

CURRICULUM VITAE

David E. Ervin

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Bio

David Ervin is a Professor Emeritus of Environmental Management and Economics and a Senior Fellow in the Institute for Sustainable Solutions at Portland State University. He has 40 years of experience in conducting research on agricultural and environmental topics in academe, federal government and non-profit think-tanks. Prior posts include Professor and Head of Agricultural and Resource Economics at Oregon State University, Professor of Agricultural Economics at the University of Missouri-Columbia, Chief of Resource Policy Branch in the U.S. Department of Agriculture's Economic Research Service, Visiting Scholar at the Office of Technology Assessment, U.S. Congress, and Director of the Policy Studies Program for the Henry A. Wallace Institute for Alternative Agriculture. He holds BS and MS degrees from The Ohio State University and a Ph.D. from Oregon State University. He has taught undergraduate and graduate courses in environmental economics and management, the economics of sustainability, and business environmental management.

As an environmental economist, Ervin has developed a portfolio of multi- and transdisciplinary research and education to address vexing environmental management challenges that require an understanding of socio-economic systems and human behavior. His projects have covered erosion control, water quality, genetically engineered crops, herbicide resistance, the value of ecosystem services, urban ecosystem services management, and the motivations of business to adopt progressive environmental programs. His recent research has focused on the sustainability of genetically engineered crops, in particular pest resistance and role of ecosystems in sustainable management. He chaired the 2008-10 National Research Council's Committee "Impact of Biotechnology on Farm Sustainability in the United States." He was principal investigator (PI) of a National Science Foundation Integrative Graduate Education and Research Traineeship (IGERT) project "Ecosystem Services for Urbanizing Regions" (2010-14), a U.S. Department of Agriculture funded project "Public Goods and University-Industry Relationships in Agricultural Biotechnology," and several other grants. His externally funded projects, as PI or Co-PI, were awarded approximately \$12 million since 2000. During 2015-2016, he co-led research efforts for the U.S. Department of Agriculture and the U.S. Geological Survey on the valuation of ecosystem services impacted by federal programs. He has been a visiting scholar in the Department of Land Economy at Cambridge University in 1986-87 and 2008. Consulting assignments include the Organization for Economic Cooperation and Development, the European Commission, and the North American Commission for Environmental Cooperation. He has spoken to local, national and international audiences (e.g., China, Europe, India, South Africa and Colombia) on the sustainability of agricultural systems, ecosystem service valuation, and business sustainability topics.

Education

- Ph.D., Agricultural and Resource Economics, Oregon State University, 1974
- M.S., Agricultural Economics, The Ohio State University, 1969
- B.S., Agricultural Economics, The Ohio State University, 1967

Professional Positions

- Professor Emeritus of Environmental Management and Economics and Senior Fellow, Institute for Sustainable Solutions, Portland State University, January 2014 - present
- Professor of Environmental Management, Professor of Economics, and Fellow of the Institute for Sustainable Solutions, Portland State University, 2008- 2013.
- Professor of Environmental Studies and Coordinator of Academic Sustainability Programs, Portland State University, September 2001 - 2007.
- Senior Policy Analyst, Wallace Center for Agricultural and Environmental Policy, Winrock International, January, 2000 – June, 2002.
- Director, Policy Studies Program, The Henry A. Wallace Institute, Greenbelt, Maryland, July, 1996-December, 1999.
- Professor, Department of Agricultural and Resource Economics, Oregon State University, January, 1994 - July, 1996. (Visiting Senior Analyst, Office of Technology Assessment, January, 1994 - September, 1995, on assignment from Oregon State University)
- Professor and Head, Department of Agricultural and Resource Economics, Oregon State University, Corvallis, Oregon, August, 1991 - January, 1994.
- Chief, Resource Policy Branch, Resources and Technology Division, Economic Research Service, USDA, Washington, DC, July, 1988 - July, 1991.
- Professor, Associate Professor, and Assistant Professor, Department of Agricultural Economics, University of Missouri - Columbia, December, 1976 - July, 1988. (Visiting scholar at the Department of Land Economy, University of Cambridge, UK during 1986-87; 2008.)
- Post-Doctoral Appt., Department of Agricultural and Resource Economics, Oregon State University, Corvallis, Oregon, January, 1975 - November, 1976.

Professional Activities, Honors and Awards, and Listings

Professional Activities

- Guest Co-editor, *Sustainability*, special issue “Innovating Sustainable Pest Resistance Management,” 2020-2021
- Panel member, Council for Agricultural Sciences and Technology, *Stewardship Challenges for New Pest Management Technologies in Agriculture*, 2019-2020
- Panel member, National Science Foundation, Growing Convergence Research Program, 2020
- Ad hoc member, U.S. EPA FIFRA Scientific Advisory Panel, Resistance of Lepidopteran Pests to *Bacillus thuringiensis* (Bt) Plant Incorporated Protectants in the United States, 2018.
- Member, Weed Science Society of America, 2019-present
- Member, American Association for the Advancement of Science, 2017-current
- Amici Curiae brief of Carlisle Ford Runge, Daniel W. Bromley, Jay Coggins, David E. Ervin, Noelwah R. Netusil, Raymond B. Palmquist, and R. William Provencher as Amici Curiae in support of Respondents, in Joseph P. Murr, et al., Petitioners, v. State of Wisconsin and St. Croix County, et al., Respondents., before U.S. Supreme Court, 2015.
- Guest Co-Editor, 2016, *Choices* Thematic Issue, “Herbicide Resistance Management”
- Co-Chair, 2015-16, Council on Food, Agriculture and Resource Economics Project “Valuation of Ecosystem Services Available from Farms and Forests,” funded by U.S. Department of Agriculture

- Co-Director, 2013-2017, Principles to Guide Assessments of Ecosystem Service Values Project, Institute for Sustainable Solutions, Portland State University.
- Member, Weed Science Society Educational Committee on Herbicide Resistance, David Shaw, Chair, Mississippi State University, 2011-present.
- Member, National Academy of Science's National Research Council Planning Committee "National Summit on Strategies to Manage Herbicide-Resistant Weeds," 2011-2013.
- Guest Editor, *Sustainability*, Special Issue on Green Business, 2013
- Guest Editor, *Choices*, Special Issue on Genetically Engineered Crops and U.S. Agriculture, 2010
- Chair, National Academy of Science's National Research Council Committee "The Impact of Genetically Engineered Crops on Farm Sustainability in the United States" (2008-10)
- Board Member, U.S. Society for Ecological Economics, 2009-2012
- Member, Association of Environmental and Resource Economists, 2001-2015
- Member, International Society for Ecological Economics, 2007-2012
- Chair, International Resource Policy Consortium (1994-95)
- Secretary/Treasurer, Council on Food, Agricultural, and Resource Economics (1996-99)
- Reviewer, *Land Economics*
- Reviewer, *Ecological Economics*
- Reviewer, *Journal of Environmental Economics and Management*
- Reviewer, *International Journal of the Commons*
- Reviewer, *Weed Science*
- Reviewer, *Applied Economics and Policy*

