

Weixin Cheng

Professor of Environmental Studies

UC Santa Cruz

RESEARCH INTERESTS

Rhizosphere ecology, C-N cycles, Agroecology, Isotope Ecology, Ecosystem responses to environmental change

TEACHING INTERESTS

Global Environment, Soil Science, Biogeochemistry, Isotope ecology, Soil quality & food security, Agroecology, Carbon Cycle Science & Societal Implications

EMPLOYMENT HISTORY

- 2007 - Present Professor of Environmental Studies, University of California, Santa Cruz
- 2001 - 2006 Associate Professor of Environmental Studies, University of California, Santa Cruz
- 1999 - 2001 Assistant Professor of Environmental Studies, University of California, Santa Cruz
- 1998 - 1999 Assistant Professor of Biological Sciences, Louisiana State University Baton Rouge
- 1997 - 1998 Associate Research Professor, Desert Research Institute, Biological Sciences Center, Department of Civil Engineering, University of Nevada
- 1994 - 1997 Assistant Research Professor, Desert Research Institute, Biological Sciences Center, Department of Civil Engineering, University of Nevada
- 1992 - 1994 Assistant Research Scientist, Institute of Ecology, University of Georgia
- 1990 - 1992 Postdoctoral Research Scientist, Systems Ecology Research Group, San Diego State University
- 1989 - 1990 Postdoctoral Research Associate, Institute of Ecology, University of Georgia

EDUCATION

- 1989 Ph.D., Ecology, University of Georgia, 1989
- 1982 B.S., Agronomy, Northeast Agricultural College, Harbin, China, 1982

HONORS AND AWARDS

- 2019 **Martin M. Chemers Award for Outstanding Research:** Martin M. Chemers Award for Outstanding Research, Division of Social Sciences, UCSC
- 2019 **2019 Paech Visiting Professorships in Agriculture:** 2019 Paech Visiting Professorship in Agriculture was awarded by the Sydney Institute of Agriculture, The University of Sydney, Australia. The Paech Visiting Professorship comes with a total funding of 20,000 Australian dollars for traveling and associated cost for my planned trip to the Sydney Institute of Agriculture in spring of 2020.
- 2008 **National Science Foundation Certificate of Appreciation for Outstanding Service:** National Science Foundation Certificate of Appreciation for Outstanding Service (5 years of Panelist work for Ecosystem Studies)
- 2007 **Social Sciences Division Big Winner Award:** Social Sciences Division Big Winner Award (The largest total amount in grant monies awarded within the Social Sciences Division in fiscal year 2006-07)

GRANTS

- 2014 - 2019 Principal Investigator, with two Co-PIs (John Blair of Kansas State University, and Gail Wilson of Oklahoma State University). Collaborative Research: Rhizosphere priming and C-N dynamics in grassland ecosystems in transition. The National Science Foundation, Ecosystems Program. (UCSC is the leading institution, \$423,000 for UCSC). \$800,000
- 2013 - 2014 Principal Investigator, Linking Soil CO₂ Emissions with Microbial Metabolism. UCSC senate Committee on Research. \$1,500
- 2009 - 2011 Principal Investigator, US Department of Energy, National Institute for Climate Change, Mid-West Region, Partitioning responses of rhizosphere respiration and soil carbon decomposition to warming and altered precipitation in a grassland ecosystem. Cheng, W. (PI) \$246,273
- 2009 - 2011 Principal Investigator, Kearney Foundation of Soil Science, Link Rhizosphere Priming to Temperature Sensitivity of Soil Carbon Decomposition Cheng W. (PI) \$90,000
- 2007 - 2009 Principal Investigator, Kearney Foundation of Soil Science, Scaling rhizosphere respiration and priming effect from single plants to field ecosystems Cheng, W. (PI) \$84,000
- 2006 - 2009 Principal Investigator, US Department of Agriculture, National Research Initiative Competitive Grant Program, Carbon and nitrogen interchange in

- the rhizosphere: Sensitivity to temperature and water dynamics Cheng, W. (PI) and M.K. Firestone. \$455,000
- 2004 - 2007 Co-Principal Investigator, National Science Foundation Acquisition of light stable isotope mass spectrometers for biogeochemistry and environmental change at University of California, Santa Cruz. Ravelo, C., P. Koch, R. Kudela, M.D. MacCarthy and W. Cheng (Co-PI) \$637,099
- 2004 - 2007 Co-Principal Investigator, Kearney Foundation of Soil Science, Controls of canopy photosynthetic activity on roots and soil carbon dynamics in ponderosa pine and oak/savanna ecosystems Goldstein, A.H., W. Cheng (Co-PI), and D. D. Baldocchi \$360,000
- 2004 - 2006 Principal Investigator, A subcontract with DOE Lawrence Livermore National Laboratory, Carbon flux in a California grassland soil sequence: The role of DOC in carbon sequestration. Cheng, W. \$20,228
- 2003 - 2006 Principal Investigator, US Department of Agriculture, National Research Initiative Competitive Grant Program, Patterns of rhizosphere effects on soil organic matter decomposition and nitrogen dynamics Cheng; W. (PI) and D.W. Johnson \$324,000
- 2001 - 2004 Co-Principal Investigator, Kearney Foundation, Controls of canopy activities on roots and soil carbon dynamics in a young ponderosa pine forest. Goldstein, A., W. Cheng (Co-PI), and Q. Ye. \$99,000
- 2001 - 2002 UC Instructional Improvement Program: New Technologies in Teaching (see the web page: ic.ucsc.edu/~wxcheng/wewu/), Creating a New Digital Image Library "WEWU: Windows to the Ecological World Underground" Cheng, W. (PI) and M. Loik. \$14,981
- 2001 - 2002 Social Sciences Divisional Research Award, Explore asymbiotic nitrogen fixation in forest ecosystems using ¹⁵N. W. (PI) \$5,880
- 1998 - 2002 Principal Investigator, US Department of Agriculture, National Research Initiative Competitive Grant Program, Rhizosphere processes and soil organic matter decomposition W. Cheng (PI) and D.W. Johnson \$345,000
- 1999 - 2001 Principal Investigator, National Science Foundation, Research Experience for Undergraduates (REU), Supplemental support to the grant entitled "Rhizosphere respiration and root demography in forest ecosystems." Cheng, W. (PI). \$16,514
- 1998 - 2001 Co-Principal Investigator, National Science Foundation/TECO, Effects of elevated CO₂ on a Mojave Desert ecosystem Smith, S.D., J.S. Coleman, R.E. Evans, R. Nowak, W. Cheng (Co-PI), and R.J. Seemann. \$1,300,000

