Weixin Cheng (程维信)

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Professional Appointments

- 2007-present, Professor, Department of Environmental Studies, UC Santa Cruz
- 2001-2007, Associate Professor, Department of Environmental Studies, UC Santa Cruz
- 1999-2001, Assistant Professor, Department of Environmental Studies, UC Santa Cruz
- 1998-1999, Assistant Professor, Department of Biological Sciences, Louisiana State University
- 1997-1998, Associate Research Professor, Biological Sciences Center, Desert Research Institute
- 1994-1997, Assistant Research Professor, Biological Sciences Center, Desert Research Institute
- 1992-1994, Assistant Research Scientist, Institute of Ecology, University of Georgia
- 1990-1992, Post-doctoral Research Scientist, Systems Ecology Research Group, San Diego State University
- 1989-1990, Post-doctoral Research Associate, Institute of Ecology, University of Georgia
- 1982-1985, Lecturer, Northeast Agricultural College, China

Education

- 1985-1989, Ph.D. in Ecology, University of Georgia, USA
- 1978-1982, B.S. in Agronomy, Northeast Agricultural College, China

Post-docs Supervised

- Jessica Gutknecht, 2007-2009
- Feike Dijkstra, 2004-2006
- Julia Gaudinski, 2002-2009
- Shenglei Fu, 2000-2002
- Richard Susfalk, 2000-2001

Graduate Students (PhDs) Supervised

- Daniel Keck, since 2005 (Project: Scaling rhizosphere respiration and priming effects from single plants to field ecosystems)
- Biao Zhu, since 2005 (Project: Soil temperature and moisture controls of rhizosphere priming effects on soil organic carbon decomposition)

- Alexander Gershenson, 2001-2007 (Dissertation: Notes from the underground: the science and policy of soil carbon, June 2007)
- Sajeemas Pasakdee, 2001-2006 (Dissertation: Nitrogen and water management in organic vegetable production in California: implications for soil properties, plant nutrient, and farm budget analysis, December 2006)
- Nicholas Bader, 2000-2006 (Dissertation: Plant control of soil organic carbon accumulation, September 2006)

Courses Taught at UCSC

Undergraduate Courses:

- ENVS 23 The Physical and Chemical Environment
- ENVS 161A/L Soils and Plant Nutrition / Soils and Plant Nutrition Lab
- ENVS 168 Biogeochemistry and the Global Environment
- ENVS 196S Senior Seminar-- Functions and Processes of Terrestrial Ecosystems

Graduate Courses:

- ENVS 201B Key Words and Concepts in Environmental Studies
- ENVS 201N Interdisciplinary Research Design
- ENVS 268 Biogeochemistry and the Global Environment
- ENVS 291M Advanced Readings in Biogeochemistry

Awards, Grants, and Contracts

United States National Science Foundation

- 2004-2007, Ravelo, C., P. Koch, R. Kudela, M.D. MacCarthy and **W. Cheng** (Co-PI). Acquisition of light stable isotope mass spectrometers for biogeochemistry and environmental change at University of California, Santa Cruz. National Science Foundation, $637,099.
- 1999-2001, **Cheng, W.** (PI), D.W. Johnson, P.S. Verberg, and R.F. Walker. Rhizosphere respiration and root demography in forest ecosystems. National Science Foundation, $200,000.
- 1999-2001, **Cheng, W.** (PI). Supplemental support to the grant entitled "Rhizosphere respiration and root demography in forest ecosystems." National Science Foundation, Research Experience for Undergraduates (REU), $16,514.
- 1998-2001, Smith, S.D., J.S. Coleman, R.E. Evans, R. Nowak, **W. Cheng** (Co-PI), and R.J. Seemann. Effects of elevated CO2 on a Mojave Desert ecosystem. National Science Foundation, $1,300,000.
- 1997-1999, Johnson, D.W. and **W. Cheng** (Co-PI). Ecosystem significance of soil as a long-term sink for anthropogenic additions of N. National Science Foundation, $212,874.
- 1993-1997, **Cheng, W.** (PI), C.R. Carroll, C.A. Hoffman and D.C. Coleman. In situ rhizosphere processes: respiration, exudation and exudate utilization. National Science Foundation, $330,000.

