

## PETER J. WILCOXEN

### ADDRESS

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### EDUCATION

- Ph.D. Economics, Harvard University, March 1989
- A.M. Economics, Harvard University, 1985
- B.A. Physics, Magna cum Laude, Phi Beta Kappa, University of Colorado, 1982

### PROFESSIONAL APPOINTMENTS

*Director*, Center for Environmental Policy and Administration, Syracuse University, 2005-present  
*Associate Professor*, Economics and Public Administration, Syracuse University, July 2003-present  
*Nonresident Senior Fellow*, The Brookings Institution, 1995-present.  
*Associate Professor*, Department of Economics, University of Texas at Austin, 1999-2003  
*Assistant Professor*, Department of Economics, University of Texas, 1991-1999.  
*Visiting Fellow*, The Brookings Institution, July-December 1994.  
*Visiting Scholar*, Department of Economics, Harvard University, 1990-1991.  
*Senior Research Fellow*, Department of Economics, University of Melbourne, 1989-90.  
*Visiting Research Fellow*, Department of Economics, University of Melbourne, 1984-85.  
*Economist*, Southern California Edison Company, Summer 1984.  
*Economist*, Environmental Protection Agency, Summer 1983.

### TEACHING EXPERIENCE

Natural Resource Economics (G), Environmental Economics (G), Computational General Equilibrium (G), Managerial Economics for Public Administrators (G), Taxation (G, team-taught), Climate Change: Science, Perception and Policy (G, team-taught), Principles of Economics (U), Microeconomic Theory (U), Environmental and Natural Resource Economics (U), Public Economics (U, team-taught), Freshman Forum (U).

Allyn Young Prize for Excellence in Teaching, Harvard University.

Rapoport-King Award for supervising an outstanding honors student, University of Texas, Fall 1993.

Birkhead-Burkhead Teaching Excellence Award and Professorship, Syracuse University, 2007-2011

### PUBLICATIONS

#### Books

1. *Notes and Problems in Applied General Equilibrium Analysis*, Amsterdam: North-Holland, 1992. (with Peter B. Dixon, B. R. Parmenter and Alan A. Powell)
2. *Climate Change Policy after Kyoto: Blueprint for a Realistic Approach*, Washington: Brookings Institution, 2002. (with Warwick J. McKibbin)

**Journal Articles**

1. "Coastal Erosion and Sea Level Rise: Implications for Ocean Beach and San Francisco's Westside Sewer Transport Project," *Coastal Zone Management Journal*, 14(3), pp. 173-191, 1986.
2. "Environmental Regulation and U.S. Economic Growth," *The Rand Journal of Economics*, 21(2), pp. 314-340, Summer 1990. (with Dale W. Jorgenson)
3. "Intertemporal General Equilibrium Modeling of U.S. Environmental Regulation," *Journal of Policy Modeling*, 12(4), pp. 715-744, Winter 1990. (with Dale W. Jorgenson)
4. "The Effects of Fiscal Restraint on the Australian Economy as Projected by the Murphy and MSG2 Models: A Comparison," *The Economic Record*, June 1991. (with Bruce F. Parsell and Alan A. Powell)
5. "Global Change, Energy Prices, and U.S. Economic Growth," *Structural Change and Economic Dynamics*, 3(1), pp. 135-154, 1991. (with Dale W. Jorgenson)
6. "General-Purpose Software for Intertemporal Economic Models," *Computer Science in Economics and Management*, 5(1), pp. 57-79, February 1992. (with George Codsì and K.R. Pearson)
7. "Carbon Taxes and Economic Welfare," *Brookings Papers on Economic Activity*, Microeconomics Issue, pp. 393-431, 1992. (with Dale W. Jorgenson and Daniel T. Slesnick)
8. "The Global Costs of Policies to Reduce Greenhouse Gas Emissions," *Tokyo Club Papers*, 6(2), pp. 7-40, 1992. (with Warwick J. McKibbin)
9. "The Economic Impact of the Clean Air Act Amendments of 1990," *The Energy Journal*, 14(1), pp. 159-182, 1993. (with Dale W. Jorgenson)
10. "Supply Elasticities in the Presence of Adjustment Costs," *Journal of Policy Modeling*, 15(1), pp. 91-97, 1993.
11. "Reducing US Carbon Emissions: An Econometric General Equilibrium Assessment," *Resource and Energy Economics*, 15(1), pp. 7-26, March 1993. (with Dale W. Jorgenson)
12. "Reducing US Carbon Dioxide Emissions: An Assessment of Alternative Instruments," *Journal of Policy Modeling*, 15(5-6), pp. 491-520, Oct-Dec 1993. (with Dale W. Jorgenson)
13. "The Role of Services in Modeling the Global Economy." *Asia-Pacific Economic Review*, 2(2), 1996. (with Warwick J. McKibbin)
14. "The Long-Run Dynamics of Fundamental Tax Reform," *American Economic Review*, 87(2), pp. 126-132, May 1997. (with Dale W. Jorgenson).
15. "Fundamental U.S. Tax Reform and Energy Markets," *The Energy Journal*, 18(3), pp. 1-30, 1997. (with Dale W. Jorgenson)
16. "The Theoretical and Empirical Structure of the G-Cubed Model," *Economic Modelling*, 16(1999), pp. 123-148, 1999. (with Warwick J. McKibbin)
17. "An Econometric Look at the Double Dividend Hypothesis," *National Tax Association Proceedings 1998*, pp. 57-62, 1999. (with Sugandha D. Tuladhar)
18. "What to Expect from an International System of Tradable Permits for Carbon Emissions," *Resource and Energy Economics*, 21(3-4), pp. 319-46, 1999. (with Warwick J. McKibbin and Robert Shackleton)
19. "Emissions Trading, Capital Flows and the Kyoto Protocol", *Energy Journal*, pp. 287-334, May 1999. (with Warwick J. McKibbin, Martin Ross and Robert Shackleton)