- 1999 - 2000 Principal Investigator, National Science Foundation, Rhizosphere respiration and root demography in forest ecosystems Cheng, W. (PI), D.W. Johnson, P.S. Verberg, and R.F. Walker. \$200,000
- 1998 - 2000 Co-Principal Investigator, Andrew W. Mellon Foundation, Exploring the sensitivity of different carbon and nitrogen fluxes to variation in the timing of an ecosystem perturbation Coleman, J.S., W. Cheng (Co-PI), R.D. Evans, Y. Lou, and D.W. Johnson \$387,126
- 1998 - 2000 Co-Principal Investigator, National Institute for Global Environmental Changes (Southeastern region), Effects of elevated CO₂ on nutrient cycling in a sweetgum plantation Johnson, D.W., W. Cheng (Co-PI) and J.D. Joslin \$290,460
- 1998 - 1999 Principal Investigator, US Department of Energy, Detecting the effect of elevated CO₂ on rhizosphere free-living N₂- fixation using ¹⁵N₂- reduction technique Cheng, W. (PI) and D.W. Johnson Seed grant, \$16,500
- 1997 - 1999 Co-Principal Investigator, National Science Foundation, Ecosystem significance of soil as a long-term sink for anthropogenic additions of N Johnson, D.W. and W. Cheng (Co-PI) \$212,874
- 1996 - 1998 Principal Investigator, Institute of Innovative Technology for the Earth (Japan), Effects of elevated CO₂ on soil carbon storage - 9,000,000 Japanese Yen Cheng, W. (PI) and D.W. Johnson. \$90,000
- 1995 - 1997 Co-Principal Investigator, Department of Energy, Effects of elevated CO₂ on soils Johnson, D.W. and W. Cheng (Co-PI) \$145,000
- 1993 - 1997 Principal Investigator, National Science Foundation, In situ rhizosphere processes: respiration, exudation and exudate utilization Cheng, W. (PI), C.R. Carroll, C.A. Hoffman and D.C. Coleman. \$330,000
- 1993 - 1996 Co-Investigator, US Department of Agriculture, National Research Initiative Competitive Grant Program, Effects of management and ecosystem type on nutrient retention in riparian zones Meyer, J.L., M.H. Beare and W. Cheng. \$176,000

SCHOLARLY AND CREATIVE WORK

Edited Books

- 1992 *Advances in Modern Ecology (in Chinese)*, Liu, J.G., R. Wang, Z. Ouyang, S. Hu, Z. Huang, W. Cheng and Y. Wu (eds.), Beijing, China, China Science and Technology Press

- 1991 *Modern Techniques in Soil Ecology*, Crossley, D.A., D.C. Coleman, P.F. Hendrix, W. Cheng, D.H. Wright, M.H. Beare and C.A. Edwards (eds.), Amsterdam, The Netherlands, Elsevier

Contributions to Books

- 2012 **Book Chapter:** Cheng, W. X. Chapter 11: Rootless Soils and Soilless Roots. 2012. In X. G. Han and Y. G. Wu Eds., *Ecology in Perspective: Challenges and Strategies*. Higher Education Press, Beijing. (In Chinese) PEER REVIEWED
- 2007 **Book Chapter:** Cheng, W. and A. Gershenson, Carbon fluxes in the rhizosphere, Z.G. Cardon and J.L. Whitbeck, *The Rhizosphere - An Ecological Perspective*, San Diego, Academic Press, 31-56 PEER REVIEWED
- 2005 **Book Chapter:** Cheng, W. and Y. Kuzyakov, Root effects on soil organic matter decomposition, IN: R. Zobel and S. Wright (eds.), *Roots and Soil Management: Interactions between Roots and the Soil*, Madison, WI, USA, Agronomy Monograph no. 48. American Society of Agronomy, 119-143 PEER REVIEWED
- 2005 **Book Chapter:** Cheng, W. and L-F. Jiang, Ecosystem processes belowground, In Chen, J., B. Li, et al. (eds.), *Challenges Facing Ecologists: Questions and Approaches (In Chinese)*, Beijing, China, Higher Education Press
- 1999 **Book Chapter:** Cheng, W., Rhizosphere processes under elevated CO₂, In Y. Lou and H. Mooney (eds.), *Carbon Dioxide and Environmental Stress*, Academic Press, 245-263
- 1996 **Book Chapter:** Oberbauer, S.F., W. Cheng, C.T. Gillespie, C.T. Ostendorf, A. Sala, R Gebauer, R.A. Virginia and J.D. Tenhunen, Landscape patterns of carbon dioxide exchange in tundra ecosystems, In J.F. Reynolds and J.D. Tenhunen (eds.), *Landscape Function and Disturbance in Arctic Tundra. Ecological Studies Series 120*, Springer-Verlag, 223-252
- 1993 **Book Chapter:** Coleman, D.C., P.F. Hendrix, M.H. Beare, W. Cheng, and D.A. Crossley, Jr., Microbial and faunal interactions as they affect soil organic matter dynamics in subtropical agroecosystems, In Paoletti, M.G., W. Foissner and D.C. Coleman (eds.), *Soil Biota, Nutrient Cycling, and Farming Systems*, Boca Raton, Florida, Lewis, 1-14
- 1992 **Book Chapter:** Han, X.G. and W. Cheng, The biochemical cycles of nutrient elements, In J. Liu et al. (eds.), *Advances in Modern Ecology (In Chinese)*, Beijing, China, China Science & Technology Press, 73-100

- 1992 **Book Chapter:** Cheng, W. and X.G. Han, Recent development in agroecology, In J. Liu et al. (eds.), *Advances in Modern Ecology (In Chinese)*, Beijing, China, China Science & Technology Press, 143-162