United States Department of Agriculture

- 2006-2009, **Cheng, W.** (PI) and M.K. Firestone. Carbon and nitrogen interchange in the rhizosphere: Sensitivity to temperature and water dynamics. USDA, Cooperative State Research, Education and Extension Service, National Research Initiative Competitive Grant Program, $455,000.
- 2003-2006, **Cheng, W.** (PI) and D.W. Johnson. Patterns of rhizosphere effects on soil organic matter decomposition and nitrogen dynamics. USDA, Cooperative State Research, Education and Extension Service, National Research Initiative Competitive Grant Program, $ 324,000.
- 1998-2002, **Cheng, W.** (PI) and D.W. Johnson. Rhizosphere processes and soil organic matter decomposition. USDA, Cooperative State Research, Education and Extension Service, National Research Initiative Competitive Grant Program, $345,000.

United States Department of Energy

- 2009-2011, **Cheng, W.** (PI) and J.M. Blair. Partitioning responses of rhizosphere respiration and soil carbon decomposition to warming and altered precipitation in a grassland ecosystem. US Department of Energy, National Institute of Climate Change Research (Midwestern Region), $246,273.
- 1998-2000, Johnson, D.W., **W. Cheng** (Co-PI) and J.D. Joslin. Effects of elevated CO2 on nutrient cycling in a sweetgum plantation. US Department of Energy, National Institute for Global Environmental Changes (Southeastern region), $290,460.
- 1998-1999, Johnson, D. W., and **W. Cheng**. Detecting the effect of elevated CO2 on rhizosphere free-living N_2 - fixation using $^{15}N_2$ - reduction technique. Seed grant, US Department of Energy, $16,500.

Kearney Foundation of Soil Science

- 2009-2011, **Cheng, W.** Link rhizosphere priming to temperature sensitivity of soil organic carbon decomposition. Kearney Foundation of Soil Science, $90,000.
- 2007-2009, **Cheng, W.** (PI) and F.A. Dijkstra. Scaling rhizosphere respiration and priming effects from single plants to field ecosystems. Kearney Foundation of Soil Science, $88,000.
- 2004-2007, Goldstein, A.H., **W. Cheng** (Co-PI), and D. D. Baldocchi. Controls of canopy photosynthetic activity on roots and soil carbon dynamics in ponderosa pine and oak/savanna ecosystems. Kearney Foundation of Soil Science, $360,000.
- 2002-2004, Goldstein, A., **W. Cheng** (Co-PI), and Y. Qi. Controls of canopy activities on roots and soil carbon dynamics in a young ponderosa pine forest. Kearney Foundation of Soil Science, $99,000.

Other sources

- 2001-2002, **Cheng, W.** (PI) and M.E. Loik. Creating a New Digital Image Library - WEWU: Windows to the Ecological World Underground. UC Instructional Improvement Program: New Technologies in Teaching, $14,981.
- 2001-2002, **Cheng, W.** Explore asymbiotic nitrogen fixation in forest ecosystems using ^{15}N. UCSC Social Sciences Divisional Research Award, $5,880.
- 1998-2000, Coleman, J.S., **W. Cheng** (Co-PI), R.D. Evans, Y. Luo, and D.W. Johnson. Exploring the sensitivity of different carbon and nitrogen fluxes to variation in the timing of an ecosystem perturbation. Andrew W. Mellon Foundation, $387,126.
- 1996-1998, **Cheng, W.** (PI) and D.W. Johnson. Effects of elevated CO2 on soil carbon storage. Research Institute of Innovative Technology for the Earth (Japan), ¥9,000,000 Japanese Yen.