20. "The Role of Economics in Climate Change Policy," *Journal of Economic Perspectives*, 16(2), pp. 107-129, Spring 2002. (with Warwick J. McKibbin) Reprinted in *Economics of the Environment: Selected Readings*, Robert N. Stavins, (ed.), Norton, 2005.
21. "Reply to Michealowa on Climate Change Policy" *Journal of Economic Perspectives*, 17(3), pp. 205-206. (with Warwick J. McKibbin)
22. "Estimates of the Costs of Kyoto-Marrakesh versus the McKibbin-Wilcoxon Blueprint," *Energy Policy*, 32(4), pp. 467-479, March 2004. (with Warwick J. McKibbin)
23. "US Labor Supply and Demand in the Long Run," *Journal of Policy Modeling*, 30(2008) 603-618. (with Dale W. Jorgenson, Richard J. Goettle, Mun S. Ho and Daniel T. Slesnick)
24. "Cap and Trade Climate Policy and US Economic Adjustments," *Journal of Policy Modeling*, 31(3), pp. 362-381, May-June 2009. (with Dale Jorgenson, Richard Goettle and Mun Sing Ho)
25. "Uncertainty and Climate Change Policy Design," *Journal of Policy Modeling*, 31(3), pp. 463-477, May-June 2009. (with Warwick J. McKibbin)