Honors and Awards

- Fellow, American Association for the Advancement of Science, 2021
- Public Service Award, Weed Science Society of America, 2021
- Best Article, *Rural Sociology*, 2015, "Intellectual Property, Scientific Independence, and the Efficacy and Environmental Impacts of Genetically Engineered Crops" (co-author)
- Fred Buttel Outstanding Scholarly Achievement Award for 2013 by the Rural Sociological Society for "Commercial Science, Scientists' Values, and University Biotechnology Research Agenda," *Research Policy* (co-author)
- Roy Koch Award for Sustainability Leadership, Portland State University, 2013
- Phi Kappa Phi, Portland State University, 2009
- Board of Directors, U.S. Society for Ecological Economics, 2009-2010
- Outstanding article, "Will Business-Led Environmental Initiatives Grow in Agriculture?" *Choices*, 1999 (S. Batie, co-author)
- President's Citation, Soil and Water Conservation Society, 1995
- Award of Merit, 1990 Farm Bill Analysis Team, U.S. Department of Agriculture, Economic Research Service
- Thesis Advisor, Outstanding Master's Thesis, Honorable Mention, American Agricultural Economics Association, 1981
- Certificate of Merit, Outstanding Extension Program, Technical Information Coordinator, Western Agricultural Economics Association, 1978
- Outstanding Master's Thesis, Department of Agricultural Economics, The Ohio State University, 1969
- Gamma Sigma Delta, The Ohio State University, 1967

Listed

- American Men and Women of Science

- Who's Who in Technology Today
- Who's Who in the East
- Dictionary of International Biography

Teaching (2006-2013)

- Economics 332 “Economics of Environmental Issues” (undergraduate)
- Economics 522 “Economics of Sustainability: Theory and Practice” (graduate)
- Environmental Sciences and Management/Economics 434/534 “Business Environmental Management Economics” (senior/graduate)

Funded Grants (1998-2019)

1. Co-Principal Investigator “Research and Extension to Address Herbicide Resistance Epidemic in Annual Bluegrass in Managed Turf Systems” Specialty Crop Research Initiative, U.S. Department of Agriculture (\$5.65 M: Portland State U. budget \$330,000)
2. Principal Investigator, Cooperative Agreement, "Evaluating Principles to Guide Comprehensive Assessment of Ecosystem Service Values", U.S. Geological Survey, Reston, VA, 2016-17 (\$25,000)
3. Co-Chair, “Valuation of Ecosystem Services from Farms and Forests, “Project funded by the Council on Food, Agricultural and Resource Economics and Office of Chief Economist, Office of Environmental Markets, U.S. Department of Agriculture, 2015-2017 (\$83,000)
4. Participating Social Scientist, “An integrated pest management approach to addressing the multiple herbicide-resistant weed epidemic in three major U.S. field crop production regions” U.S. Dept. of Agriculture Research Service Areawide Project (\$2M; awarded July 2015 – August 2017)
5. Co-Principal Investigator, “Integrating Human Behavioral & Agronomic Practices to Improve Food Security by Reducing the Risk & Consequences of Herbicide-Resistant Weeds,” U.S. Department of Agriculture, Agriculture and Food Research Initiative (\$930K; awarded June 2014)
6. Principal Investigator and Co-Director, “Ecosystem Services for Urbanizing Regions,” National Science Foundation Integrated Graduate Education, Research and Training (IGERT) Program (\$3M; awarded July 15, 2010).
7. Co-Principal Investigator, “Spatially-explicit assessment of ecosystem services shifts under climate change and land development in the metropolitan fringe.” National Science Foundation. Geographic Systems Science (\$350K; awarded August 2010).
8. Project Director. “Developing Genuine Metrics for Business Sustainability” Miller Foundation, Portland State University, 2010 (\$10K planning grant).
9. Project Director. “Ecosystem Services and Sustainability: The Marmot Dam Removal” Portland State University Miller Foundation Award (\$122K) 2007.
10. Co-Principal Investigator. “Developing Design Tools for Estimating the Energy and Water Performance of Ecoroofs.” The Ecoworks Foundation, Portland Office of Sustainable Development, and Gerding Edlen Development (\$130K) 2006-2009.
11. Project Director “Public Goods and Private Goods from Agricultural Biotechnology Research: The Roles of University-Industry Relationships.” U.S. Department of Agriculture, Cooperative State Research, Education and Extension Service (\$20K) 2006.
12. Project Director and Co-Principal Investigator, “Oregon Business Decisions for Environmental Performance.” U.S. Environmental Protection Agency STAR program (\$251K) 2003-2007.
13. Project Director, “University-Industry Relationships: Framing the Issues for Academic Research in Agricultural Biotechnology,” Pew Initiative on Food and Biotechnology (\$100K) 2002.
14. Principal Investigator, "Public Goods and University-Industry Relationships in Agricultural

- Biotechnology” U.S. Department of Agriculture, Cooperative State Research, Education and Extension Service, Initiative for Future Agriculture and Food Systems (\$2M) 2001-2004
15. Principal Investigator. “Economic Measures of Mt. Hood National Forest Sustainability.” U.S. Forest Service (\$34K) 2000-2002.
 16. Project Director, “Policies for Managing Agricultural Biotechnology and the Environment: A Scan of Research, Education and Other Activities.” Kellogg Foundation and U.S. Department of Agriculture, Sustainable Agriculture Research and Education Program and Economic Research Service (\$41K) 1999-2000.
 17. 1998-99. Co-Investigator, "Comparison of Environmental and Health-Related Standards Influencing the Relative Competitiveness of EU Agriculture vis-a-vis Main Competitors in the World Market," European Commission (175K ECU).
 18. 1978-81. Principal Investigator, “Managing Non-Point Source Water Pollution from Agriculture,” Missouri Department of Natural Resources (\$250K)

Publications

Books

1. *The Impact of Genetically Engineered Crops on Farm Sustainability in the United States*. 2010. **DE Ervin**, Y Carrière, WJ Cox, J Fernandez-Cornejo, RA Jussaume, MC Marra, MDK Owen, PH Raven, LL Wolfenbarger, and D Zilberman. Washington, DC: The National Academies Press. 250p.
2. *Does Environmental Policy Work: The Theory and Policy of Outcomes Assessment*. 2003. **D Ervin**, J Kahn, and M Livingston, editors, Northampton: Elgar, 201 pp.
3. *Public Concerns, Environmental Standards and Agricultural Trade*. 2002. F. Brouwer and **D Ervin**, editors, New York: CAB International. 352 pp.
4. **Ervin, D**, J Fitch, R Godwin, W Shepard and H Stoevener. 1977. *Land Use Control: Evaluating Economic and Political Effects*, Cambridge: Ballinger Publishing Company.

