (Global Change and Terrestrial Ecosystems) Workshop "Intercomparison of Gap Models and Examination of How Much Physiology is Needed in Them" Pingree Park (Colorado). (July)
1999. Judge for the Billings Award and the Graduate Student Poster Award, Ecological Society of America.
- 1998-99. Science Core Team member for the Lake Tahoe Basin Watershed Assessment, US Forest Service
1997. Co-organizer of an international symposium "Changing Water Regime in Drylands" held at Lake Tahoe, California, June 9-13, 1997.
1996. Chair of the poster session "Plant Physiology: Effects of external variables" in ESA meeting at Providence, August, 1996
1996. Co-organizer of an IGBP-GCTE international workshop on plant acclimation to elevated CO<sub>2</sub> held at Lake Tahoe, May 19-23, 1996.
1995. Co-organizer of an IGBP-GCTE international workshop "Stress Effects on Future Terrestrial Carbon Fluxes" held at Lake Tahoe May 14-18, 1995.

Services (University of Oklahoma)

2009. Search Committee for mathematics professor
2008. A planning committee on development a new degree program in Geospatial Information and Sustainability Science (GISS), College of Atmospheric and Geographic Sciences
2008. Graduate student recruitment committee, Department of Botany and Microbiology
- 2007-pres. Graduate Admission Committee, Department of Botany and Microbiology
- 2007-08, Search Committee for Data assimilation and radar mechanics in meteorology.
- 2006-07. Search committee for Remote Sensing and GIS, Department of Geography
- 2006-07. Search committee for Microbial Ecology, Department of Botany and Microbiology.
- 2006-pres. Committee member on University Research Council, the University of Oklahoma.
- 2004-05. Executive committee for Ecology, Evolutionary Biology graduate program

- 2004-05. Search Committee for Environmental Microbiologist, Dept. of Botany and Microbiology.  
2003-04. Search Committee for Chinese Politics Professorship, International Study Program  
2003. Search Committee for Ecologist/Statistician, Department of Zoology, Univ. of Oklahoma  
2003. Committee member on University Research Council, the University of Oklahoma.  
2001-04. Leading a task force to establish a graduate program in Ecology and Evolutionary Biology.  
2001-pres. Promotion committee. Department of Botany and Microbiology, Univ. of Oklahoma.  
2001-2003. Committee for the Support of Teaching and Research, College of Arts and Sciences,  
University of Oklahoma  
2001-05. Adviser for Chinese Student and Scholar Association at the University of Oklahoma.  
2001-02. Search committee for a faculty position: Geomicrobiology. Department of Botany and  
Microbiology, University of Oklahoma.  
2001. *Ad hoc* Committee for evaluating the New Program "Master of Science in Natural Gas  
Engineering & Management". Graduate College, University of Oklahoma.  
2000. Planning committee of Global Environmental Studies, International Programs Centers,  
University of Oklahoma.  
1999-pres. Greenhouse committee, Department of Botany and Microbiology, Univ. of Oklahoma.  
(2001-, Committee Chair)  
1999-pres. Committee for the George Lynn Cross Lecturer, University of Oklahoma.  
1999-2001. Budget Committee, Department of Botany and Microbiology, University of Oklahoma.  
1999-pres. Undergraduate Advising Committee, College of Art and Science, University of Oklahoma  
Services (Desert Research Institute, University of Nevada Reno)  
1998 Search Committee for the position of root physiologist at UNR.  
1998 Search Committee for the position of professional writer at DRI.  
1998 Search Committee for the position of Ecologist at DRI.  
1997 Curriculum Committee of the EECB graduate program  
1997 Search Committee for the position of Ecosystem Ecologist at DRI.  
1997-98. Nevada Metal Fellowship Selection Panel at DRI  
1996-97 Search Committee for the position of Executive Director of Biological Sciences  
Center at DRI.  
1996 Chair, Search Committee for the position of Assistant Research Professor at DRI.  
1995-96 Project PI representing DRI in the Mojave Desert FACE study.  
1995- Student comprehensive examination committee for the graduate program of EECB.  
1995-97. The Colin Warden Award committee for best student research papers at DRI.  
1995-98. Hosting seminar speakers for the graduate program of EECB.