### Chapters in Books

1. "Reducing US Carbon Dioxide Emissions: The Cost of Different Goals," in John R. Moroney (ed.), *Advances in the Economics of Energy and Resources: Energy, Growth and the Environment*, Vol. 7, Greenwich, CT: JAI Press, 1992, pp. 125-158. (with Dale W. Jorgenson)
2. "The Economic Effects of a Carbon Tax." in Stephen L. McDonald and Mina Mohammadioun (eds.), *The Role of Natural Gas in Environmental Policy*, Austin: University of Texas Bureau of Business Research, 1993. Reprinted in Lee, Henry (ed.), *Shaping National Responses to Climate Change: A Post-Rio Guide*, Washington: Island Press, pp. 237-260, 1995. (with Dale W. Jorgenson)
3. "Macroeconomic Modeling and the Assessment of Climate Change Impacts," in Y. Kaya, *et al.*, (eds.), *Costs, Impacts, and Benefits of CO2 Mitigation*, Laxenburg, Austria: International Institute for Applied Systems Analysis, pp. 107-132, 1993. (with Joel D. Scheraga, Neil A. Leary, Richard J. Goettle and Dale W. Jorgenson)
4. "The Global Consequences of Regional Environmental Policies: An Integrated Macroeconomic Multi-Sectoral Approach," in Y. Kaya, *et al.*, (eds.), *Costs, Impacts, and Benefits of CO2 Mitigation*, Laxenburg, Austria: International Institute for Applied Systems Analysis, pp. 247-272, 1993. (with Warwick J. McKibbin)
5. "Energy Prices, Productivity and Economic Growth," in R.H Socolow, D. Anderson and J. Harte, (eds.), *Annual Review of Energy and the Environment*, Vol. 18, Palo Alto: Annual Reviews Inc., pp. 343-95, 1993. (with Dale W. Jorgenson)
6. "Energy, the Environment and Economic Growth," in Allen V. Kneese and James L. Sweeney (eds.), *Handbook of Natural Resource and Energy Economics*, Vol. 3, Amsterdam: North-Holland, pp. 1267-1349, 1993. (with Dale W. Jorgenson)
7. "Intertemporal Equilibrium Modeling of Energy and Environmental Policies," in P.-O. Johanssen, B. Kristom and K.G. Mahler, (eds.), *Current Issues in Environmental Economics*, New York: Manchester University Press, pp. 171-191, 1995. (with Dale W. Jorgenson)
8. "The Economic Implications of Greenhouse Gas Policy," in H. Edward English and David Runnalls (eds.), *Environment and Development in the Pacific: Problems and Policy Options*, Addison-Wesley, pp. 8-34, 1996. (with Warwick J. McKibbin)

9. "Future Projections and Structural Change," in N. Nakicenovic, W.D. Nordhaus, R. Richels and F.L. Toth (eds.), *Climate Change: Integrating Science, Economics, and Policy*, Laxenburg, Austria: International Institute for Applied Systems Analysis, pp. 181-206, 1996. (with Philip Bagnoli and Warwick J. McKibbin)
10. "The Effects of Fundamental Tax Reform and the Feasibility of Dynamic Revenue Estimation," in Joint Committee on Taxation, *Joint Committee on Taxation Tax Modeling Project and 1997 Tax Symposium Papers* (JCS-21-97), U.S. Government Printing Office, November 20, 1997. (with Dale W. Jorgenson)
11. "Global Economic Prospects: Medium Term Projections and Structural Change," in *The Sustainable Future of the Global System*, Tokyo: The United National University, 1997. (with Philip Bagnoli and Warwick J. McKibbin)
12. "The Potential Effects of International Carbon Emissions Permit Trading Under the Kyoto Protocol" in *Economic Modelling of Climate Change*, OECD Workshop Report, OECD Paris. pp. 49-80, 1998. (with Warwick J. McKibbin and Robert Shackleton)
13. "Environmental Policy and International Trade" in S. Mahendrarajah, A. J. Jakeman and M. McAleer (eds.), *Modelling Change in Integrated Economic and Environmental Systems*, Wiley, pp. 339-367, 1999. (with Warwick J. McKibbin).
14. "Permit Trading Under the Kyoto Protocol and Beyond," in *The Sustainable Future of the Global System II*, Tokyo: The United National University, 1999. (with Warwick J. McKibbin)
15. "Designing a Realistic Climate Change Policy that Includes Developing Countries" in *Energy for the New Millennium*, Conference Proceedings of the Australian Institute of Energy, National Conference. pp. 168-176, 1999. (with Warwick J. McKibbin)
16. "The Cost of Capital and The Economics of the Environment," in L. J. Lau (ed.), *Econometrics and the Cost of Capital*, MIT Press, pp. 379-405, 2000.
17. "Beyond the Kyoto Protocol", in Lo, F. Tokuda H., and N. Cooray (eds.) *The Sustainable Future of the Global System III*, United Nations University Press, Tokyo, pp. 101-108, 2000. (with Warwick J. McKibbin)
18. "The Economic Impact of Fundamental Tax Reform," in G. Zodrow and P. Mieskowski (eds.), *United States Tax Reform in the 21st Century*, Cambridge, Cambridge University, pp. 55-88, 2002. (with Dale W. Jorgenson).
19. "Climate Policy and Uncertainty: The Role of Adaptation versus Mitigation," in *Living With Climate Change: Proceedings of a National Conference on Climate Change Impacts and Adaptation*, National Academies Forum, Canberra (ISBN 1875618767). (with Warwick McKibbin)
20. "Economic Modelling of Global Climate Change," in Owen, Anthony D. and Nick Hanley (eds.), *The Economics of Climate Change*, Routledge, pp. 166-192, 2004. (with Warwick J. McKibbin)
21. "Constrained Fuzzy Logic Approximation for Indoor Comfort and Energy Optimization", 24th *International Conference of the North American Fuzzy Information Processing Society (NAFIPS 2005) Proceedings*, Ann Arbor, Michigan, June 2005. (with S. Ari, I.A. Cosden, E.H. Khalifa, J., Dannenhoffer and C. Isik)
22. "A Credible Foundation for Long Term International Cooperation on Climate Change," in Joseph Aldy and Robert Stavins (eds), *Architectures for Agreement: Addressing Global Climate Change in the Post-Kyoto World*, Cambridge University Press, pp. 185-208, 2007. (with Warwick McKibbin)