Journal Articles (refereed)

1. Jussaume, Dentzman, Frisvold, **Ervin** and Owen (2021). Factors that Influence On-Farm Decision-Making: Evidence from Weed Management. *Society and Natural Resources*. December DOI: [10.1080/08941920.2021.2001123](https://doi.org/10.1080/08941920.2021.2001123)
2. Chang, H, E Granek, **D Ervin**, A Yeakley, V Dujon and V Shandas. 2020. A community-engaged approach to transdisciplinary doctoral training in urban ecosystem services. *Sustainability Science* <https://doi.org/10.1007/s11625-020-00785-y>
3. Frisvold, G, J Albright, **D Ervin**, M Owen, J Norsworthy, K Dentzman, T Hurley, R Jussaume, J Gunsolus and W Everman. 2020 "Do farmers manage weeds on owned and rented land differently? Evidence from U.S. corn and soybean farms" *Pest Management Science*, January, DOI:10.1002/ps5737
4. **Ervin, D**, E Breshears, G Frisvold, T Hurley, K Dentzman, J Gunsolus, R Jussaume, M Owen, J Norsworthy, M Al Mamun and W Everman. 2019. Farmer Attitudes Toward Cooperative Approaches to Herbicide Resistance Management: A Common Pool Ecosystem Service Challenge. *Ecological Economics* 157: 237-245. <https://doi.org/10.1016/j.ecolecon.2018.11.023>
5. Shaw DR, Barrett M, Schroeder J, Asmus AB, **Ervin D**, Jussaume RA, Coble H. 2018. Critical Next Steps in Combating Herbicide Resistance: Our View. *Weed Science* 66:559–561. doi: 10.1017/wsc.2018.
6. Schroeder J, M Barrett M, DR Shaw, AB Asmus, H Coble, **DE Ervin**, RA Jussaume, MDK

- Owen, I Burke, CF Creech, AS Culpepper, WS Curran, DM Dodds, TA Gaines, JL Gunsolus, BD Hanson, P Jha, AE Klodd, AR Kniss, RG Leon, S McDonald, DW Morishita, BJ Schutte, CL Sprague, PW Stahlman, LE Steckel and MJ VanGessel. 2018. Managing Wicked Herbicide-Resistance: Lessons from the Field. *Weed Technology* 32:475–488. doi: 10.1017/wet.2018.49
7. Schroeder J, M Barrett M, DR Shaw, AB Asmus, H Coble, **DE Ervin**, RA Jussaume, MDK Owen, I Burke, CF Creech, AS Culpepper, WS Curran, DM Dodds, TA Gaines, JL Gunsolus, BD Hanson, P Jha, AE Klodd, AR Kniss, RG Leon, S McDonald, DW Morishita, BJ Schutte, CL Sprague, PW Stahlman, LE Steckel and MJ VanGessel. 2018. Managing Herbicide Resistance: Listening to the Perspectives of Practitioners. Procedures for Conducting Listening Sessions and an Evaluation of the Process. *Weed Technology* 32:489–497. doi: 10.1017/wet.2018.53
 8. Barrett, M, **D Ervin**, G Frisvold, R Jussaume, D Shaw, and S Ward. 2017. “A Wicked View. *Weed Science*. <https://doi.org/10.1017/wsc.2017.20>
 9. Pannell, D, P Tillie, E Rodríguez-Cerezo, **D Ervin**, and G Frisvold. 2016. “Herbicide Resistance: Economic and Environmental Challenges,” *AgBioForum* 19(2): 136-155.
 10. Jordan N, Schut M, Graham S, Barney JN, Childs DZ, Christensen S, Cousens RD, Davis AS, Eizenberg H, **Ervin DE**, Fernandez-Quintanilla C, Harrison LJ, Harsch MA, Heijting S, Liebman M, Loddo D, Mirsky SB, Riemens M, Neve P, Peltzer DA, Renton M, Williams M, Recasens J & Sønderkov M (2016). Transdisciplinary weed research: new leverage on challenging weed problems? *Weed Research*. doi: [10.1111/wre.12219](https://doi.org/10.1111/wre.12219).
 11. Jussaume RA Jr, **Ervin DE**. 2016. Understanding weed resistance as a wicked problem to improve weed management decisions. *Weed Sci* 64(Special Issue): 559-569
 12. **Ervin DE**, Frisvold GB. 2016. Community-based approaches to herbicide-resistant weed management: lessons from science and practice. *Weed Sci* 64(Special Issue): 609-626
 13. Glenna, L, J Tooker, R Welsh, and **D Ervin**. 2015. “Intellectual Property, Scientific Independence, and the Efficacy and Environmental Impacts of Genetically Engineered Crops, *Rural Sociology*. DOI: 10.1111/ruso.12062
 14. **Ervin, D** and R Jussaume. 2014. “Herbicide Resistance: Integrating Social Science into Understanding and Managing Weed Resistance and Associated Environmental Impacts,” *Weed Science* 62 (2): 403-414
 15. **Ervin, D**, J Wu, M Khanna, C Jones and T Wirkala. 2013. “Motivations and Barriers to Corporate Environmental Management” *Business Strategy and the Environment*, September 22(6): 390-409.
 16. Nag, S, H Yang, ST Buccola, and **D Ervin**. 2012. “Productivity and Financial Support in Academic Bioscience.” (April) *Applied Economics* (on-line publication)
 17. **Ervin, D**, D. Brown, Heejun Chang, Veronica Dujon, Elise Granek, Vivek Shandas, and Alan Yeakley. 2011. “Growing Cities Depend on Ecosystem Services,” *Solutions* 2(6): 74-86.
 18. Costanza, R., I. Kubiszewski, **D Ervin**, R. Bluffstone, J. Boyd, D. Brown, H. Chang, V. Dujon, E. Granek, S. Polasky, V. Shandas, A. Yeakley. 2011. “Valuing ecological systems and services.” *F1000 Biology Reports* 2011, 3:14 (doi:10.3410/B3-14)
 19. Ervin, D, L Glenna, and R Jussaume. 2011. “The Theory and Practice of Genetically Engineered Crops and Agricultural Sustainability,” *Sustainability* 3, 847-874; doi:10.3390/su3060847
 20. Glenna, L, R Welsh, **D Ervin**, WB Lacy, and D Biscotti. 2011. “Commercial Science, Scientists’ Values, and University Biotechnology Research Agendas” *Research Policy* 40(7): 957-968.
 21. **Ervin, D** and R Welsh. 2010. “Genetically Engineered Crops and U.S. Agricultural Sustainability,” *Choices* (August) <http://www.choicesmagazine.org/magazine/article.php?article=127>.
 22. Nag, S, H Yang, S Buccola, and **D Ervin**. 2010 “What Drives Academic Bioscientists: Money

or Values?" *Choices* (August)

