

## **JINHUA ZHAO**

Department of Economics  
110 Marshall-Adams Hall  
Michigan State University  
East Lansing, MI 48824

Phone: (517) 355-7755  
(517) 432-9802  
Fax: (517) 432-1068  
Email: [jzhao@msu.edu](mailto:jzhao@msu.edu)

### **EDUCATION**

Ph.D. Agricultural and Resource Economics, University of California at Berkeley, May, 1997  
M.Sc. Agricultural Economics, University of Guelph, Canada, 1992, *Distinguished Thesis*  
B.Eng. Industrial Engineering, University of Science and Technology Beijing, People's Republic of China, *Distinguished Graduate*

### **PROFESSIONAL EXPERIENCE**

Professor, Department of Economics, Department of Agriculture, Food and Resource Economics, Michigan State University, 2010 – present  
Director, Environmental Science and Policy Program, Michigan State University, 2010 -  
Associate Professor, Department of Economics, Department of Agriculture, Food and Resource Economics, Michigan State University, 2008 – 2010  
Special Term Professor, School of Economics, Shanghai University of Finance and Economics, 2008 – present  
Special Term Professor, Southwest University of Finance and Economics, 2006-2008  
Associate Professor, Department of Economics, Iowa State University, 2003 to 2008  
Assistant Professor, Department of Economics, Iowa State University, 1997 to 2003

### **TEACHING EXPERIENCE**

Economics of Climate Change, Topics of Advanced Microeconomics, Undergraduate  
Environmental and Resource Economics, Graduate Environmental Economics, Graduate  
Resource Economics, Graduate Microeconomics (PhD core), Experiments with Microeconomic Principles

### **RESEARCH FIELDS**

Applied Microeconomics, Natural Resource and Environmental Economics, Energy, Information, Real Options, Technology Adoption, International Trade and the Environment

### **AWARDS AND PROFESSIONAL SERVICE**

Member, US EPA Science Advisory Board, Environmental Economics Advisory Committee, 2009 – present  
Editorial Committee, *Annual Review of Resource Economics*, 2012 - present  
Editorial Council, *Frontier of Economics in China*, 2011 - present  
Guest editor, Special Issue on Environmental Economics and Policy, *Frontier of Economics in China*, 9(1), 2014.  
Co-editor, *Journal of Environmental Economics and Management*, 2005 - 2007

Editorial Council, *Journal of Environmental Economics and Management*, 2001 - 2004, 2007 - 2011  
Editorial Council, *Review of Development Economics*, 2000 – 2012  
Winner, Harvard Project on International Climate Agreements Research Paper Competition, “A Proposal for the Design of the Successor to the Kyoto Protocol,” (with Larry Karp) 2008  
Outstanding Journal Article Award, *Canadian Journal of Agricultural Economics*, 2007, for “The Subsidy for Adopting Conservation Tillage: Estimation from Observed Behavior,” (with Lyubov A. Kurkalova and Catherine L. Kling)  
Second Place Poster Award, *AAEA Annual Meetings 2007*, for “Measuring the Impact of Livestock Operations Using Hedonic Model: What Kind of Distances Matter?” (with Tao Ran and Huizhen Niu)  
College of Agriculture Team Award, ISU, 2001

## STUDENT ADVISING

Served on thirty PhD and eleven MSc committees;  
Chaired or co-chaired six PhD and five MSc committees.

## GRANTS

National Science Foundation CNH, (with Diana Stuart, Bruno Basso, Sandra Marquart-Pyatt, and Phil Robertson), “A Social-Ecological Analysis of Nitrogen in Agricultural Systems of the Upper Midwest,” 2013-2017, \$1,462,073.  
National Science Foundation IBSS, (with Maria Lapinski and John Kerr), “The Influence of Short-Term Financial Incentives on Social Norms and Behaviors,” 2013-2016, \$600,714.  
National Science Foundation WSC, (with David Hyndman, Warren Wood, Stephen Gasteyer, Nathan Moore, Bruno Basso, and Anthony Kendall), “Toward Sustainability of the High Plains Aquifer Region: Coupled Landscape, Atmosphere, and Socioeconomic Systems (CLASS),” 2010-2014, \$1,224,356.  
Rackham Foundation, (with Soren Aderson), “The Land-Use Impacts of U.S. Biofuels Policies: An Econometric Approach,” 2010-2013, \$87,000.  
National Science Foundation CNH, (with Julie Winkler, Suzanne Thornsby, Pang-Ning Tan, Jeffrey Andresen, Roy Black, Scott Loveridge, Shiyuan Zhong, and Amy Iezzoni), “Towards an Integrated Framework for Climate Change Impact Assessments for International Market Systems with Long-term Investments,” 2009-2013, \$1,499,763.  
Michigan Economic Development Corporation, “The Effects of Carbon Regulation on Industry Competitiveness,” 2009-2010, \$18,540.  
Michigan Economic Development Corporation, “Carbon Footprints of Biofuels and Carbon Market,” 2008-2010, \$94,734.  
Michigan Economic Development Corporation, (with Thomas Dietz), “Network Events and Conference on Bioeconomy and Global Climate Change,” 2008-2010, \$127,700.  
China National Social Science Foundation, (with Xingming Fang), “The Role of Energy and Energy Intensive Sectors in China’s Balanced Growth,” 2007-2009, 100,000RMB.  
ISU International Grant, (with Joydeep Bhattacharya), “Development of a New Course on Chinese and Indian Economies,” 2007, \$5,000.