Journal Articles

- * 2020 Dijkstra FA, Zhu B, Cheng WX. 2020. Root effects on soil organic carbon: a double-edged sword. *New Phytologist* in press online 16 November 2020.
<https://doi.org/10.1111/nph.17082> (Nov 16 2020) PEER REVIEWED, INVITED
- * 2020 Lu J, Yang J, Keitel C, Yin L, Wang P, Cheng WX, Dijkstra FA. 2020. Rhizosphere priming effects of *Lolium perenne* and *Trifolium repens* depend on phosphorus fertilization and biological nitrogen fixation. ***Soil Biology and Biochemistry*** 150: 108005.<https://doi.org/10.1016/j.soilbio.2020.108005> (Online First) (Nov 2020) PEER REVIEWED
- * 2020 Yin Y, Xiao W, Dijkstra FA, Zhu B, Wang P, Cheng WX. 2020. Linking absorptive roots and their functional traits with rhizosphere priming of tree species. ***Soil Biology and Biochemistry*** 150: 107997.
<https://doi.org/10.1016/j.soilbio.2020.107997> (Online first) (Oct 2020) PEER REVIEWED
- * 2020 Wang X, Yin L, Dijkstra DA, Lu J, Wang P, Cheng WX. 2020. Rhizosphere priming is tightly associated with root-driven aggregate turnover. ***Soil Biology and Biochemistry*** 149: 107964
<https://doi.org/10.1016/j.soilbio.2020.107964> (Online First) (Sep 2020) PEER REVIEWED
- * 2020 Chang Q, Qu G, Xu W, Wang C, Cheng WX, Bai E. 2020
Light availability controls rhizosphere priming effect of temperate forest trees. ***Soil Biology and Biochemistry***, online first (Aug 2020) PEER REVIEWED
- * 2020 Vargas, TD,Â Concilio A,Â Woyann LG,Â Santos RHS, Cheng WX. 2020.
Rhizosphere priming effect on N mineralization in vegetable and grain crop systems. ***Plant and Soil*** <https://doi.org/10.1007/s11104-020-04566-5> (Jul 2020) PEER REVIEWED
- * 2020 Eldon J, Baird G, Sidibeh S, Daniel Dobasin D, Rapaport P, Cheng WX, Shennan C. 2020. On-farm trials identify adaptive management options for rainfed agriculture in West Africa. ***Agricultural Systems*** 182: 102819
<https://doi.org/10.1016/j.agsy.2020.102819> (Jun 2020) PEER REVIEWED

- * 2020 He Y, Cheng WX, Zhou L, Shao J, Liu H, Zhou H, Zhu K, Zhou X. 2020. Soil DOC release and aggregate disruption mediate rhizosphere priming effect on soil C decomposition. ***Soil Biology and Biochemistry*** 144: XX-XX. <https://doi.org/10.1016/j.soilbio.2020.107787> (Online First) (May 2020) PEER REVIEWED
- * 2020 Wang X, Dijkstra FA, Yin L, Sun D, Cheng WX. 2020. Rhizosphere priming effects in soil aggregates with different size classes. ***Ecosphere*** 11(2):e03027. 10.1002/ecs2.3027 (Feb 2020) PEER REVIEWED
- * 2019 Loepmann S, Forbush K, Cheng WX, Pausch J. Subsoil biogeochemical properties induce shifts in carbon allocation pattern and soil C dynamics in wheat. ***Plant and Soil*** 442: 369-383. <https://doi.org/10.1007/s11104-019-04204-9> (Sep 2019) PEER REVIEWED
- * 2019 Huo C, Cheng WX. 2019. Improved root turnover assessment using field scanning rhizotrons with branch order analysis. ***Ecosphere*** 10(8): e02793 (Aug 2019) PEER REVIEWED
- * 2019 Lu J, Dijkstra FA, Wang P, Cheng WX. 2019. Roots of non-woody perennials accelerated long-term soil organic matter decomposition through biological and physical mechanisms. ***Soil Biology and Biochemistry*** 134: 42-53. <https://doi.org/10.1016/j.soilbio.2019.03.015> PEER REVIEWED
- * 2019 Tang M, Keck DC, Cheng WX, Zeng H, Zhu B. 2019. Linking rhizosphere respiration rate of three grassland species with root nitrogen concentration. ***Geoderma*** 346: 84-90. <https://doi.org/10.1016/j.geoderma.2019.03.035> PEER REVIEWED
- * 2019 Tang M, Cheng WX, Zeng H, Zhu B. 2019. Light intensity controls rhizosphere respiration rate and rhizosphere priming effect of soybean and sunflower. ***Rhizosphere*** 9: 97-105. PEER REVIEWED
- * 2019 Yin L, Corneo PE, Richter A, Wang P, Cheng WX, Dijkstra FA. 2019. Variation in rhizosphere priming and microbial growth and carbon use efficiency caused by wheat genotypes and temperatures. ***Soil Biology and Biochemistry*** 134: 54-61. PEER REVIEWED
- * 2019 Hou J, Dijkstra FA, Zhang X, Wang C, L¹/₄ X, Wang P, Han X, Cheng WX. 2019. Aridity thresholds of soil microbial metabolic indices along a 3,200 km transect across arid and semi-arid regions in Northern China. ***PeerJ*** 7:e6712. PEER REVIEWED
- * 2019 He YH, Zhou XH, Cheng WS, Lingyan Zhou LY, Zhang GD, Zhou GY, Liu RQ, Shao JJ, Zhu K, Cheng WX. 2019. Linking improvement of soil structure to soil

carbon storage following invasion by a C₄ plant
Spartina alterniflora. **Ecosystems** 22: 859-872. PEER REVIEWED