<http://www.choicesmagazine.org/magazine/article.php?article=132>

23. **Ervin, D**, L Glenna, and R Jussaume. 2010. "Are Biotechnology and Sustainable Agriculture Compatible?" *Renewable Agriculture and Food Systems*, (26).
24. Buccola, S, **D Ervin**, and H Yang. 2009 "Research Choice and Finance in University Bioscience," *Southern Economic Journal* 75(4): 1238-1255.
25. Khanna, M, P Koss, C Jones and **D Ervin**. 2007. "Motivations for Voluntary Environmental Management." *Policy Studies Journal* 35(4): 751-772.
26. Welsh, R. and **D Ervin**. 2006. "Precaution as an Approach to Technology Development: The case of transgenic crops." *Science, Technology and Human Values*. 31(2): 153-172.
27. **Ervin, D**, Welsh, R., Batie, S., and Carpentier, C.L., 2003. "Towards an Ecological Systems Approach in Public Research for Environmental Regulation of Transgenic Crops." *Agriculture, Ecosystems and the Environment*. 99: 1-14.
28. **Ervin, D** and F Casey. 2001. "Green Business Rising" *Choices*, 3rd Quarter: 34-37.
29. Batie, S and **D Ervin**. 2001. "Biotechnology and the Environment: Issues and Linkages," *Environment and Development Economics*, 6: 435-457.
30. **Ervin, D**. 1999. "Toward GATT-Proofing Environmental Programmes for Agriculture," *Journal of World Trade*, 33(2), April: 63-82.
31. Fleming, R, R Adams and **D Ervin**. 1998. "The Role of Soil Test Information in Reducing Groundwater Pollution," *Journal of Agr. and Resource Economics* 23(1): 20-38.
32. Batie, S and **D Ervin**. 1998. " Will Business-Led Environmental Initiatives Grow in Agriculture?" *Choices*, Fourth Quarter: 4-10.
33. **Ervin, D** and A Schmitz. 1996. "A New Era of Environmental Management in Agriculture?," *American Journal of Agricultural Economics*, 78, December: 1198-1206.
34. **Ervin, D** and E Graffy, 1996. "Leaner Environmental Policies for Agriculture," *Choices*, Fourth Quarter: 27-33.
35. **Ervin, D**. 1995. "A New Era of Water Quality Management in Agriculture: From Best Management Practices to Watershed-Based Whole Farm Approaches," *Water Resources Update*, Autumn:18-28.
36. **Ervin, D** and E Graffy. 1995. "Technology for Production and Environmental Quality: Are We Missing Opportunities for Complementarity?," *Journal of Soil and Water Conservation*, 50(4): 352-353.
37. **Ervin, D**. 1994. "Soil and Water Conservation Down on the Farm: A Changing Economic Landscape," *Journal of Soil and Water Conservation* 49(3): 232-234.
38. **Ervin, D**. 1993. "Trade and the Environment in Developing Countries: Discussion," *American Journal of Agricultural Economics*. December.
39. **Ervin, D**. 1991. "Natural Resource and Environmental Data Needs: Discussion." *American Journal of Economics*. 73(3): 934-44.
40. Huang, W, K Algozin and **D Ervin**. 1990. "An Economic Analysis of Using the Conservation Reserve Program for Groundwater Quality." *Journal of Soil and Water Conservation*. 45(2): 341-45.
41. **Ervin, D**. 1988. "Cropland Diversion (Set Aside) in the U.S. and U.K." *Journal of Agricultural Economics* 39(2): 183 - 95.
42. **Ervin, D** and M Dicks. 1988, "Cropland Diversion for Conservation and Environmental Improvement: An Economic Welfare Analysis." *Land Economics*. 64(3): 258 - 68.
43. **Ervin, DE**. 1988. "Set-Aside Programmes: Using U.S. Experience to Evaluate U.K. Proposals." *Journal of Rural Studies*. 4(3): 181 - 91.
44. **Ervin, DE**., William D. Heffernan and Gary P. Green. "Cross-Compliance for Erosion Control: Anticipating Efficiency and Distribution Impacts - Reply." *American Journal of Agricultural Economics* 68(4): 1016-17.

45. **Ervin, DE**, William D. Heffernan and Gary P. Green. "Cross-Compliance for Erosion Control: Anticipating Efficiency and Distributive Impacts - Reply." *American Journal of Agricultural Economics* 68(2): 351-2.
46. Dunford, RW, DL Chicoine and **DE Ervin**. 1986. "Farmland Use-Value Assessment in the United States: A Summary and Critical Review." *Assessment Digest* 8(3): 21-27.
47. **Ervin, DE** and MG Blase. 1986. "The Conservation Reserve: Potential Impacts and Problems." *Journal of Soil and Water Conservation* 41(2): 77-80.
48. **Ervin, DE**, DL Chicoine and PD Nolte. 1986. "Use Value Assessment of Farmland: Implications for Fiscal Stability." *North Central Journal of Agricultural Economics* 8(1): 17-28.
49. **Ervin, DE** and JW Mill. 1985. "Agricultural Land Markets and Soil Erosion: Policy Relevance and Conceptual Issues." *American Journal of Agricultural Economics* 67(5): 938-942.
50. **Ervin, DE**, WD Heffernan and GP Green. 1984. "Cross-Compliance for Erosion Control: Anticipating Efficiency and Distributive Impacts," *American Journal of Agricultural Economics* 66(3): 273-78.
51. **Ervin, DE**, JP Bryant and GL Stampley. 1984. "Mandatory Soil Erosion Standards: Estimating Inter-Farm Distributive Impacts." *Journal of Soil and Water Conservation* 39(4): 266-69.
52. **Ervin, DE**. 1982. "Soil Erosion Control on Owner-Operated and Rented Cropland." *Journal of Soil and Water Conservation* 37: 285-87.
53. **Ervin, DE**, RM Schoening and RW Madsen. 1982. "Reassessment and Use-Value Appraisal of Farmland: Potential Property Tax Impacts." *Journal of the American Society of Farm Managers and Rural Appraisers* 46: 54-58.
54. Ervin, CA and **DE Ervin**. 1982. "Economic and Social Factors Affecting the Use of Soil Conservation Practices: Hypotheses, Evidence and Policy Implications," *Land Economics* 58 (Aug.): 277-92.
55. **Ervin, DE** and RA Washburn. 1981. "Profitability of Soil Conservation Practices." *Journal of Soil and Water Conservation*. 36(2):107-111.
56. **Ervin, DE** and J Fitch. 1980. "Evaluating Alternative Compensation and Recapture Techniques for Expanded Public Control of Land Use: A Reply." *Natural Resources Journal* 20: 551-554.
57. **Ervin, DE** and J Fitch. 1979. "Evaluating Alternative Compensation and Recapture Techniques for Expanded Public Control of Land Use." *Natural Resources Journal* 19: 21-41.

Manuscripts in progress or submitted

1. Sun, Hurley, Dentzman, **Ervin**, Everman, Frisvold, Gunsolus, Norsworthy, and Owen (November 2017). Economic and Behavioral Drivers of Herbicide Resistance Management in the U.S. *American Journal of Agricultural Economics* (revise and resubmit)
2. Allen, **Ervin**, Frisvold et al (December 2021). Herbicide Resistant *Poa annua* in Turfgrass Systems: Industry Views on Averting an Epidemic. *Urban Forestry and Urban Greening* (in review)
3. **Ervin**, Frisvold and Allen (November 2020). Weed Management Perspectives and Challenges: Key Findings from a National Survey of Turfgrass Managers in Golf, Sports and Sod/Seed Production (in preparation)
4. Casey, **Ervin**, Olander, Polasky and Shapiro (December 2020). Approaches to Incorporate Ecosystem Values into Federal Agency Decision Making (USGS Circular) (in preparation)

Journal/Newsletter Correspondence

1. **Ervin, D**. "Government Funding Can Support Applied Research," *Chronicle of Higher*

Education, September 20, 2016

2. **Ervin, D.**, G. Larsen, and C. Shinn. "Simple Ecosystem Service Valuation Can Impact National Forest Management," American Association of Environmental and Resource Economists (AERE) Newsletter. Spring 2012
3. **Ervin, D.** "Verdict Still Out on Biotech Crops," *Science* 328 (May 28): 1105-1106
4. Welsh, R, B Hubbell, **D Ervin** and M Jahn. 2002. "GM crops and the pesticide paradigm." *Nature Biotechnology* 20(6): 548-549.