23. "Managing Price and Targets: Why a Hybrid Policy is Better for Australia," in *Climate Change: Getting It Right*, Committee for the Economic Development of Australia, pp. 76-85, 2007. (with Warwick J. McKibbin)
24. "China Can Grow and Still Help Prevent the Tragedy of the CO2 Commons," in Ligang Song and Wing Thye Woo (eds), *China's Dilemma: Economic Growth, the Environment and Climate Change*, ANU E Press and Asia Pacific Press, pp. 190-225, 2008. (with Warwick J. McKibbin and Wing Thye Woo)
25. "Expecting the Unexpected: Macroeconomic Volatility and Climate Policy," in Joseph Aldy and Robert Stavins (eds), *Post-Kyoto International Climate Policy: Implementing Architectures for Agreement*, Cambridge University Press, pp. 857-886, 2009. (with Warwick McKibbin and Adele Morris)
26. "The Economic and Environmental Effects of Border Tax Adjustments for Climate Policy," in Lael Brainard and Isaac Sorkin, (eds), *Climate Change, Trade and Competitiveness*, The Brookings Institution, pp. 1-34, 2009. (with Warwick J. McKibbin)

### Policy Papers and Op-Ed Pieces

1. "How to Cut Use of Fossil Fuel," *Australian Financial Review*, p. 17, March 20, 1997. (with Warwick J. McKibbin)
2. "A Better Way to Slow Global Climate Change," *Brookings Institution Policy Brief*, No. 17, June 1997. (with Warwick J. McKibbin)
3. "Salvaging the Kyoto Climate Change Negotiations," *Brookings Institution Policy Brief*, No. 27, November 1997. (with Warwick J. McKibbin)
4. "Until We Know More About Global Warming, the Best Policy Is a Highly Flexible One," *The Chronicle of Higher Education*, 45(43), pp. B4-5, July 2, 1999. (with Warwick J. McKibbin)
5. "The Next Step for Climate Change Policy," *Brookings Institution Background Paper*, December 1999. Reprinted in *Best American Political Writing 2002*, R. Flippin (ed.), Thunder's Mouth Press, and in *Writing Across the Curriculum: A Prentice Hall Reader*, forthcoming. (with Warwick J. McKibbin)
6. "The Next Step for Climate Change Policy After COP5," *Brookings Background Paper* no 1, February 2000. (with Warwick J. McKibbin)
7. "The Role of International Permit Trading in Climate Change Policy," *Oxford Energy Forum*, pp. 4-6, May 2000. (with Warwick J. McKibbin)
8. "Climate Change After Kyoto," *Brookings Review*, pp. 6-10, Spring 2002.
9. "A Practical and Sustainable Policy for Climate Change," *New Economy*, 9(3), 2002. (with Warwick J. McKibbin)
10. "Better Climate Change Options," *Australian Financial Review*, August 2, 2004. (with Warwick J. McKibbin)
11. "Building on Kyoto: Towards A Realistic Global Climate Agreement," *Brookings Policy Brief 08-01*, November 2008. (with Warwick J. McKibbin).
12. "Time for a Price Collar on Carbon," *politico.com*, July 24, 2009. (with Warwick J. McKibbin and Adele Morris)

13. "Consequences of Alternative U.S. Cap-and-Trade Policies: Controlling Both Emissions and Costs," *Policy Brief*, The Brookings Institution, July 2009. (with Warwick J. McKibbin, Adele Morris and Yiyong Cai). [http://www.brookings.edu/reports/2009/07\\_cap\\_and\\_trade.aspx](http://www.brookings.edu/reports/2009/07_cap_and_trade.aspx)
14. "Achieving Comparable Effort through Carbon Price Agreements," *Policy Brief, Harvard Project on International Climate Agreements*, Belfer Center for Science and International Affairs, Harvard Kennedy School, December 18, 2009.