Publications

- **Cheng, W**. 2009. Rhizosphere priming effect: Its functional relationships with microbial turnover, evapotranspiration, and C-N budgets. Soil Biology & Biochemistry 41:1795-1801. PDF
- **Cheng, W**., Q. Chen, Y. Xu, X. Han, L. Li. 2009. Climate and ecosystem ^{15}N natural abundance along a transect of Inner Mongolian grasslands: Contrasting regional patterns and global patterns. Global Biogeochemical Cycles, doi:10.1029/2008GB003315. PDF
- Dijkstra, F.A., N.E. Bader, D.W. Johnson, **W. Cheng**. 2009. Does accelerated soil organic matter decomposition in the presence of plants increase plant N availability? Soil Biology & Biochemistry 41:1080-1087. PDF
- Gershenson, A., N.E. Bader, **W. Cheng**. 2009. Effects of substrate availability on the temperature sensitivity of soil organic matter decomposition. Global Change Biology 15:176-183. PDF

- Dijkstra, F.A., **W. Cheng**. 2008. Increased soil moisture content increases plant N uptake and the abundance of ^{15}N in plant biomass. Plant and Soil 302:263-271. PDF
- Xu, Y., S. Wan, **W. Cheng**, L. Li. 2008. Impacts of grazing intensity on denitrification and N_2O production in a semi-arid grassland ecosystem. Biogeochemistry 88:103-115. PDF

- Bader, N.E., **W. Cheng**. 2007. Rhizosphere priming effect of *Populus fremontii* obscures the temperature sensitivity of soil organic carbon respiration. Soil Biology & Biochemistry 39:600-606. PDF
- **Cheng, W**., F.A. Dijkstra. 2007. Theoretical proof and empirical validation of a continuous labeling method using naturally ^{13}C-depleted carbon dioxide. Journal of Integrative Plant Biology 49:401-407. PDF
- **Cheng, W**., A. Gershenson. 2007. Carbon fluxes in the rhizosphere. In: Cardon, Z.G., J.L. Whitbeck (eds.) *The Rhizosphere - An Ecological Perspective*, pp. 31-56. Academic Press, San Diego, CA. PDF
- Dijkstra, F.A., **W. Cheng**. 2007. Interactions between soil and tree roots accelerate long-term soil carbon decomposition. Ecology Letters 10:1046-1053. PDF
- Dijkstra, F.A., **W. Cheng**. 2007. Moisture modulates rhizosphere effects on C decomposition in two different soil types. Soil Biology & Biochemistry 39:2264-2274. PDF
- Johnson, D.W., F.A. Dijkstra, **W. Cheng**. 2007. The effects of *Glycine max* and *Helianthus annuus* on nutrient availability in two soils. Soil Biology & Biochemistry 39:2160-2163. PDF
- Pasakdee, S., G. Bañuelos, C. Shennan, **W. Cheng**. 2007. Organic N fertilizers and irrigation influence organic Broccoli production in two regions of California. Journal of Vegetable Science 12:27-46.
- Xu, Y., L. Li, Q. Wang, Q. Chen, **W. Cheng**. 2007. The pattern between nitrogen mineralization and grazing intensities in an Inner Mongolian typical steppe. Plant and Soil 300:289-300. PDF
- Zhan, X., L. Li and **W. Cheng**. 2007. Restore degraded *Stipa krylovii* steppes in Inner Mongolia of China: Assess seed banks and vegetation composition. Journal of Arid Environments 69:298-307. PDF

- Dijkstra, F.A., **W. Cheng**, D.W. Johnson. 2006. Plant biomass influences rhizosphere priming effects on soil organic matter decomposition in two differently managed soils. Soil Biology & Biochemistry 38:2519-2526. PDF
- Misson, L., A. Gershenson, J. Tang, R. Boniello, M. McKay, **W. Cheng**, A. Goldstein. 2006. Influences of canopy photosynthesis and summer rain pulses on root dynamics and soil respiration in a young ponderosa pine forest. Tree Physiology 26:833-844. PDF