Research Reports and Magazine Articles (1994 - 2020) (refereed and invited)

1. Shaw, D, **D Ervin**, G Frisvold, R Jussaume, G Sword. Council for Agricultural Science and Technology (CAST). 2020. *Stewardship Challenges for New Pest Management Technologies in Agriculture*. Commentary. CAST, Ames, Iowa. (refereed)
2. **Ervin, D** and G Frisvold. 2016. "Are Community-Based Approaches to Manage Herbicide Resistance Wisdom or Folly?" *Choices*. Quarter 4. Available online: <http://www.choicesmagazine.org/choices-magazine/theme-articles/herbicide/are-community-based-approaches-to-manage-herbicide-resistance-wisdom-or-folly> (refereed)
3. **Ervin, D** and C. Jones. "Management Values Trump Environmental Regulation," Guest Commentary, *Sustainable Industries Journal*, June, 2008.
4. **Ervin, D**, T Lomax, S Buccola, K Kim, E Minor, H Yang, L Glenna, E Jaeger, D Biscotti, W Armbruster, K Clancy, W Lacy, R Welsh and Y Xia. [University-Industry Relationships: Framing the Issues for Academic Research in Agricultural Biotechnology](#). Pew Initiative on Food and Biotechnology, Washington, DC, 2002.
5. Carpentier, C and **D Ervin**, [Business approaches to agri-environmental management: incentives, constraints and policy issues](#). Organization for Economic Cooperation and Development, Paris, 2002. (refereed)
6. **Ervin, D** "Shaping a Smarter Environmental Policy for Farming," *Issues in Science and Technology*, Summer, 1998: 73-79. (refereed)
7. **Ervin, D**, C. Runge, E. Graffy, W. Anthony, S. Batie, P. Faeth, T. Penny, and T. Warman, "Agriculture and the Environment: A New Strategic Vision," *Environment*, July/August 1998, vol.40 (6): 8-15, 35-40. (refereed)
8. **Ervin, D**, [Agriculture, trade and the environment: Anticipating the policy challenges](#). Organization for Economic Cooperation and Development, Paris, 1997. (refereed)
9. **Ervin, D**, "The Environment and Agriculture: Reading the Evidence and Rethinking Policy," *Choices*, second quarter, 1997 (invited).
10. **Ervin, D** and K Smith. "Agricultural Industrialization and Environmental Quality." *Choices* 1994 9(4):7 (invited).
11. **Ervin, D**, "Don't Set Aside U.S. Lessons," *Countryside*, (Britain), May/June 1994, no. 67: 7 (invited).

Book Chapters (1999-2017)

1. B.D. Wortham-Galvin, JH Allen, **DE Ervin** and Jacob Sherman. 2017 "Building the Platform: Supporting a Sustainability Agenda and University-Community Relationships." in *Handbook of Theory and Practice of Sustainable Development in Higher Education*, volume 1, W. L. Filho, L. Brandli, P. Castro, and J.Newman, editors, Cham Switzerland: Springer, pp. 365-380.
2. Allen, J and **D Ervin**. 2016. "Building sustainability scholarship: lessons learned from Portland State University" chapter 1 in *Let Knowledge Serve the City*, B.D. Wortham, J.H. Allen and J. Sherman, eds. Sheffield, UK: Greenleaf Publishing, 184 pp.

3. Yeakley, J.A., **D Ervin**, H Chang, E Granek, V Dujon, V Shandas, and D Brown. Ecosystem services of streams and rivers. In: D. Gilvear, M. Greenwood, M. Thoms, P. Wood, *River Science: Research & Applications for the 21st Century*, Wiley, UK, 2016 ISBN: 978-1-119-99434-3
4. Shandas, V, A Yeakley, E Granek, **D Ervin**, V Dujon, and H Chang. Characterizing urban ecosystem services: integrating the biophysical and social dimensions of human-dominated landscapes, in K Ninan (Editor), *Valuing Ecosystem Services: Methodological issues and Case Studies*. Edward Elgar Press, 295-312 doi: <https://doi.org/10.4337/9781781955161.00026>
5. Taylor, M, D Brown, **D Ervin**, J Thayer and B Cassidy. 2013. "A Genuine Metric for Business Sustainability." Chapter 15 in *Building a Green Economy: Perspectives from Ecological Economics*, Robert B. Richardson. Editor, Lansing, MI: Michigan State University Press.
6. **Ervin DE**. (2013) Voluntary Resource Conservation and Environmental Management in Agriculture and Forestry. In: Shogren, J.F., (ed.) *Encyclopedia of Energy, Natural Resource, and Environmental Economics*, volume 2, pp. 124-132 Amsterdam: Elsevier.
7. **Ervin D**. 2011. "The Economics of Sustainable Business: Theory and Evidence" in *Designing Sustainable Products, Services and Manufacturing Systems*, Amaresh Chakrabarti, Sudarsan Rachuri, Prabir Sarkar and Srinivas Kota, editors, Singapore: Resource Publishing Services.
8. Thayer, J and **D Ervin**. 2010. "Developing a Practical Approach to Measuring Sustainability" Proceedings of the 2010 IEEE Society Spring Conference. Toronto (August).
9. Khanna, M, C Jones, **D Ervin** and P Koss 2009. "Voluntary Environmental Management: Motivations and Policy Implications" in deLeon, P. & Rivera, J., *Voluntary Environmental Programs: A Policy Perspective*. Maryland: Lexington Press.
10. Castle, E and **DE Ervin**. 2008. "Frontiers in Resource and Rural Economics: A Synthesis." in *Frontiers in Resource and Rural Economics: Human-Nature, Rural-Urban Interdependencies*, edited by J. Wu, P. Barkley and B. Weber. Washington, DC: Resources for the Future.
11. **Ervin, D** and R Welsh. 2006. "Environmental Effects of Genetically Modified Crops: Differentiated Risk Assessment and Management" in R.E. Just, J.M. Alston, and D. Zilberman, editors. *Regulating Agricultural Biotechnology: Economics and Policy* (New York: Springer Publishers.
12. **Ervin, D** and R Welsh. "Environmental effects of genetically modified crops: A differentiated risk assessment model." in Wesseler, Justus (ed.), 2005. *Environmental Costs and Benefits of Transgenic Crops*. Wageningen UR Frontis Series vol. 7, Springer, Dordrecht.
13. Carpentier, CL, **D Ervin**, and S Vaughan. 2004. "Multifunctionality and Trade Disciplines in North America" in *Sustaining Agriculture and the Rural Economy: Governance, Policy and Multifunctionality*, F. Brouwer, editor, Edward Elgar.
14. **Ervin, D** and F Casey 2002. "The Changing Economics of Agriculture and the Environment" in *Challenging the Agricultural Economics Paradigm*, Luther Tweeten, editor. Iowa State University Press, pp. 254-274.
15. Brouwer, F and **D Ervin**. 2002. "Introduction" in *Public Concerns, Environmental Standards, and Agricultural Trade*. 2002. F. Brouwer and D. Ervin, editors, New York: CAB International: 1-10.
16. Carpentier, C L and **D Ervin**. 2002. "USA" in *Public Concerns, Environmental Standards, and Agricultural Trade*. 2002. F. Brouwer and D. Ervin, editors, New York: CAB International: 95-140.
17. Brouwer, F and **D Ervin** 2002. "Environmental and Human-health Standards influencing Competitiveness" in *Public Concerns, Environmental Standards, and Agricultural Trade*. 2002. F. Brouwer and D. Ervin, editors, New York: CAB International: 255-284.
18. **Ervin, D**. 2001. "Trade, Agriculture, and the Environment " in *International Environmental Economics*, G. Schulze and H. Ursprung, ed's. Oxford Press, pp. 84-113.