- EPA National Center for Environmental Economics, (with Cathy Kling, Joseph Herriges, and Quinn Weninger), “Innovations in Academic Communication at the Heartland Environmental and Resource Economics Workshop,” 2005-07, \$52,630.
- NSF/EPA, “Valuing Water Quality in Midwestern Lake Ecosystems: Temporal Stability and the Role of Information in Value Formation,” (with Joe Herriges, Cathy Kling and John Downing), four years starting 2003, \$429,000.
- EPA/Kansas State University, “Consortium for Agricultural Soils Mitigation of Greenhouse Gases (CASMGs),” (with Cathy Kling, Michael Thompson, Tom Fenton, Mahdi Al-Kaisi and David Laird), two years starting 2002, \$1,136,890.
- USDA/ERS, “Environmental Challenges of Livestock Production,” (with John Lawrence), one year starting 10/2002, \$20,000.
- USDA-NRICGP, “Information Exchange in Farmers’ Adoption of Conservation Tillage Practices,” (with Joe Herriges), two years starting 2000, \$89,000.

## REFEREED JOURNAL ARTICLES

1. “Sustainability and Substitutability,” (with Eli Fenichel), *Bulletin of Mathematical Biology*, 2014 (forthcoming)
2. “The Value of Clean Air in China: Evidence from Beijing and Shanghai,” (with Jijun Tan), *Frontiers of Economics in China*, 9(1), 2014, 109-137.
3. “Monopoly Extraction of a Nonrenewable Resource Facing Capacity Constrained Renewable Competition,” (with Min Wang), *Economics Letters*, September 2013, 120, 503-508.
4. “The WTP/WTa Disparity: Have We Been Observing Dynamic Values But Interpreting Them as Static,” (with Cathy Kling and John List,) *Economic Inquiry*, 59(1), January 2013, 909-921.
5. “From Exxon to BP: Has Some Number Become Better Than No Number?” (with Catherine L. Kling and Daniel J. Phaneuf), *Journal of Economic Perspectives*, 26(4), 2012, 3-26.”
6. “Adaptation versus Adoption: with Emphasis on Climate Change,” (with David Zilberman and Amir Heiman,) *Annual Review of Resource Economics*, 4, 2012, 27-53.
7. “Paths to Climate Cooperation,” (with Tom Dietz), *Proceedings of the National Academy of Sciences*, 108(38), September 20, 2011, 15671-15672.
8. “Switching to Perennial Energy Crops under Uncertainty and Costly Irreversibility,” (with Feng Song and Scott Swinton), *American Journal of Agricultural Economics*, 93(3), 2011, 768-783.
9. “International Environmental Agreements Emissions Trade, Safety Valves and Escape Clauses,” (with Larry Karp,) *Revue Economique*, 61, January 2010, 153-182
10. “Welfare Measures When Consumers Can Learn: A Unifying Theory,” (with Cathy Kling,) *Economic Journal*, v 119 (540), October 2009, 1560-1585.
11. “Willingness to pay and the cost of commitment: An empirical specification and test,” (with Jay Corrigan and Catherine Kling,) *Environmental and Resource Economics*, v 40, 2008, 285-298
12. “Optimal Use of Correlated Information in Mechanism Design When Full Surplus Extraction May Be Impossible,” (with Subir Bose,) *Journal of Economic Theory*, v 135, 2007, 357-381