- **Cheng, W.**, S. Fu, R.B. Susfalk, R.J. Mitchell. 2005. Measuring tree root respiration using 13C natural abundance: rooting medium matters. New Phytologist 167:297-307. PDF
- **Cheng, W.**, L.F. Jiang. 2005. Ecosystem processes belowground. In Chen, J. et al. (eds.) *Challenges Facing Ecologists: Questions and Approaches*, pp. 40-67. Higher Education Press, Beijing, China.
- **Cheng, W.**, Y. Kuzyakov. 2005. Root effects on soil organic matter decomposition. In: Zobel, R.W., S.F. Wright (eds.) *Roots and Soil Management: Interactions between Roots and the Soil*, Agronomy Monograph No. 48, pp. 119-143. ASA-CSSA-SSSA, Madison, WI. PDF
- Tang, J., L. Misson, A. Gershenson, **W. Cheng**, A.H. Goldstein. 2005. Continuous measurements of soil respiration with and without roots in a ponderosa pine plantation in the Sierra Nevada Mountains. Agricultural and Forest Meteorology 132:212-227. PDF
- Wang, Z., X. Han, L. Li, Q. Chen, Y. Duan, **W. Cheng**. 2005. Methane emission from small wetlands and implications for semiarid region budgets. Journal of Geophysical Research doi:10.1029/2004JD005548. PDF

- Fu, S., **W. Cheng**. 2004. Defoliation affects rhizosphere respiration and rhizosphere priming effect on decomposition of soil organic matter under a sunflower species: *Helianthus annuus*. Plant and Soil 263:345-352. PDF
- Johnson, D.W., **W. Cheng**, J.D. Joslin, R.J. Norby, N.T. Edwards, D.E. Todd, Jr. 2004. Effects of elevated CO_2 on nutrient cycling in a sweetgum plantation. Biogeochemistry 69:379-403. PDF
- Kuzyakov, Y., **W. Cheng**. 2004. Photosynthesis controls of CO_2 efflux from maize rhizosphere. Plant and Soil 263:85-99. PDF
- Verburg, P.S.J., **W. Cheng**, D.W. Johnson, D.E. Schorran. 2004. Nonsymbiotic nitrogen fixation in three-year-old Jeffrey pines and the role of elevated CO_2. Canadian Journal of Forest Research 34:1979-1984. PDF

- **Cheng, W.**, D.W. Johnson, S. Fu. 2003. Rhizosphere effects on decomposition: controls of plant species, phenology, and fertilization. Soil Science Society of America Journal 67:1418-1427. PDF

- Fu, S., **W. Cheng**. 2002. Rhizosphere priming effects on the decomposition of soil organic matter in C4 and C3 grassland soils. Plant and Soil 238:289-294. PDF
- Fu, S., **W. Cheng**, R.B. Susfalk. 2002. Rhizosphere respiration varies with plant species and phenology: A greenhouse pot experiment. Plant and Soil 239:133-140. PDF

- Hui, D., D.A. Sims, D.W. Johnson, **W. Cheng**, Y. Luo. 2002. Effects of gradual versus step increases in carbon dioxide on Plantago photosynthesis and growth in a microcosm study. Environmental and Experimental Botany 47:51-66. PDF
- Norby, R.J., P.J. Hanson, E.G. O'Neill, T.J. Tschaplinski, J.F. Welztin, R.T. Hansen, **W. Cheng**, S.D. Wullschleger, C.A. Gunderson, N.T. Edwards, D.W. Johnson. 2002. Net primary productivity of a CO_2-enriched deciduous forest and the implications for carbon storage. Ecological Applications 12:1261-1266. PDF
- Susfalk, R.B., **W. Cheng**, D.W. Johnson, R.F. Walker, P. Verburg, S. Fu. 2002. Lateral diffusion and atmospheric CO_2 mixing compromise estimates of rhizosphere respiration in a forest soil. Canadian Journal of Forest Research 32:1005-1015. PDF