19. **Ervin, D.** 2000. "Taking Stock of Methodologies to Assess the Environmental Effects of Liberalised Agricultural Trade" *Assessing the Environmental Effects of Trade Liberalization Agreements*. Organization for Economic Cooperation and Development, Paris.
20. Batie, S and **D Ervin**, 1999. "Flexible Incentives for Environmental Management in Agriculture: A Typology," in *Flexible Incentives for the Adoption of Environmental Technologies in Agriculture*, F. Casey, S. Swinton, A. Schmitz, and D. Zilberman, ed's. Kluwer, pp. 55-78.
21. Potter, C and **D Ervin**. 1999. "Freedom to Farm: Agricultural Policy Liberalization in the US and EU," in *Agriculture and World Trade Liberalization: Socio-Economic Perspectives on the Common Agricultural Policy*. M. Redclift, J. Lekakis, and G. Zanias, eds. Wallingford: CABI, pp.53-72.

Research Project Reports (2000-2018)

1. **Ervin, D** 2018. "Final Technical Report: Principles to Guide Comprehensive Ecosystem Service Valuation – Insights from Assessments of the Great Dismal Swamp and Hurricane Sandy Restoration." Prepared under Grant/Cooperative Agreement No. G16AC00437 between the U.S. Geological Survey's Ecosystem Services Mission Area, Science and Decisions Center and Portland State University. DOI: 10.13140/RG.2.2.13836.62089, 50 pp.
2. Wainger, L and **D Ervin** (editors). 2017. Valuing Ecosystem Services from Farms and Forests, Informing a systematic approach to quantifying effects of conservation programs. The Council on Food, Agricultural and Resource Economics (C-FARE) Report No. 0114-301, Washington DC (March; available at <http://www.cfare.org/publications/valuing-ecosystem-services-from-farms-and-forests>).
3. Wainger, L and **D Ervin**. 2017. Synthesis Chapter: Valuing Ecosystem Services from Farms and Forests, Informing a systematic approach to quantifying effects of conservation programs. The Council on Food, Agricultural and Resource Economics (C-FARE) Report No. 0114-301a, Washington DC (March; available at <http://www.cfare.org/publications/valuing-ecosystem-services-from-farms-and-forests>).
4. **Ervin, D**, S Vickerman, S Ngawhika, F Beaudoin, S Hamlin, E Dietrich, P Manson, and J Schoenen. 2014. *Principles to Guide Assessments of Ecosystem Service Values*. Institute for Sustainable Solutions, Portland State University (revised edition).
5. **Ervin, D**, M Khanna, P Koss, J Wu, C Jones, C Speir, and T Wirkkala. 2007. *Oregon Business Decisions for Environmental Management Summary Report*. Portland, OR: Portland State University, Dept of Economics.
6. **Ervin, D** "University-Industry Relationships in Agricultural Biotechnology Research." Issue Report Seven, Chicago: Farm Foundation, December, 2006.
7. **Ervin, D** "Key Issues: Evaluation of Payments – Mid-term Evaluation of Rural Development Plans," in *Evaluating Agri-Environmental Policies: Design, Practice and Results*, OECD, 2005, pp. 101-102.
8. **Ervin, D**, "An Analysis of the Trade Effects of Agri-Environmental Payments and Regulations on Arable Crops." Chapter 7 *Agriculture, Trade and the Environment: The Arable Crop Sector*, Organization for Economic Cooperation and Development. Paris, 2005.
9. **Ervin D**, T Lomax, S Buccola, K Kim, E Minor, H Yang, L Glenna, E Jaeger, D Biscotti, W Armbruster, K Clancy, W Lacy, R Welsh, and Y Xia. 2003 "University-Industry Relationships and the Public Good: Framing the Issues in Agricultural Biotechnology" Wash. DC: Pew Initiative in Food and Biotechnology (November).
10. Speir, J, M A Bowden, **D Ervin**, J McElfish, RP Espejo, T Whitehouse, and CL Carpentier. 2003. *Comparative Standards for Intensive Livestock Operations in Canada, Mexico, and the United States*. Montreal: Commission on Environmental Cooperation (February).
11. Carpentier, CL and **D Ervin**. 2002. "Business Approaches to Agri-Environmental Management:

Incentives, Constraints and Policy Issues.” Organization for Economic Cooperation and Development. Paris.

12. **Ervin, D**, S Batie, R Welsh, CL Carpentier, J Fern, N Richman, and M Schulz. 2001. *Transgenic Crops: An Environmental Assessment*. Policy Studies Report, Wallace Center for Agricultural and Environmental Policy, Winrock International, February.
13. Brouwer, F, D Baldock, CL Carpentier, J Dwyer, **D Ervin**, G Fox, A Meister, R Stringer. 2000. *Comparison of Environmental and Health-Related Standards Influencing the Relative Competitiveness of European Union Agriculture vis a vis Main Competitors in the World Market*. European Commission.

Presentations and Activities (1997-2020)