- * 2018 Kou X, Su T, Ma N, Li Q, Wang P, Wu Z, Liang W, Cheng WX. 2018. Soil micro-food web interactions and rhizosphere priming effect. **Plant and Soil** 432: 129-142. (Aug 22 2018) PEER REVIEWED
- 2018 Wang C, Houlton BZ, Liu D, Hou J, **Cheng WX**, Bai E. 2018. Stable isotopic constraints on global soil organic carbon turnover. *Biogeosciences* 15: 987-995. PEER REVIEWED
- 2018 Yin L. , Dijkstra FA, Wang P, Zhu B, **Cheng WX**. 2018. Rhizosphere priming effects on soil carbon and nitrogen dynamics among tree species with and without intraspecific competition. *New Phytologist* 218: 1036-1048. <https://doi.org/10.1111/nph.15074> PEER REVIEWED
- 2018 Lu J, Dijkstra FA, Wang P, **Cheng WX**. 2018. Rhizosphere priming of grassland species under different water and nitrogen conditions: a mechanistic hypothesis of C-N interactions. *Plant and Soil*. <https://doi.org/10.1007/s11104-018-3699-1>. PEER REVIEWED
- 2017 Huo C, Luo Y, **Cheng WX**. 2017. Rhizosphere priming effect: A meta-analysis. *Soil Biology & Biochemistry* 111: 78-84. <http://dx.doi.org/10.1016/j.soilbio.2017.04.003> PEER REVIEWED
- 2017 Zhang X, Han X, Yu W, Wang P, **Cheng WX**. 2017. Priming effects on labile and stable soil organic carbon decomposition: Pulse dynamics over two years. *PLoS ONE* 12(9): e0184978. PEER REVIEWED
- 2017 Wang C, Wei H, Liu D, Luo W, Hou J, **Cheng WX**, Han X, Bai E. 2017. Depth profiles of soil carbon isotopes along a semi-arid grassland transect in northern China. *Plant and Soil* 417:43-52 DOI 10.1007/s11104-017-3233-x PEER REVIEWED
- 2017 Su T, Dijkstra FA, Wang P, **Cheng WX**. 2017. Rhizosphere priming effects of soybean and cottonwood: do they vary with latitude? *Plant and Soil* 420:349-360, DOI 10.1007/s11104-017-3396-5 PEER REVIEWED
- 2016 Tian Q, He H, **Cheng WX**, Bai Z, Wang Y, Zhang X. 2016. Factors controlling soil organic carbon stability along a temperate forest altitudinal gradient. *Scientific Reports* 6:18783, DOI: 10.1038/srep18783 (Jun 1 2016) PEER REVIEWED
- 2016 Pausch J, Loeppmann S, K€hnel A, Forbush K, Kuzyakov Y, **Cheng WX**. 2016. Rhizosphere priming of barley with and without root hairs. **Soil Biology & Biochemistry** 100: 74-82. (Apr 1 2016) PEER REVIEWED

- 2016 Tian Q, Liu N, Bai W, Li L, Chen J, Reich PB, Yu Q, Dali Guo D, Smith MD, Knapp AK, **Cheng WX**, Lu P, Gao Y, Yang A, Wang T, Li X, Wang Z, Ma Y, Han XG, Zhang W. 2016. A novel soil manganese mechanism drives plant species loss with increased nitrogen deposition in a temperate steppe. *Ecology* 97: 65-74. (Mar 1 2016) PEER REVIEWED
- 2015 Bai W, Guo D, Tian Q, Liu N, **Cheng WX**, Li L, Zhang WH. 2015. Differential responses of grasses and forbs led to marked reduction in belowground productivity in temperate steppe following chronic N deposition. *Journal of Ecology* 103: 1570-1579 (Oct 1 2015) PEER REVIEWED
- 2015 Concilio A, Vargas T, **Cheng WX**. 2015. Rhizosphere-mediated effects of the invasive grass *Bromus tectorum* L. and native *Elymus elymoides* on nitrogen cycling in Great Basin Desert soils. *Plant and Soil* 393: 245-257. DOI: 10.1007/s11104-015-2482-9. PEER REVIEWED
- 2015 Pang XY, Zhu B, Lu X, **Cheng WX**. 2015 Labile substrate availability controls temperature sensitivity of organic carbon decomposition at different soil depths. *Biogeochemistry* 126: 85-98. PEER REVIEWED
- 2015 Lin J, Zhu B, **Cheng WX**. 2015. Decadally-cycling soil carbon is more sensitive to warming than faster-cycling soil carbon. *Global Change Biology* 21: 4602-4612. PEER REVIEWED
- 2014 Tian QX, He HB, Cheng WX, Zhang XD. 2014. Pulse-dynamic and monotonic decline patterns of soil respiration in long term laboratory microcosms. *Soil Biology & Biochemistry* 68: 329-336. PEER REVIEWED
- 2014 Zhu B, Gutknecht JLM, Herman DJ, Keck DC, Firestone MK, Cheng WX. 2014. Rhizosphere priming effects on soil carbon and nitrogen mineralization. *Soil Biology & Biochemistry* 76: 183-192. PEER REVIEWED
- 2014 Wang C, Wang X, Liu D, Wu H, Li X, Fang Y, Cheng WX, et al. 2014. Aridity threshold in controlling ecosystem nitrogen cycling in arid and semi-arid grasslands. *Nature Communications* DOI: 10.1038/ncomms5799. PEER REVIEWED
- 2014 Cheng WX, Parton WJ, Gonzalez-Meler MA et al, 2014. Tansley Review: Synthesis and modeling perspectives of rhizosphere priming. *New Phytologist* 201: 31-44. <https://doi.org/10.1111/nph.12440> PEER REVIEWED
- 2013 Pausch J, Zhu B, Kuzyakov Y, Cheng W. 2013. Plant inter-species effects on rhizosphere priming of soil organic matter decomposition. *Soil Biology & Biochemistry* 57: 91-99. PEER REVIEWED