- Hui, D., Y. Luo, **W. Cheng**, J.S. Coleman, D.W. Johnson, D.A. Sims. 2001. Canopy radiation- and water-use efficiencies as affected by elevated [CO2]. Global Change Biology 7:75-91. PDF
- Kuzyakov, Y., **W. Cheng**. 2001. Photosynthesis controls of rhizosphere respiration and organic matter decomposition. Soil Biology & Biochemistry 33:1915-1925. PDF

- Bonkowski, M., **W. Cheng**, B.S. Griffiths, G. Alphei, S. Scheu. 2000. Microbial-faunal interactions in the rhizosphere and effects on plant growth. European Journal of Soil Biology 36:135-147. PDF
- **Cheng, W**., D.A. Sims, Y. Luo, D.W. Johnson, J.T. Ball, J.S. Coleman. 2000. Carbon budgeting in plant-soil mesocosms under elevated CO_2: locally missing carbon? Global Change Biology 6:99-110. PDF
- **Cheng, W**., D.A. Sims, Y. Luo, J. S. Coleman, D.W. Johnson. 2000. Photosynthesis, respiration, and net primary production of sunflower stands in ambient and elevated atmospheric CO_2 concentrations: an invariant NPP:GPP ratio? Global Change Biology 6:931-942. PDF
- Haile-Mariam, S., **W. Cheng**, D.W. Johnson, E.A. Paul. 2000. Use of carbon-13 and carbon-14 to measure effects of carbon dioxide and nitrogen fertilization on carbon dynamics in ponderosa pine. Soil Science Society of America Journal 64:1984-1992. PDF
- Johnson, D.W., **W. Cheng**, J.T. Ball. 2000. Effects of [CO_2] and N fertilization on soils planted with ponderosa pine. Plant and Soil 224:99-113. PDF
- Johnson, D.W., **W. Cheng**, J.T. Ball. 2000. Effects of CO_2 and N fertilization on decomposition and N immobilization in ponderosa pine litter. Plant and Soil 224:115-122. PDF
- Johnson, D.W., **W. Cheng**, I.C. Burke. 2000. Biotic and abiotic nitrogen retention in a variety of forest soils. Soil Science Society of America Journal 64:1503-1514. PDF
- Luo, Y., D. Hui, **W. Cheng**, J.S. Coleman, D.W. Johnson, D.A. Sims. 2000. Canopy quantum yield in a mesocosm study. Agricultural and Forest Meteorology 100:35-48. PDF

- **Cheng, W.** 1999. Rhizosphere feedbacks in elevated CO2. Tree Physiology 19:313-320. PDF
- **Cheng, W.** 1999. Rhizosphere processes under elevated CO2. In Luo, Y., H.A. Mooney (eds.) *Carbon Dioxide and Environmental Stress*, pp. 245-263, Academic Press, San Diego, CA, USA..
- Sims, D.A., **W. Cheng**, Y. Luo, J.R. Seemann. 1999. Photosynthetic acclimation to elevated CO_2 in a sunflower canopy. Journal of Experimental Botany 50:645-653. PDF

- **Cheng, W.**, D.W. Johnson. 1998. Elevated CO2 rhizosphere processes, and soil organic matter decomposition. Plant and Soil 202:167-174. PDF
- **Cheng, W.**, R.A. Virginia, S.F. Oberbauer, J.D. Tenhunen, C.T. Gillespie, J.F. Reynolds. 1998. Soil nitrogen, microbial biomass and respiration along an arctic toposequence. Soil Science Society of America Journal 62:654-662. PDF