#### **OTHER REPORTS AND WORKING PAPERS**

1. "Numerical Methods for Investment Models with Foresight," Impact Project Preliminary Working Paper No. IP-23, University of Melbourne, July 1985.
2. "Computable Models of Investment with Foresight," Department of Economics Research Paper No. 138, University of Melbourne, November 1985.
3. "Investment with Foresight in General Equilibrium," Impact Project Working Paper IP-35, University of Melbourne, November 1987.
4. "Intertemporal Optimization in General Equilibrium: A Practical Introduction," Impact Project Preliminary Working Paper No. IP-45, University of Melbourne, December 1989.
5. "A Fast Algorithm for Solving Rational Expectations Models," Impact Project Preliminary Working Paper No. IP-47, University of Melbourne, April 1990.
6. "Characteristics of Mining in Australia," Impact Project General Paper No. G-93, University of Melbourne, May 1990. (with Marco Bini)
7. "Constraining Output Responses in Long-run Closures of ORANI: Some Suggestions," Impact Project Preliminary Working Paper No. OP-70, University of Melbourne, May 1990. (with Mark Horridge and Alan A. Powell)
8. "The Reconciliation of Applied General Equilibrium and Macroeconomics: Grounds for Hope?" Impact Project Preliminary Working Paper No. IP-44, University of Melbourne, December 1989. (with Bruce F. Parsell and Alan A. Powell)
9. "G-Cubed: A Dynamic Multi-Sector General Equilibrium Growth Model of the Global Economy," Brookings Institution Discussion Papers in International Economics, No. 98, November 1992. (with Warwick J. McKibbin)
10. "The Efficiency Value of Carbon Tax Revenues," Washington: U.S. Environmental Protection Agency, 1992. (With R. Shackleton, M. Shelby, A. Christofaro, R. Brinner, J. Yanchar, L. Goulder, D. Jorgenson, P. Pauly and R. Kaufman)
11. "The Global Costs of Policies to Reduce Greenhouse Gas Emissions," final report to the US Environmental Protection Agency on Cooperative Agreement CR818579, mimeo, December 1994. (with Warwick J. McKibbin)
12. "The Global Costs of Policies to Reduce Greenhouse Gas Emissions," final report to the US Environmental Protection Agency on Cooperative Agreement CR824259, mimeo, January 1999. (with Warwick J. McKibbin) *Note: this report is on the second phase of the project described in the 1994 report with the same title.*
13. "The Effects of a Proposed Free Trade Agreement of the Americas," final report to the US Environmental Protection Agency, mimeo, June 2003. (with Warwick J. McKibbin)

14. "IGEM, an Intertemporal General Equilibrium Model of the US Economy with Emphasis on Growth, Energy and the Environment," report to the US Environmental Protection Agency, Office of Atmospheric Programs, Climate Change Division, July 2007. (with Richard J. Goettle, Mun S. Ho, Dale W. Jorgenson and Daniel T. Slesnick)
15. "The Economic Costs of a Market-based Climate Policy," report to the Pew Center on Global Climate Change, June 2008. (with Dale W. Jorgenson, Richard J. Goettle and Mun S. Ho)
16. "Analysis of Branch Circuit Current in JPMC Data Centers CDC-1 and Basingstoke Hall A", mimeo, March 2009. (with Becky Lafrancois)