- 2013 Zhu B, Cheng WX. 2013. Impacts of drying-wetting cycles on rhizosphere respiration and soil organic matter decomposition. *Soil Biology & Biochemistry* 63: 89-96. PEER REVIEWED
- 2013 Pang X, Bao W, Zhu B, Cheng WX. 2013. Responses of soil respiration and its temperature sensitivity to thinning in a pine plantation, *Agricultural & Forest Meteorology* 171: 57-64. PEER REVIEWED
- 2012 Xu, Z., S. Wan, H. Ren, X. Han, M. Li, **W. Cheng**, and Y. Jiang. 2012. Effects of water and nitrogen addition on species turnover in temperate grasslands in Northern China. *PLoS ONE* Volume 7, Issue 6, e39762 PEER REVIEWED
- 2012 Zhu, Biao, and **Weixin Cheng**. Nodulated soybean enhances rhizosphere priming effects on soil organic matter decomposition more than non-nodulated soybean. *Soil Biology & Biochemistry* 51: 56-65. PEER REVIEWED
- 2011 Zhu, B. A., and W. X. Cheng. 2011. (13)C isotope fractionation during rhizosphere respiration of C(3) and C(4) plants. *Plant and Soil* 342: 277-287. PEER REVIEWED
- 2011 Zhu, B. A., and W. X. Cheng. 2011. Constant and diurnally-varying temperature regimes lead to different temperature sensitivities of soil organic carbon decomposition. *Soil Biology & Biochemistry* 43: 866-869. PEER REVIEWED
- 2011 Zhu, B. A., and W. X. Cheng. 2011. Rhizosphere priming effect increases the temperature sensitivity of soil organic matter decomposition. *Global Change Biology* 17: 2172-2183. PEER REVIEWED
- 2010 Xu, Y., J. He, W. X. Cheng, X. Xing, L. Li. 2010. Natural ¹⁵N abundance in soils and plants in relation to N cycling in a rangeland in Inner Mongolia. *Journal of Plant Ecology*, 3: 201-207. PEER REVIEWED
- 2010 Walker, R.F., W. X. Cheng, D.W. Johnson. 2010. Mycorrhization of ponderosa pine in a second-growth Sierra Nevada forest. *Western North American Naturalist*, 70: 1-8. PEER REVIEWED
- 2009 Cheng, W., Rhizosphere priming effect: Its functional relationships with microbial turnover, evapotranspiration, and C-N budgets, *Soil Biology & Biochemistry* 41, 1795-1801 PEER REVIEWED
- 2009 Cheng, W., Q. Chen, Y. Xu, X. Han, and L. Li., Climate and ecosystem ¹⁵N natural abundance along a transect of Inner Mongolian grasslands: Contrasting regional patterns and global patterns, *Global Biogeochemical Cycles* 23, doi:10.1029/2008GB003315 PEER REVIEWED
- 2009 Gershenson, A., N.E. Bader, and W. Cheng, Effects of substrate availability on the temperature sensitivity of soil organic matter decomposition, *Global Change Biology* 15, 176-183 PEER REVIEWED

- 2009 Dijkstra, F.A., N.E. Bader, D.W. Johnson, and W. Cheng. 2009. Does accelerated soil organic matter decomposition in the presence of plants increase plant N availability? *Soil Biology & Biochemistry*, 41:1080-1087. PEER REVIEWED
- 2008 Dijkstra, F.A., and W. Cheng, Increased soil moisture content increases plant N uptake and the abundance of ¹⁵N in plant biomass, *Plant and Soil* 302, 263-271 PEER REVIEWED
- 2008 Xu, Y., S. Wan, W. Cheng, and L. Li, Impacts of grazing intensity on denitrification and N₂O production in a semi-arid grassland ecosystem, *Biogeochemistry* 88, 103-115 PEER REVIEWED
- 2007 Dijkstra, F.A., and W. Cheng, Interactions between soil and tree roots accelerate long-term soil carbon decomposition, *Ecology Letters* 10, 1046-1053 PEER REVIEWED
- 2007 Dijkstra, F.A., and W. Cheng, Moisture modulates rhizosphere effects on C decomposition in two different soil types, *Soil Biology & Biochemistry* 39, 2264-2274 PEER REVIEWED
- 2007 Johnson, D.W., F.A. Dijkstra, and W. Cheng, The effects of *Glycine max* and *Helianthus annuus* on nutrient availability in two soils, *Soil Biology & Biochemistry* 39, 2160-2163 PEER REVIEWED
- 2007 Xu, Y., L. Li, Q. Wang, Q. Chen, and W. Cheng, The pattern between nitrogen mineralization and grazing intensities in an Inner Mongolian typical steppe, *Plant and Soil* 300, 289-300 PEER REVIEWED
- 2007 Zhan, X-M, L-H. Li and W. Cheng, Restore degraded *Stipa krylovii* steppes in Inner Mongolia of China: Assess seed banks and vegetation composition, *Journal of Arid Environments* 68, 298-307 PEER REVIEWED
- 2007 Bader, N.E. and W. Cheng, Rhizosphere priming effect of *Populus fremontii* obscures the temperature sensitivity of soil organic carbon respiration, *Soil Biology & Biochemistry* 39, 600-606 PEER REVIEWED
- 2007 Cheng, W. and F.A. Dijkstra, Theoretical proof and empirical validation of a continuous labeling method using naturally ¹³C-depleted carbon dioxide, *Journal of Integrative Plant Biology* 49, 401-407 PEER REVIEWED
- 2007 Pasakdee, S., G. Bañuelos, C. Shennan, and W. Cheng, Organic N fertilizers and irrigation influence organic Broccoli production in two regions of California, *Journal of Vegetable Science* 12, 27-46 PEER REVIEWED
- 2006 Dijkstra, F.A., W. Cheng and D.W. Johnson., Plant biomass influences rhizosphere priming effects on soil organic matter decomposition in two differently managed soils, *Soil Biology & Biochemistry* 38, 2519-2526 PEER REVIEWED

- 2006 Misson, L., A. Gershenson, J. Tang, R. Boniello, M. McKay, W. Cheng and A. Goldstein, 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 PEER REVIEWED
- 2005 Cheng, W., S. Fu, R. B. Susfalk, and R. J. Mitchell, Measuring tree root respiration using ^{13}C natural abundance: rooting medium matters, *New Phytologist* 167, 297-307 PEER REVIEWED
- 2005 Tang, J., L. Misson, A. Gershenson, W. Cheng, and A.H. Goldstein., 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 PEER REVIEWED
- 2005 Wang, Z-P, X. Han, L. Li, Q. Chen, Y. Duan, and W. Cheng, Methane emission from small wetlands and implications for semiarid region budgets, *Journal of Geophysical Research* doi:10.1029/2004JD005548 PEER REVIEWED
- 2004 Fu, S. and W. Cheng, 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 PEER REVIEWED
- 2004 Kuzyakov, Y. and W. Cheng, Photosynthesis controls of CO_2 efflux from maize rhizosphere, *Plant and Soil* 263, 85-99 PEER REVIEWED
- 2004 Verburg, P.S.J., W. Cheng, D.W. Johnson, and D.E. Schorran, Nonsymbiotic nitrogen fixation in three-year-old Jeffrey pines and the role of elevated CO_2 , *Canadian Journal of Forest Research* 34, 1979-1984 PEER REVIEWED
- 2004 Johnson, D.W., W. Cheng, J.D. Joslin, R.J. Norby, N.T. Edwards, and D.E. Todd, Jr., Effects of elevated CO_2 on nutrient cycling in a sweetgum plantation, *Biogeochemistry* 69, 379-403 PEER REVIEWED
- 2003 Cheng, W., D.W. Johnson, and S. Fu, Rhizosphere effects on decomposition: controls of plant species, phenology, and fertilization, *Soil Science Society of America Journal* 67, 1418-1427 PEER REVIEWED
- 2002 Norby, R.J., P.J. Hanson, E.G. O'Neill, T.J. Tschaplinski, J.F. Welzlin, R.T. Hansen, W. Cheng, S.D. Wullschleger, C.A. Gunderson, N.T. Edwards, and D.W. Johnson, Net primary productivity of a CO_2 -enriched deciduous forest and the implications for carbon storage, *Ecological Applications* 12, 1261-1266 PEER REVIEWED
- 2002 Fu, S., W. Cheng, and R. Susfalk, Rhizosphere respiration varies with plant species and phenology: A greenhouse pot experiment, *Plant and Soil* 239, 133-140 PEER REVIEWED