- **Cheng, W**. 1996. Measurement of rhizosphere respiration and organic matter decomposition using natural ^{13}C. Plant and Soil 183:263-268. PDF
- **Cheng, W**., Q. Zhang, D.C. Coleman, C.R. Carroll, C.A. Hoffman. 1996. Is available carbon limiting microbial respiration in the rhizosphere? Soil Biology & Biochemistry 28:1283-1288. PDF
- Holland, J.N., **W. Cheng**, D.A. Crossley, Jr. 1996. Herbivore-induced changes in plant carbon allocation: assessment of below-ground C fluxes using carbon-14. Oecologia 107:87-94. PDF
- Oberbauer, S.F., C.T. Gillespie, **W. Cheng**, A. Sala, R. Gebauer, J.D. Tenhunen. 1996. Diurnal and seasonal patterns of ecosystem CO_2 efflux from upland tundra in the foothills of the Brooks range, Alaska. Arctic and Alpine Research 28:328-338. PDF
- Oberbauer, S.F., **W. Cheng**, C.T. Gillespie, C.T. Ostendoref, A. Sala, R Gebauer, R.A. Virginia, J.D. Tenhunen. 1996. Landscape patterns of carbon dioxide exchange in tundra ecosystems. In Reynolds, J.F., J.D. Tenhunen (eds.). *Landscape Function and Disturbance in Arctic Tundra*, Ecological Studies Series 120, pp. 223-252. Springer-Verlag, Berlin, Germany.

- **Cheng, W**., D.C. Coleman, C.R. Carroll, C.A. Hoffman. 1994. Investigating short-term carbon flows in the rhizospheres of different plant species using isotopic trapping. Agronomy Journal 86:782-788.

- **Cheng, W**., D.C. Coleman, C.R. Carroll, C.A. Hoffman. 1993. In situ measurement of root respiration and soluble carbon concentrations in the rhizosphere. Soil Biology & Biochemistry 25:1189-1196. PDF
- **Cheng, W**., R.A. Virginia. 1993. Measurement of microbial biomass in arctic tundra soils using fumigation-extraction and substrate-induced respiration procedures. Soil Biology & Biochemistry 25:135-141. PDF
- Coleman, D.C., P.F. Hendrix, M.H. Beare, **W. Cheng**, D.A. Crossley, Jr. 1993. Microbial and faunal interactions as they affect soil organic matter dynamics in subtropical agroecosystems. In Paoletti, M.G., W. Foissner, D.C. Coleman (eds.) *Soil Biota, Nutrient Cycling, and Farming Systems*, pp. 1-14. Lewis, Boca Raton, Florida, USA.

- Beare, M.H., R.W. Parmelee, P.F. Hendrix, **W. Cheng**, D.C. Coleman, D.A. Crossley, Jr. 1992. Microbial and faunal interactions and effects on litter nitrogen and decomposition in agroecosystems. Ecological Monographs 62:569-591. PDF
- **Cheng, W**., X.G. Han. 1992. Recent development in agroecology. In Liu, J. et al. (eds.) *Advances in Modern Ecology*, pp. 143-162. China Science & Technology Press, Beijing, China.

- Han, X.G., **W. Cheng**. 1992. The biochemical cycles of nutrient elements. In Liu, J. et al. (eds.) *Advances in Modern Ecology*, pp. 73-100. China Science & Technology Press, Beijing, China.
- Liu, J., R. Wang, Z. Ouyang, S. Hu, Z. Huang, **W. Cheng**, Y. Wu (eds.). 1992. *Advances in Modern Ecology*. China Science and Technology Press, Beijing, China.
- Oberbauer, S.F., C.T. Gillespie, **W. Cheng**, R. Gebauer, A. Sala Serra, J.D. Tenhunen. 1992. Environmental effects on CO_2 efflux from riparian tundra in the northern foothills of the Brooks range, Alaska. Oecologia 92:568-577. PDF