## **RESEARCH GRANTS**

1. US Environmental Protection Agency Cooperative Agreement CR818579, "The Global Cost of Policies to Reduce Greenhouse Gas Emissions," 1992-1994. Administered through the Brookings Institution. (with Warwick J. McKibbin)
2. National Science Foundation Grant SBR-9321010, "The Global Cost of Policies to Reduce Greenhouse Gas Emissions," March 1995-April 1998. Administered through the Brookings Institution. (with Warwick J. McKibbin)
3. US Environmental Protection Agency Cooperative Agreement CR824259, "The Global Cost of Policies to Reduce Greenhouse Gas Emissions," June 1995 to October 1998. Supplements NSF Grant SBR-9321010. Administered through the Brookings Institution. (with Warwick J. McKibbin)
4. Department of Energy contract on "Structural Models of Long-Term Energy Demand: Understanding the Long-Term Prospects for Carbon Dioxide Emissions," 1995-1997. Administered through Lawrence Berkeley National Laboratory. (with Lorna Greening, Lee Schipper and Alan Sanstad)
5. US Geological Survey Western Regional Grants Program, "Value Assessments in Surface Water Transfers: Deterministic and Stochastic Issues for Buyers, Sellers and Third Parties," 1997-2000 Administered through the LBJ School of Public Affairs. (with David Eaton and Al Utton)
6. Department of Energy contract on "Econometrics of Energy Demand and Technological Change," 1998. Administered through Lawrence Berkeley National Laboratory. (with Alan Sanstad)
7. US Environmental Protection Agency Cooperative Agreement, "The Effect of Free Trade Agreements on International Capital Flows and Environmental Quality," 2002-2003. Administered through the Brookings Institution. (with Warwick J. McKibbin)
8. US Environmental Protection Agency grant XA-83242601-0, "Climate Policy Without Cost? Can Technology Solve the Climate Problem?" an Environmental and Resource Economics Workshop, July 2006. (with David Popp)
9. Hitachi Research Institute, "Hokkaido Project", Administered through the Brookings Institution, 2008. (with Warwick McKibbin).
10. JP Morgan Chase, "Data Center Optimization - Green Data Centers/Data Center Dashboard", 2008.
11. Edison Electric Institute, "Economic Modeling of Climate Change Policy," Administered through the Brookings Institution, 2009. (with Warwick McKibbin and Adele Morris)
12. Syracuse University Chancellor's Leadership Fund, "Storing Carbon in Rangeland Soils to Mitigate Global Climate Change," 2009-2011. (with David Driesen, Mark Ritchie and Jane Read)

13. US Department of Energy award DE- PI0000005, "Climate and Energy Economic Policy Research," administered through the Brookings Institution, 2010-2011. (with Adele Morris and Warwick McKibbin).

## **PRESENTATIONS**

1. Reserve Bank of Australia, Economics Department, April 1989.
2. Australian National University, Conference on Fiscal Policy and the Current Account, Canberra, Australia, June 1989.
3. Australian Economic Society Annual Meeting, Adelaide, Australia, July 1989.
4. Fifth IIASA Task Force Meeting on Applied General Equilibrium Modeling, Laxenburg Austria, August 1989.
5. University of Western Sydney, Department of Economics, October, 1989.
6. Invited Lecture, Industry Commission Economics Workshop, Canberra, Australia, December, 1989.
7. Australian National University, June 1990.
8. Stanford University Energy Modeling Forum 12, Stanford, August 1990.
9. MIT-Tokyo Workshop on Economic/Energy/Environmental Modeling for Climate Policy Analysis, Washington, October 1990.
10. ORSA-TIMS (Operations Research Society of America) Annual Conference, Philadelphia, October 1990.
11. Harvard-Japan Workshop on Energy and the Environment, Tokyo, Japan, January 1991.
12. International Association for Energy Economics, New England Area Meeting, Spring 1991.
13. Stanford University Energy Modeling Forum 12, Washington, March 1991.
14. United Nations Environment Programme, Workshop on the Economic Analysis of Limiting Energy-Related Gas Emissions, Washington, April, 1991.
15. Invited Address, Australian Applied General Equilibrium Modeling Conference, Melbourne, Australia, May 1991.
16. Stanford University Energy Modeling Forum 12, Boulder, Colorado, August 1991.
17. Argonne National Laboratory, Argonne, Illinois, September 1991.
18. Brookings Conference on Microeconomics, Washington, December 1991.
19. Stanford University Energy Modeling Forum 12, Stanford, February 1992.
20. Southwestern Economics Association, Annual Meeting, San Antonio, March 1992.
21. Lonestars Conference, College Station, March 1992.
22. Harvard Workshop on Environmental Taxes, Washington, May 1992.
23. Conference on Computational Economics, Austin, May 1992.
24. Third General Equilibrium Modeling Conference, Waterloo, Ontario, October 1992.
25. University of Texas, Bureau of Business Research Conference on The Role of Natural Gas in Environmental Policy, Austin, November 1992.
26. American Economics Association Annual Meetings, Anaheim, January 1993.
27. Invited Lecture, Graduate School of Public Health Colloquia Series, University of Pittsburgh, Pittsburgh, February 1993.
28. Invited Paper, Conference on the Cost of Capital in Economic Analysis, Kennedy School of Government, Harvard University, May 1993.
29. Discussant, American Council for Capital Formation Conference on Tax Policy for Economic Growth in the 1990s, June 1993.
30. Invited Paper, Conference on Economic Issues Related to Trade and the Environment, University of Colorado, Boulder, April 1994.
31. International Trade Division, The World Bank, Washington, October 1994.
32. American Petroleum Institute, Washington, October 1994.