- 2002 Fu, S. and W. Cheng, Rhizosphere priming effects on the decomposition of soil organic matter in C₄ and C₃ grassland soil, *Plant and Soil* 238, 289-294 PEER REVIEWED
- 2002 Hui, D., D.A. Sims, D.W. Johnson, W. Cheng and Y. Luo, 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 PEER REVIEWED
- 2002 Susfalk, R.B., W. Cheng, D.W. Johnson, R.F. Walker, P. Verburg, and S. Fu, Lateral diffusion and atmospheric CO₂ mixing compromise estimates of rhizosphere respiration in a forest soil, *Canadian Journal of Forest Research* 32, 1005-1015 PEER REVIEWED
- 2001 Kuzyakov, Y. and W. Cheng, Photosynthesis controls of rhizosphere respiration and organic matter decomposition, *Soil Biology & Biochemistry* 33, 1915-1925 PEER REVIEWED
- 2001 Hui, D., Y. Luo, W. Cheng, J.S. Coleman, D.W. Johnson and D.A. Sims, Canopy radiation- and water-use efficiencies as affected by elevated [CO₂], *Global Change Biology* 7, 75-91 PEER REVIEWED
- 2000 Cheng, W., Studying rhizosphere priming effects on soil carbon loss using natural ¹³C, *Mitteilungen der Deutschen Bodenkundlichen Gesellschaft* 93, 100-103 PEER REVIEWED
- 2000 Bonkowski, M., W. Cheng, B.S. Griffiths, G. Alpehi, and S. Scheu, Microbial-faunal interactions in the rhizosphere and effects on plant growth, *European Journal of Soil Biology* 36, 135-147 PEER REVIEWED
- 2000 Cheng, W., D.A. Sims, Y. Luo, J. S. Coleman, and D.W. Johnson, Photosynthesis, respiration, and net primary production of sunflower stands in ambient and elevated atmospheric CO₂ concentrations: an invariant NPP:GPP ratio?, *Global Change Biology* 6, 931-942 PEER REVIEWED
- 2000 Haile-Mariam, S., W. Cheng, D.W. Johnson, and E.A. Paul, 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 PEER REVIEWED
- 2000 Johnson, D.W., W. Cheng, and I.C. Burke, Biotic and abiotic nitrogen retention in a variety of forest soils, *Soil Science Society of America Journal* 64, 1503-1514 PEER REVIEWED
- 2000 Johnson, D.W., W. Cheng, and J.T. Ball, Effects of [CO₂] and N fertilization on soils planted with ponderosa pine, *Plant and Soil* 224, 99-113 PEER REVIEWED

- 2000 Johnson, D.W., W. Cheng, and J.T. Ball, Effects of CO₂ and N fertilization on decomposition and N immobilization in ponderosa pine litter, *Plant and Soil* 224, 115-122 PEER REVIEWED
- 2000 Cheng, W., D.A. Sims, Y. Lou, D.W. Johnson, J.T. Ball and J.S. Coleman, Carbon budgeting in plant-soil mesocosms under elevated CO₂: locally missing carbon?, *Global Change Biology* 6, 99-110 PEER REVIEWED
- 2000 Luo, Y., D. Hui, W. Cheng, J.S. Coleman, D.W. Johnson and D.A. Sims, Canopy quantum yield in a mesocosm study., *Agricultural and Forest Meteorology* 100, 35-48 PEER REVIEWED
- 1999 Cheng, W., Rhizosphere feedbacks in elevated CO₂, *Tree Physiology* 19, 313-320 PEER REVIEWED
- 1999 Sims, D.A., W. Cheng, Y. Luo and J.R. Seemann, Photosynthetic acclimation to elevated CO₂ in a sunflower canopy, *Journal of Experimental Botany* 50, 645-653 PEER REVIEWED
- 1998 Cheng, W., R.A. Virginia, S.F. Oberbauer, J.D. Tenhunen, C.T. Gillespie and J.F. Reynolds, Soil nitrogen, microbial biomass and respiration along an arctic toposequence, *Soil Science Society of American Journal* 62, 654-662 PEER REVIEWED
- 1998 Cheng, W. and D.W. Johnson, Elevated CO₂, rhizosphere processes, and soil organic matter decomposition, *Plant and Soil* 202, 167-174 PEER REVIEWED
- 1996 Holland, J.N., W. Cheng and D.A. Crossley, Jr., Herbivore-induced changes in plant carbon allocation: assessment of below-ground C fluxes using carbon-14., *Oecologia* 107, 87-94 PEER REVIEWED
- 1996 Oberbauer, S.F., C.T. Gillespie, W. Cheng, A. Sala, R. Gebauer and J.D. Tenhunen, Diurnal and seasonal patterns of ecosystem CO₂ efflux from upland tundra in the foothills of the Brooks range Alaska, *Arctic and Alpine Research* 28, 328-338 PEER REVIEWED
- 1996 Cheng, W., Measurement of rhizosphere respiration and organic matter decomposition using natural ¹³C, *Plant and Soil* 183(2), 263-268 PEER REVIEWED
- 1996 Cheng, W., Q. Zhang, D.C. Coleman, C.R. Carroll and C.A. Hoffman, Is available carbon limiting microbial respiration in the rhizosphere?, *Soil Biology & Biochemistry* 28, 1283-1288 PEER REVIEWED
- 1994 Cheng, W., D.C. Coleman, C.R. Carroll and C.A. Hoffman, Investigating short-term carbon flows in the rhizospheres of different plant species using isotopic trapping, *Agronomy Journal* 86, 782-788 PEER REVIEWED