13. "Green Subsidies in Agriculture: Estimating the Adoption Costs of Conservation Tillage From Observed Behavior," (with Lyubov A. Kurkalova and Catherine L. Kling), *Canadian Journal of Agricultural Economics*, v 54, 2006, 247-267
14. "Alternative Intertemporal Permit Trading Regimes with Stochastic Abatement Costs," (with Hongli Feng,) *Resource and Energy Economics*, v 28, 2006, 24-40
15. "Value of agricultural non-point source pollution measurement technology: assessment from a policy perspective," (with Lyubov A. Kurkalova and Catherine L. Kling), *Applied Economics*, v 36, n 20, Nov. 2004, 2287-2298
16. "Willingness-to-Pay, Compensating Variation, and the Cost of Commitment," (with Catherine Kling,) *Economic Inquiry*, v 42, n 3, July 2004, 503-517
17. "Alternative Green Payment Policies Under Heterogeneity When Multiple Benefits Matter," (with Lyubov A. Kurkalova and Catherine L. Kling,) *Agricultural and Resource Economics Review*, v 33, n 1, April, 2004, 148-158
18. "Multiple Benefits of Carbon-Friendly Agricultural Practices: Empirical Assessment of Conservation Tillage," (with Lyubov A. Kurkalova and Catherine L. Kling), *Environmental Management*, v 33, n 4, August 2004, 519-527
19. "Irreversible Abatement Investment under Cost Uncertainties: Tradable Emission Permits and Emissions Charges," *Journal of Public Economics*, v 87, December 2003, 2765-2789
20. "Policy Persistence in Environmental Regulation," (with Catherine Kling,) *Resource and Energy Economics*, v 25, 2003, 255-268
21. "Impact of Management Practices on Regional Prevalence of Soybean Sclerotinia Stem Rot in the North-Central Region of the United States and on Farmers' Decisions Under Uncertainty," (with A.L. Mila, A.L. Carriquiry, and X.B. Yang,) *Plant Disease*, v 87, n 9, 2003, 1048-1058
22. "The Long-run Effects of Environmental Reform in Open Economies," (with Larry Karp and Sandeep Sacheti,) *Journal of Environmental Economics and Management*, v 45, n 2, March 2003, 246-264
23. "Valuation and management of money-back guarantee options," (with Amir Heiman, Bruce McWilliams, and David Zilberman,) *Journal of Retailing*, v78, n2, Autumn 2002, 193-205
24. "The Time Path and Implementation of Carbon Sequestration," (with Hongli Feng and Catherine Kling,) *American Journal of Agricultural Economics*, v 84, n 1, Feb 2002, 134-149
25. "Uncertainty, Irreversibility and Water Project Assessment," *Water Resources Update*, Jan. 2002, issue 121, 51-57
26. "A New Explanation for the WTP/WTB Disparity," (with Cathy Kling,) *Economics Letters*, v73, 2001, 293-300
27. "Common Ground Between Free-Traders and Environmentalists," (with Larry Karp and Sandeep Sacheti,) *International Economic Review*, v 42, n 3, August 2001, 617-647
28. "Fixed Costs, Efficient Resource Management and Conservation," (with David Zilberman,) *American Journal of Agricultural Economics*, v 83, n 4, Nov 2001, 942-957
29. "Towards Implementing Carbon Markets in Agriculture," (with Hongli Feng and Catherine Kling,) *Choices*, 2<sup>nd</sup> Quarter, 2001, 16-19
30. "Trade and Environmental Distortions: Coordinated Intervention," *Environment and Development Economics*, v 5 (special issue on international trade and the environment), 2000, 361-375
31. "On the Long-Run Efficiency of Auctioned vs. Free Permits," (with Catherine Kling,) *Economics Letters*, v 69, n 2, November 2000, 235-238

32. “Irreversibility and Restoration in Natural Resource Development,” (with David Zilberman,) *Oxford Economic Papers*, v 51, n 3, July 1999, 559-573
33. “Information Asymmetries, Uncertainties, and Cleanup Delays at Superfund Sites,” (with Gordon Rausser and Leo Simon,) *Journal of Environmental Economics and Management*, v 35, n 1, January 1998, 48-68
34. “Gradualism or Big Bang? A Dynamic Approach,” *Revue D’économie Du Développement*, No. 1-2, 1996, 5-31

## PAPERS UNDER REVIEW

- “Are Renewable Energy Policies Climate Friendly? The Role of Capacity Constraints and Market Power,” (with Min Wang), 2013
- “Health and Precautionary Savings in the Pollution-Growth Nexus,” (with Min Wang and Joydeep Bhattacharya), revise and resubmit, *Journal of Environmental Economics and Management*, 2011
- “A Proposal to Reform the Kyoto Protocol: the Role of Escape Clauses and Farsight,” (with Larry Karp,) 2009
- “Rational Exaggeration in Information Aggregation Games,” (with Gordon Rausser and Leo Simon,) 2013
- “Pollution Abatement Investment when Firms Lobby Against Environmental Regulation,” (with Y. Hossein Farzin), 2008
- “Information Externalities and Strategic Delay in Technology Adoption and Diffusion,” 2011
- “Double Irreversibilities and Endogenous Learning in Land Conversion Decisions,” (with Shikha Marwah,) revise and resubmit, *Environmental and Resource Economics*, 2012