33. Plenary Speaker, NSF Japan-US Workshop on Global Climate Change Modeling and Assessment: Improving Methodologies and Strategies, Honolulu, October 1994.
34. International Association for Energy Economics Annual Meeting, Dallas, November 1994.
35. Invited Lecture, Conference on Health, the Environment and the Economy, Manship School of Mass Communication, Louisiana State University, Baton Rouge, November 1994.
36. Brookings Institution, Washington, December 1994.
37. Department of Energy, Energy Information Administration, Washington, December 1994.
38. Murry S. Johnson Conference on Environmental Economics, The University of Texas, Austin, April 1995.
39. MIT Center for Energy and Environmental Policy Research, Cambridge, May 1995.
40. Instructor, Training Course on International Trade Modelling, Conference on International Trade in Services, Brisbane, Australia, July 1995.
41. Invited Speaker, Conference on International Trade in Services, Brisbane, Australia, July 1995.
42. Lonestars Conference, College Station, October 1995.
43. US Government Interagency Climate Change Analysis Workshop, Springfield Virginia, June 1996.
44. Lonestars Conference, Austin, September 1996.
45. Instructor, Workshop on the Design and Analysis of Dynamic General Equilibrium Models, University of Colorado, Boulder, November 1996.
46. Invited Speaker, Experts Modeling Forum in Support of Domestic US Greenhouse Gas Policy Analysis, Resources for the Future, Washington, November 1996
47. Invited Speaker, Council of Economic Advisors/EPA Workshop on Environmental Protection and Economic Productivity, Washington, December 1996.
48. American Economics Association Annual Meetings, New Orleans, January 1997.
49. US Congress Joint Committee on Taxation Symposium on Modeling the Macroeconomic Consequences of Tax Policy, Washington, January 1997.
50. Invited Speaker, Resources for the Future Conference on Endogenous Technical Change, Washington, March 1997.
51. Invited Speaker, Global Climate Change Workshop, The Annapolis Center, Annapolis, July 1997.
52. Invited Speaker, Climate Change Roundtable, Center for Strategic and International Studies, Washington, July 1997.
53. Lonestars Conference, College Station, September 1997.
54. Invited Panelist, Conference on Global Economic Analysis, Purdue University, June 1998.
55. National Bureau of Economic Research Summer Institute, Cambridge, August 1998.
56. NBER-Yale Workshop on Global Change, Snowmass, August 1998.
57. Invited Speaker, Workshop on International Financial Flows, McLean, Virginia, August 1998.
58. Invited Speaker, Electric Utility Marketing Managers of Texas Quarterly Meeting, Austin, September 1998.
59. Lonestars Conference, Austin, September 1998.
60. Invited Speaker, Japan-US Climate Change Workshop, Resources for the Future, Washington, October 1998.
61. National Tax Association Annual Conference, Austin, November 1998.
62. Invited Speaker, Texas Comptroller's Seminar on Dynamic Tax Impact Analysis, Austin, February 1999.
63. Invited Speaker, University of Texas Conference on the Kyoto Protocol, Austin, March 2000.
64. Invited Speaker, Japan-US Climate Change Workshop, Resources for the Future, Tokyo, May 2000.
65. Invited Speaker, joint meeting of the Energy Modeling Forum and the International Energy Workshop, Laxenburg Austria, June 2001.
66. Invited Speaker, OECD Environment and Modeling Workshop, Ottawa, October 2003.
67. Invited Speaker, Conference on the Economic Dynamics of Environmental Law, Syracuse, October 2003.