- **Cheng, W**., D.C. Coleman, J.E. Box, Jr. 1991. Measuring root turnover using the minirhizotron technique. Agriculture, Ecosystems and Environment 34:261-267. PDF
- **Cheng, W**., D.C. Coleman. 1991. Rhizosphere effect on soil organic matter decomposition. In D.L. Keister, P.B. Cregan (eds.) *The Rhizosphere and Plant Growth*, pp. 113. Beltsville Symposium in Agricultural Research, Kluwer Academic Publishers, Boston, USA.
- Berg, J.D., P.F. Hendrix, **W. Cheng**, A. Dillard. 1991. A labeling chamber for ^{13}C enrichment of plant tissues for decomposition studies. Agriculture, Ecosystems and Environment 34:421-425. PDF
- Crossley, D.A., D.C. Coleman, P.F. Hendrix, **W. Cheng**, D.H. Wright, M.H. Beare, C.A. Edwards (eds.) 1991. *Modern Techniques in Soil Ecology*. Elsevier, Amsterdam, Netherlands.

- **Cheng, W**., D.C. Coleman. 1990. The effect of living roots on soil organic matter decomposition. Soil Biology & Biochemistry 22:781-787. PDF
- **Cheng, W**., D.C. Coleman, J.E. Box, Jr. 1990. Root dynamics, production and distribution in agroecosystems on the Georgia Piedmont using minirhizotrons. Journal of Applied Ecology 27:592-604. PDF
- Parmelee, R.W., M.H. Beare, **W. Cheng**, P.F. Hendrix, S.J. Rider, D.A. Crossley, Jr., D.C. Coleman. 1990. Earthworms and enchytraeids in conventional and no-tillage agroecosystems: a biocide approach to assess their role in organic matter breakdown. Biology and Fertility of Soils 10:1-10. PDF

- **Cheng, W**., D.C. Coleman. 1989. A simple method for measuring CO_2 in a continuous air flow system: modifications to the substrate-induced respiration technique. Soil Biology & Biochemistry 21:385-388. PDF

Other Professional Activities

- The local host and a member of the organizing committee for the 5th BIOGEOMON International Symposium on Ecosystem Behavior, June 25-30, 2006, University of California, Santa Cruz, CA USA. This conference was attended by 253 participants from 31 countries.
- Presided Section 85 of the Soil Science Society of America 69th Annual Meeting entitled "Understanding SOM Fraction Dynamics," Salt Lake City, Utah, 6-10 November 2005.
- Nomination Committee Chair, Soil Ecology Society, 2003
- Member of Nomination Committee, Soil Ecology Section of the Ecological Society of America, 2003.

- Past Section Chair, Asian Ecology Section of Ecological Society of America. 2000.
- Section Chair, Asian Ecology Section of Ecological Society of America. 1999.
- Secretary, Soil Ecology Society, 1997-1999.
- Vice President, Sino Ecologist Overseas, 1991-1992.
- Scientific Advisory Board member of Bartz Technology Co., since 1997.

- Editorial board member, *Journal of Integrative Plant Biology*, since 2005.
- Editorial board member, *Journal of Plant Ecology*, since 2007.
- Consulting Editor, *Plant and Soil*, since 2007.

Panelist Activities

- Panelist for evaluating research proposals submitted to the Ecosystems Program of the National Science Foundation.
- Panelist for evaluating research proposals submitted to DOE National Institute for Climatic Change Research.
- Panelist for evaluating research proposals submitted to Kearney Foundation of Soil Science.
- Panelist for evaluating research proposals submitted to the NRI Program of US Department of Agriculture: Soil and Soil Biology Program; and Ecosystem Program.
- Panelist for evaluating research proposals submitted to the Demonstration Intensive Site Project, or DISPro, a joint program between US EPA and National Parks Service.
- Panelist for the National Science Foundation, on-site review of Long-Term Ecological Research Program.