- 1993 Cheng, W. and R.A. Virginia, Measurement of microbial biomass in arctica tundra soils using fumigation-extraction and substrate-induced respiration procedures, *Soil Biology & Biochemistry* 25, 135-141 PEER REVIEWED
- 1993 Cheng, W., D.C. Coleman, C.R. Caroll and C.A. Hoffman, In situ measurement of root respiration and soluble carbon concentrations in the rhizosphere, *Soil Biology and Biochemistry* 25, 1189-1196 PEER REVIEWED
- 1992 Oberbauer, Steven F., C.T. Gillespie, W. Cheng, R. Gebauer, A. Sala Serra, and J.D. Tenhunen, Environmental effects on CO₂ efflux from Riparian Tundra in the northern foothills of the Brooks range, Alaska, *Oecologia* 92, 568-577 PEER REVIEWED
- 1992 Beare, M.H., R.W. Parmelee, P.F. Hendrix, W. Cheng, D.C. Coleman and D.A. Crossley, Jr., Microbial and Faunal interactions and effects on litter nitrogen and decomposition in agroecosystems, *Ecological Monograph* 62, 569-591 PEER REVIEWED
- 1991 Cheng, W., D.C. Coleman, and J.E. Box, Jr., Measuring root turnover using the minirhizotron technique, *Agriculture, Ecosystems and Environment* 34, 261-267 PEER REVIEWED
- 1991 Berg, J.D., P.F. Hendrix, W. Cheng, and A. Dillard, A labeling chamber for ¹³C enrichment of plant tissues for decomposition studies, *Agriculture, Ecosystems and Environment* 34, 421-425 PEER REVIEWED
- 1990 Parmelee, R.W., M.H. Beare, W. Cheng, P.F. Hendrix, S.J. Rider, D.A. Crossley, Jr. and D.C. Coleman, 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 PEER REVIEWED
- 1990 Cheng, W., D.C. Coleman, and J.E. Box, Jr., Root dynamics, production and distribution in agroecosystems on the Georgia Piedmont using minirhizotrons, *Journal of Applied Ecology* 27, 592-604 PEER REVIEWED
- 1990 Cheng, W. and D.C. Coleman, The effect of living roots on soil organic matter decomposition, *Soil Biology & Biochemistry* 22, 781-787 PEER REVIEWED
- 1989 Cheng, W. and D.C. Coleman, A simple method for measuring CO₂ in a continuous air flow system: modifications to the substrate-induced respiration technique, *Soil Biology & Biochemistry* 21, 385-388 PEER REVIEWED

Other Creative Activities

- 2001 **Web site:** *Rhizosphere Image Gallery: Windows to Ecological Worlds Underground*, Web page. This is a informational web page for teaching and outreach. It has been

widely used in the fields of soil ecology, root ecology, and rhizosphere studies. [Web site] May 2001 continuing.

Other Scholarly Activities

- 2017 **Book Review:** Weixin Cheng (2017) *Agroecology in China: Science, Practice, and Sustainable Management*, eds. by Luo Shiming and S.R. Gliessman. *Agroecology and Sustainable Food Systems*, 41:9-10, 1189-1190. INVITED

PROFESSIONAL ACTIVITIES

Memberships or Activities in Professional Associations

- 1991 - Present Sino Ecologist Overseas
- 1991 - Present Soil Ecology Society
- 1990 - Present Soil Science Society of America
- 1986 - Present Ecological Society of America
- 2012 **Presiding a session:** Presider: Weixin Cheng: Soil Processes and Ecosystem Services: I - Role of Microbial Processes; Wednesday, Soil Science Society of America Annual Meetings, October 24, 2012: 10:00 AM-2:05 PM, Cincinnati, OH. INVITED
- 2009 Candidate for Vice Chair of Soil Ecology Section, Ecological Society of America INVITED
- 2007 Candidate for Chair of Soil Biology & Biochemistry Section, Soil Science Society of America INVITED
- 2006 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.
- 2004 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. INVITED
- 2002 Nomination Committee Chair, Soil Ecology Society
- 2002 Member of Nomination Committee, Soil Ecology Section of the Ecological Society of America
- 1999 - 2000 Past Section Chair, Asian Ecology Section of Ecological Society of America

- 1998 - 1999 Section Chair, Asian Ecology Section of Ecological Society of America
- 1997 - 1999 Secretary, Soil Ecology Society
- 1991 - 1992 Vice President, Sino Ecologist Overseas
 - 1991 American Association for the Advancement of Science
- 1990 - 1991 Secretary, Sino Ecologist Overseas
 - 1990 American Institute of Biological Sciences
 - 1987 International Association for Ecology

Consulting

- 1998 National Environment Research Council, UK (reviewed grant proposals)
- 1997 Scientific Advisory Board member of Bartz Technology Co.
- 1997 Research Institute of Innovative Technology for the Earth, Japan
(reviewed grant proposals)
- 1993 Two-week mission to the University of Sao Paulo at Piracicaba, Brazil, as
an invited expert on carbon isotopic labeling and below-ground carbon
dynamics. October.

Editorial Services

- Fall 2017 - **Subject Editor:** Soil Biology and Biochemistry
Fall 2020
- Fall 2011 - **Associate Editor:** Ecological Processes
Fall 2019
- Jan 2014 - **Associate Editor:** Soil Science Society of America Journal
Dec 2016
- 2007 - 2015 **Editorial board member:** Journal of Plant Ecology
- 2009 - 2014 **Associate Editor:** Journal of Soils and Sediments
- 2007 - 2011 **Consulting Editor:** Plant and Soil
- 2006 - 2009 **Editorial Board Member:** Journal of Integrative Plant Biology
- 1998 - 2006 **Editorial board member:** Acta Phytocologica Sinica

Review/Referee Grants, Proposals and Publications

- 2015 - 2018 Reviewed manuscripts for the following Journals: Biogeochemistry,
Biogeosciences, Ecosystems, European Journal of Soil Biology, PLoS
One, Global Biogeochemical Cycles, Global Change Biology, Plant and
Soil, New Phytologist, Oecologia, Soil Biology and Biochemistry, Soil

Science Society of American Journal, Ecological processes, Science Advances.