68. State University of New York College of Environmental Sciences and Forestry, April 2004.
69. Australian National University, July 2004.
70. Observer Research Foundation, Mumbai, July 2005.
71. Invited Speaker, workshop on Architectures for Agreement: Addressing Global Climate Change in the Post-Kyoto World, Cambridge, May 2006.
72. Organizer and speaker, workshop on Climate Policy Without Cost? Can Technology Solve the Climate Problem?, Washington, July 2006.
73. Invited Speaker, American Institute for Economic Research Conference on Global Climate Change, Great Barrington, Massachusetts, November 2007.
74. Invited Speaker, Le Moyne College and Syracuse University Intelligent Conversation Lecture Series, November 2007.
75. Invited Speaker, workshop on Climate Change, Trade and Competitiveness, the Brookings Institution, June 2008.
76. Central New York Council for the Social Studies, Syracuse, October 2008.
77. Invited Lecture, OASIS, Syracuse, October 2008.
78. Department of Mechanical and Aerospace Engineering, Syracuse University, December 2008.
79. Invited Speaker, conference on Climate Change: Global Risks, Challenges & Decisions, Copenhagen, March 2009.
80. Brookings Institution, June 2009.
81. Invited Speaker, SUNY-ESF Sustainable Use of Renewable Energy Workshop, November 2009.
82. Invited Lecture, OASIS, Syracuse, November 2009.

## REFEREEING

*American Economic Review, RAND Journal, Journal of Environmental Economics and Management, Journal of Policy Modeling, Scandinavian Journal of Economics, Economic Analysis and Policy, Resources and Energy, Computational Economics, Energy Journal, Economic Inquiry, Journal of Policy Analysis and Management, World Bank Economic Review, Journal of Comparative Economics, National Science Foundation, MIT Press, North-Holland.*

## OTHER PROFESSIONAL ACTIVITIES

1. Convenor, Workshop on Applied General Equilibrium Modeling, Department of Economics, University of Melbourne, August 1989 to June 1990.
2. Energy and Mineral Resources Graduate Studies Committee, University of Texas, 1992-2003.
3. Department of Economics, Computer Committee, University of Texas, 1992-2001.
4. Department of Economics, Undergraduate Program Committee, University of Texas, 1993-2003.
5. National Science Foundation Special Emphasis Panel on the Human Dimensions of Global Change, Spring-Summer 1995.
6. System Administrator, American Economic Association online services (Directory of Members and *Job Openings for Economists*), 1995-2003.
7. Director's Review Panel, Environmental Energy Technologies Division, Lawrence Berkeley National Laboratory, October 1998.
8. Department of Economics, Graduate Admissions Committee, Spring 1999.
9. Department of Economics, Assistant Graduate Advisor, Spring and Summer 1999.
10. Department of Economics, Graduate Advisor, Fall 1999-Summer 2001.
11. Liberal Arts Instructional Technology Services Review Committee, 1999-2001.
12. Review Editor, Intergovernmental Panel on Climate Change, 1999-2000.
13. Member, EnSPIRE Committee, Syracuse University, 2003-.
14. Department of Economics, Undergraduate Advisor, 2004-.

15. Department of Economics, Research Evaluation Committee, 2006-2007.
16. Maxwell School, Information and Computing Technology Advisory Committee, 2006-.
17. Department of Public Administration, Governance Committee Chair, 2006-2007.
18. Syracuse University-SUNY ESF Joint Environmental Initiative, Co-Chair, 2006-2007.
19. Department of Economics, Teaching Evaluation Committee, 2007-.
20. Department of Public Administration, Strategic Planning Committee Chair, 2007-2008.
21. US Environmental Protection Agency Science Advisory Board Environmental Economics Advisory Committee, 2007-2010.

## **PROFESSIONAL ASSOCIATIONS**

American Economic Association  
International Association for Energy Economics