1. Organizer, "Converging Lab and Field Evidence to Empower Cooperative Pest Management," Contributed session, American Association for the Advancement of Science annual meeting, February 20, 2022, Philadelphia, PA, USA.
2. Webinar panel discussion, *Stewardship Challenges for New Pest Management Technologies in Agriculture*, Council for Agricultural Science and Technology, Ames, Iowa, May, 18, 2020.
3. Panel presentation, “Three Lessons in Community Resistance Management: Seeing the Forest for the Trees,” Weed Science Society of America workshop “Building a Community to Battle the Wicked Problem of Herbicide Resistance,” Lahaina, Maui, March 5, 2020.
4. Organizer and moderator, "Catalyzing transdisciplinary science to address the herbicide resistance epidemic in weeds," Contributed session, American Association for the Advancement of Science annual meeting, February 14, 2020, Seattle WA, USA.
5. Rapporteur report, "*Alternative Governance Structures for Sustainable Use of Biotechnology*," International Consortium for Agricultural Bioeconomy Research (ICABR) Pre-Conference, June 4, 2019, Ravello Italy.
6. Principles to Guide Comprehensive Ecosystem Service Valuation – Insights from Great Dismal Swamp (GDS) and Hurricane Sandy Restoration (HSR) Assessments, contributed presentation, A Community for Ecosystem Services, Crystal City, VA, December 4, 2018
7. Seminar “Building Community Cooperation for Common Pool Resource Resilience: The Herbicide Resistance Challenge,” Portland State University School of the Environment, March 15, 2018.
8. Seminar "Automation and Work: Good, Bad or Does It Depend?" Pennsylvania State U., February 9, 2018 and Pennsylvania Association for Sustainable Agriculture annual conference, February 10, 2018.
9. Presented paper “Farmer Attitudes toward Cooperative Approaches to Herbicide Resistance Management,” Weed Science Society Annual Conference, Crystal City, VA, January 31, 2018.
10. Workshop “Embedding Sustainability in Higher Education: Sharing Lessons for Advancing Scholarship and Practice at EAN University.” EAN University, Bogota, Colombia, October 17-23, 2017.
11. Webinar “The Valuation of Ecosystem Services Available from Farms and Forests” National Ecosystem Services Partnership, Duke University, June 29, 2017.
12. “Principles to Assess Ecosystem Service Values in Forest Management” David Ervin, Frank Casey and Sara Vickerman. Accepted presentation for International Union of Forest Research Organizations All-Division 5 Conference “Forest Sector Innovations for a Greener Future,” June 13, 2017, Vancouver, B.C.
13. Keynote presentation "Socio-Economic Complications of Herbicide Resistance: The Global Perspective" to workshops on Living with Lolium (Ryegrass) Resistance -- Implications for Farmers

- and the Herbicide Industry, March 28 and 30, 2017 in Riebeek-Wes and Bredasdorp, South Africa
14. Webinar "The Valuation of Ecosystem Services Available from Farms and Forests" Council on Food, Agriculture and Resource Economics, March 23, 2017.
 15. "Neighbor and Community Aspects of Herbicide Resistance Management: Insights from A National Survey" at the annual Weed Science Society Meeting, February 8, 2017.
 16. "Lessons and Implications for Ecosystem Service Valuation beyond USDA" at the annual conference of A Community for Ecosystem Services (ACES) conference, Jacksonville, Florida, December 8, 2016.
 17. "Unraveling the Economics of a Wicked (Weed) Problem," Portland State University, Dept. of Economics Seminar Series. Oct. 23, 2015
 18. "What does Science have to say about genetically engineered crops?" Senior Studies Institute, Portland, Oregon, Oct. 27, 2015
 19. "Herbicide Resistance: A U.S. Perspective," Plenary presentation, International Consortium on Agricultural Bioenergy Research, Ravello, Italy, June 18, 2015.
 20. "Common Pool Resource Challenges in Managing Herbicide Resistance, " Eight International Integrated Pest Management Symposium," Salt Lake City, Utah, March 26, 2015.
 21. "Community-Based Approaches to Manage Herbicide Resistance," Weed Science Society of America meetings, Lexington, KY, February 11, 2015 (with G. Frisvold).
 22. Panel Presentation, "Ecosystem Service Valuation to Inform Climate Change Adaptation and Mitigation Decisions," ACES Conference Town Hall session, Washington, DC, December 11, 2014
 23. Accepted Presentation, "Principles to Guide Assessments of Ecosystem Service Values," ACES Conference Town Hall session, Washington, DC, December 10, 2014
 24. Invited Presentation, "Community-Based Approaches to Manage Herbicide Resistant Weeds," Herbicide Resistance Summit II, Washington DC, September 10, 2014.
 25. Invited Presentation. 25th Annual David L. Staniforth Memorial Lecture "Herbicide Resistance: Will Voluntary Measures Work or Is Regulation Inevitable?" Iowa State University, April 15, 2014.
 26. Invited Presentation. "Agriculture: Growing and Managing Food: Perspectives for Today and the Future," League of Women Voters, Portland, Oregon, February 11, 2014.
 27. Symposium presentation "Assessing Ecosystem Service Values for Climate Change Adaptation" at the National Council and Global Forum for Science, Policy and the Environment conference, Washington, DC, January 28, 2014.
 28. Briefings, "Principles to Guide Assessments of Ecosystem Service Values," U.S. Depts. of Agriculture and Interior, Defenders of Wildlife, Washington, DC, November, 2013; Bullitt Center, Seattle, WA, December, 2013, and; Portland State University, January and February 2014.
 29. Invited Presentations, "Herbicide Resistance: Integrating Human Behavior into Environmental Management" and "Herbicide Resistance Management: Will Individual Grower Efforts Suffice?" Weed Science Society Meetings, Baltimore, Maryland,

February 5-6, 2013.

30. Invited Presentation, “The Economics of Business Sustainability,” Northwest Environmental Conference, Portland, Oregon, December 5, 2012.
31. Contributed presentation, “Rural and Urban Ecosystem Services: Substitutes or Complements?” Ecosystem Services Partnership Conference, Portland, Oregon, August 1, 2012.
32. Contributed paper, “A Genuine Metric for Assessing Business Sustainability,” U.S. Society of Ecological Economics, June 28, 2011.
33. Invited Presentation, “The NRC Report on the Impacts of Genetically Engineered Crops on U.S. Farm Sustainability One Year Later,” Fourth Bioeconomy Conference, U.C. Berkeley, March 25, 2011.
34. Panel Presentation, “Climate Variability Effects on Ecosystem Services: Adaptation and Mitigation” Natural Resources Conservation Service and Farm Foundation Agricultural Landscapes Forum, Portland State University, March 18, 2011 (with H. Chang).
35. Invited Presentation “The Impact of Genetically Engineered Crops on Farm Sustainability in the United States” Farm Foundation Forum on Issues in the Future Regulation of Agricultural Biotechnology. Wash., DC: National Press Club, March 15, 2011.
36. Contributed Paper. “A Genuine Metric for Assessing Business Sustainability,” International Congress on Sustainability Science and Engineering, Tucson, AZ, January 11, 2011 (with Matthew Taylor).
37. Invited Presentation, “Biotech Crops: Do They Promote Sustainable Farming?” Pearl Rotary International, Portland, Oregon, October 19, 2010.
38. Invited Presentation, “Motivations for Business Sustainability,” USTDA Chinese Delegation Study Tour, Portland, Oregon, September 22, 2010.
39. Selected paper “Economic and Institutional Factors Affecting Business Environmental Management,” World Conference of Environmental and Resource Economists, Montreal, June 30, 2010.
40. Chair, Plenary Session, “Impacts of Genetically Engineered Crops on Farm Sustainability in the United States,” International Consortium on Agricultural Biotechnology Research, Ravello, Italy, June 18, 2010.
41. Invited Paper. “The Economics of Sustainable Business: Theory and Evidence,” Joint India-U.S. Conference on *Designing Sustainable Products, Services and Manufacturing Systems*, Bangalore, India, August, 2009.
42. Invited Presentation “Impacts of Genetically Engineered Crops on Farm Sustainability” to the Private and Public Scientific, Academic and Consumer Food Policy conference at Harvard University November 22-23, 2009.
43. Selected Paper. “Sustainable Manufacturing Metrics & Standards: Guiding Theory,” National Institute of Standards and Technology workshop on Sustainable Manufacturing: Metrics, Standards, and Infrastructure, Gaithersburg, Maryland, October 13-15, 2009.
44. Invited Presentation “Building Sustainability Scholarship at Portland State University: War Stories and Lessons,” Michigan State University conference on Engaged Sustainability Scholarship:

Accelerating Change, April 30, 2009.