- 2015 - 2018 Reviewed grant proposals for the followings: National Science Foundation; The Terrestrial Ecosystem Science Program of the Office of Biological and Environmental Research (BER) of the U.S. Department of Energy; The Agriculture and Food Research Initiative Competitive Grants Program and the National Institute of Food and Agriculture of the U. S. Department of Agriculture.
- 2012 - 2015 Reviewed grant proposals for the followings: The Ecosystems Program of the National Science Foundation; The Terrestrial Ecosystem Science Program of the Office of Biological and Environmental Research (BER) of the Office of Science, U.S. Department of Energy; The Agriculture and Food Research Initiative Competitive Grants Program, National Institute of Food and Agriculture, U. S. Department of Agriculture; The Strategic Environmental Research and Development Program (SERDP), U.S. Department of Defense; Earth & Life Sciences Division, The Netherlands Organisation for Scientific Research (NWO).
- 2012 - 2015 Reviewed manuscripts for the following Journals: Biogeochemistry, BioGoeScience, Ecology, Ecosystems, European Journal of Soil Biology, PLoS One, Global Biogeochemical Cycles, Global Change Biology, Journal of Plant Ecology, Journal of Soils and Sediments, Plant and Soil, New Phytologist, Oecologia, Soil Biology and Biochemistry, Soil Science Society of American Journal
- 2009 - 2012 **Manuscripts:** Reviewed manuscripts for the following Journals: Biogeochemistry, BioGoeScience, Ecology, Ecology Letters, Ecosystems, European Journal of Soil Biology, Pedosphere, Global Biogeochemical Cycles, Global Change Biology, Plant and Soil, New Phytologist, Soil Biology and Biochemistry, Soil Science Society of American Journal
- 2009 - 2012 **Proposals:** Reviewed grant proposals for the followings: National Science Foundation, US Environmental Protection Agency, DOE National Institute for Climate Change Research, Mid-Western Region DOE National Institute for Global Environmental Change Research, Southeast Region USDA The National Research Initiative Competitive Grants Program, Kearney Foundation of Soil Science, DoD SERDP
- 2006 - 2009 Reviewed manuscripts for the following: Biogeochemistry, Biology and Fertility of Soils, Biotropica, Ecology, Ecology Letters, Ecosystems, European Journal of Soil Biology, Pedosphere, Global Biogeochemical

Cycles, Global Change Biology, Environmental Quality, Plant and Soil, New Phytologist, Rangeland Research and Management, Soil Biology and Biochemistry, Soil Science Society of American Journal

2006 - 2009 Reviewed grant proposals for the the followings: National Science Foundation US Environmental Protection Agency DOE National Institute for Climate Change Research, Western Region DOE National Institute for Climate Change Research, Mid-Western Region DOE National Institute for Global Environmental Change Research, Southeast Region USDA The National Research Initiative Competitive Grants Program Kearney Foundation of Soil Science

1998 - 2006 National Science Foundation US Department of Energy US Environmental Protection Agency DOE National Institute for Climate Change Research, Western Region DOE National Institute for Climate Change Research, Mid-Western Region National Institute of Global Environmental Change, Western Region National Institute for Global Environmental Change, Southeast Region National Institute for Global Environmental Change, South Central Regional Center USDA The National Research Initiative Competitive Grants Program

Other Professional Activities

Fall 2015 **Panelist:** US Department of Agriculture/National Institute of Food and Agriculture/Agriculture and Food Research Initiative/Climate and Microbial Processes in Agroecosystems Program INVITED

2014 **Panelist:** The panel evaluates research proposals submitted to the Ecosystem Studies Program of the National Science Foundation.

2013 **Panelist:** The panel evaluates final proposals submitted to the Carbon Cycle Science, a multi-agency federal program (NASA Earth Science Program, the U.S. Department of Agriculture (USDA) National Institute of Food and Agriculture (NIFA) Agriculture and Food Research Initiative Competitive Grants Program (AFRI), the U.S. Department of Energy (DOE) Terrestrial Ecosystem Science Program, and the Atmospheric Chemistry, Carbon Cycle, and Climate (AC4) Program within NOAA's Climate Program Office).

2013 **Panelist:** The panel evaluates proposals submitted to the Terrestrial Ecosystem Science Program of the Office of Biological and Environmental Research (BER) of the Office of Science, U.S. Department of Energy (DOE).

- 2012 **Panelist:** Panelist for evaluating proposals submitted to the Strategic Environmental Research and Development Program (SERDP) of DoD.
- 2010 **Panelist:** Panelist for evaluating research proposals submitted to Kearney Foundation of Soil Science.
- 2008 Panelist for evaluating research proposals submitted to the Ecosystem Studies Program of the National Science Foundation.
- 2008 Panelist for evaluating research proposals submitted to Kearney Foundation of Soil Science.
- 2007 Panelist for evaluating research proposals submitted to the Ecosystem Studies Program of the National Science Foundation.
- 2007 Panelist for evaluating research proposals submitted to DOE National Institute for Climatic Change Research: Mid-Western Region
- 2006 Panelist for evaluating research proposals submitted to the Ecosystem Studies Program of the National Science Foundation.
- 2006 Panelist for evaluating research proposals submitted to DOE National Institute for Climatic Change Research: Mid-Western Region
- 2005 Panelist for evaluating research proposals submitted to Kearney Foundation of Soil Science.
- 2005 Panelist for evaluating research proposals submitted to the Ecosystem Studies Program of the National Science Foundation.
- 2004 Panelist for evaluating research proposals submitted to the Ecosystem Studies Program of the National Science Foundation.
- 2004 Panelist for evaluating research proposals submitted to the National Research Initiative Competitive Grants Program of US Department of Agriculture: Soil and Soil Biology Program.
- 1999 Panelist for evaluating research proposals submitted to the National Research Initiative Competitive Grants Program of US Department of Agriculture: Soil and Soil Biology Program.
- 1997 Panelist for evaluating research proposals submitted to the National Research Initiative Competitive Grants Program of US Department of Agriculture: Ecosystem Program.
- 1997 Panelist for evaluating research proposals submitted to the Demonstration Intensive Site Project, or DISPro, a joint program between US Environmental Protection Agency and National Parks Service.

1995 Panelist for the National Science Foundation to execute an on-site review of the agro-ecology Long-Term Ecological Research Program between at the Kellogg Biological Station, Michigan State University.