45. Seminar. "Public Goods and University-Industry Relationships in Agricultural Biotechnology: Roles of Academic Scientists, University Administrators & Industry Partners" University of Lancaster, Center for Economic and Social Aspects of Genomics. June 3, 2008
46. Seminar. "Toward a Fuller Understanding of Environmental Management: Roles of Management Values, Market Forces and Regulation." Organization for Economic Cooperation and Development, May 23, 2008.
47. Panel Presentation "The New Economics of Green Business and Ecosystem Service Markets," Oregon State University, April 18, 2008.
48. Invited Presentation. "Public Goods and University-Industry Relationships in Agricultural Biotechnology" Second Decade of Crop Biotechnology: Opportunities and Challenges for the Food System. Washington DC: Farm Foundation. January 16, 2008.
49. "Oregon Business Decisions for Environmental Management." Environmental Behavior and Decision Making: Workshop on Corporate Environmental Behavior and Benefits of Environmental Information Disclosure. New York, NY: U.S. Environmental Protection Agency, January 14, 2008.
50. Seminar "What Motivates Business Environmental Management: Sticks, Carrots, or Both" Oregon Department of Environmental Quality, Portland, Oregon, June 6, 2007.
51. Six lectures on economics of sustainable development to the UNEP-Tongji University Masters Program in Environment and Sustainable Development, April 30-May 12, 2007.
52. Elton R. Smith Distinguished Lecture Series. "What Motivates Business Environmental Management: Carrots or Sticks?" Michigan State University, November 16, 2006.
53. Seminar "University-Industry Relationships in Research on Agricultural Biotechnology," Michigan State University, November 17, 2006.
54. Special session organizer, "Public Goods and Private Goods from Agricultural Biotechnology Research: The Roles of University-Industry Relationships," International Consortium on Agricultural Biotechnology Research, Ravello, Italy, June 29-July 2, 2006.
55. Conference Director, "Public Goods and Private Goods from Agricultural Biotechnology Research: The Roles of University-Industry Relationships" Wash., D.C., May 1, 2006.
56. Presentation, "Scientists' research on agricultural biotechnology: the influence of industry support and other factors" at Public Goods and Private Goods from Agricultural Biotechnology Research: The Roles of University-Industry Relationships conference, Wash., D.C., May 1, 2006. with Steve Buccola and Hui Yang, Oregon State University
57. Expert reviewer, Environmental Performance Index Project, Yale University Center for Environmental Law and Policy, Columbia University Center for International Earth Science Information Network, and the Joint Research Centre of the European Commission, October 27-28, 2005.
58. Presentation, "Incorporating Precaution and Biosafety in the Regulation of Transgenic Crops" National workshop on the "Economics of Regulation of Agricultural Biotechnologies" in Arlington, Virginia, March 10, 2005.

59. Presentation. "Oregon Business Decisions for Environmental Performance." Corporate Environmental Behavior and the Effectiveness of Government Interventions. U.S. EPA conference, April 26-27, 2004.
60. Presentation with H. Yang, S.T. Buccola, K. Kim, and E. Minor. "University-Industry Relationships and the Biotechnology Research Agenda." Presentation delivered at the Conference on Innovation and Dynamic Efficiency in Agricultural Biotechnology, Economic Research Service and CSREES, USDA, October 14 - 15, 2004.
61. Presentation. "University-Industry Relationships and the Public Good: Framing the Issues in Agricultural Biotechnology," International Consortium on Agricultural Biotechnology Research, Ravello, Italy, July 1-3, 2003.
62. Seminar. "Sustainable Literacy" Ecotrust Series on Sustainability Now. Oct. 1, 2002.
63. "Genetically Modified Crops and the Environment" Portland State Weekend Seminar. Oct 26, 2002.
64. "Environmental Effects of Genetically Modified Crops: Differentiated Risk Assessment and Management" Frontis Workshop on Environmental Benefits and Risks of Transgenic Crops, Wageningen, Netherlands, June 1-4, 2002.
65. "Are Environmental Reviews Affecting Public Policy?" North American Conference on Assessing the Environmental Effects of Trade Liberalization, Commission for Environmental Cooperation, Montreal, Jan. 17-18, 2002.
66. "Economics and the Changing Structure of Agriculture: Adapting Technology to Meet Economic, Environmental and Social Needs." Plenary presentation. Annual Meetings of the American Society of Agronomy, Crop and Soil Science Society, and Soil Science Society of America.. Charlotte, North Carolina, Oct. 21-25, 2001.
67. "Economics and the Changing Structure of Agriculture: Adapting Technology to Meet Economic, Environmental and Social Needs." Plenary presentation. Annual Meetings of the American Society of Agronomy, Crop and Soil Science Society, and Soil Science Society of America.. Charlotte, North Carolina, Oct. 21-25, 2001.
68. "Transgenic Crops and the Environment: The Economics of Precaution" Invited Paper. Western Agricultural Economics Association in Logan Utah on July 10, 2001.
69. "Public Research for U.S. Biosafety Regulation of Transgenic Crops" 5th International Conference organized by the International Consortium on Agricultural Biotechnology Research (ICABR) "Biotechnology, Science and Modern Agriculture: A New Industry at the Dawn of the Century," in Ravello, Italy, June 15-18, 2001.
70. "The New Economics of Agriculture and the Environment" Keynote Address. Ohio State University. Challenging the Agricultural Economics Paradigm: A Symposium Honoring the Career of Luther G. Tweeten.(September 2000).
71. "The Environmental Effects of Agricultural Trade" International Experts Meeting on Sustainability Assessment of Trade Liberalization. Quito, Ecuador (March 2000).
72. "Taking Stock of Methodologies to Assess the Environmental Effects of Agricultural Trade Liberalization" Organization for Economic Cooperation and Development, Paris (October 1999).
73. "Agricultural Biotechnology and the Environment" Agricultural Journalists Annual Meeting (April 1999).
74. "Environmental Issues in Agriculture" U.S. Department of Agriculture, Climate Change Workshop (January 1999).
75. "Visions of Agriculture and the Environment in 2020" Agricultural Research Institute (October 1998).
76. "Trade and Environment Interrelationships in Agriculture ," Land Economics Institute, The Hague, Netherlands (October 1998).
77. Invited testimony to the National Research Council's Committee on Evaluating the U.S. Department of Agriculture's National Research Initiative Competitive Grants Program (October 1998).
78. Invited testimony, "Improved Research Accountability for Public Goods," Senate Committee on

Agriculture, Nutrition and Forestry, (March 1997).

Consulting Activities (1991-present)

- Commission on Environmental Cooperation, 2001-02
- The European Commission, 1992 and 1998.
- The Organization for Economic Cooperation and Development, 2007, 2004, 2003, 2001, 2000, 1999, 1997, 1996 and 1991.
- The H. John Heinz III Center for Science, Economics and the Environment, State of the Nations Ecosystems Project, 1998-99.
- Pioneer Hi-Bred International, October, 1995.