## OTHER PUBLICATIONS

1. “Environmental Economics and Policy: Two Way Learning Between China and the Rest of the World,” *Frontiers of Economics in China*, 9(1), 2014, 1-5
2. “Uncertainty and Hysteresis in Adapting to Climate Change,” in Sarah C. Pryor eds., *Climate change in the Midwest: impacts, risks, vulnerability and adaptation*, Indiana University Press, Chapter 4, 2012
3. “Economic Impacts of Reducing GHG Emissions,” in *Climate Change and Michigan*, Report of the Climate Change Working Group, MSU – UM, 2009
4. “Suggestions for the Road to Copenhagen,” (with Larry Karp,) Report to the Expert Group on Environmental Studies, Ministry of Finance, Regeringskansliet, 2009
5. “A Proposal for the Design of the Successor to the Kyoto Protocol,” (with Larry Karp,) in Joseph E. Aldy and Robert N. Stavins eds., *Post-Kyoto International Climate Policy: Implementing Architectures for Agreement*, Chapter 17, Cambridge University Press, 2009.
6. “Willingness-to-Pay, Compensating Variation, and the Cost of Commitment,” (with Catherine Kling,) in Richard O. Zerbe Jr. eds., *Benefit-Cost Analysis (International Library of Critical Writings in Economics)*, vol 1, Edward Elgar, 2008 (Reprinted from Economic Inquiry v 42, n 3, July 2004, 503-517.)
7. “Information Asymmetries, Uncertainties, and Cleanup Delays at Superfund Sites,” (with Gordon Rausser and Leo Simon,) in Hilary Sigman eds., *The Economics Of Hazardous Waste And Contaminated Land*, Edward Elgar, 2008 (Reprinted from JEEM 35(1): 48-68.)

8. "The Role of Information in Technology Adoption under Poverty," Chapter 8, in Machiko Nissanke and Erik Thorbecke ed., *The Impact of Globalization on the World's Poor*, Palgrave Macmillan, 2007
9. "Environmental Valuation Under Dynamic Consumer Behavior," (with Cathy Kling,) Chapter 9, in R. Hoverson and D. Layton eds., *Explorations in Environmental and Natural Resource Economics: Essays in Honor of Gardner M. Brown, Jr.*, Edward Elgar, 2006
10. "The Dynamic Effects of Trade Liberalization and Policy Harmonization," (with Larry Karp,) Chapter 18, in E. Kwan Choi and James C. Hartigan eds., *Handbook of International Trade, Vol II: Economic and Legal Analyses of Trade Policy and Institutions*, Blackwell, 2004
11. "The Time Path and Implementation of Carbon Sequestration," (with Hongli Feng and Cathy Kling,) in S. Batie and R. Horan eds., *The Economics of Agri-Environmental Policy*. Vol 2. International Library of Environmental Economics and Policy. Aldershot, U.K. and Burlington, Vt.: Ashgate, 2004 (Reprinted from AJAE 84(1): 134-149.)
12. "Notes on Irreversibility, Sustainability and the Limits to Growth," (with Tony Fisher,) in Bengt Kriström, Partha Dasgupta, and Karl-Gustaf Löfgren ed., *Economic Theory for the Environment: Essays in Honour of Karl-Goran Maler*, Edward Elgar, UK, 2002
13. "What Iowans Want Iowa to Look Like," (with Brent Hueth and Catherine Kling,) Chapter 6, *Iowa's Land and Environment – Serving Competing Needs*, College of Agriculture, Iowa State University, 2000
14. "Conservation Payments: Challenges in Design and Implementation," (with Bruce Babcock, John Beghin, Michael Duffy, Hongli Feng, Brent Hueth, Catherine Kling, Lyubov Kurkalova, Uwe Schneider, Silvia Secchi, Quinn Weninger,) Department of Economics, Iowa State University, 2001

## WORKING PAPERS

- "Environmental Regulation in a Mixed Economy," (with Guangliang Ye), 2013
- "Let Them Eat Switchgrass? Modeling the Displacement of Existing Food Crops by New Bioenergy Feedstocks," (with Soren Andersen and Chengguang Wang), 2012
- "What Determined Permit Allocation in EU-ETS: Economic Theory vs. Political Rhetoric," (with Jong Duk Kim,) 2012
- "Impacts of Renewable Energy Policies: the Role of Capacity Constraints," (with Min Wang,) 2011
- "Alternative Land Use Policies: Real Options with Costly Reversibility," (with Feng Song and Scott Swinton), 2012
- "Will Protecting ANWR Hurt or Help the Growth of Biofuel and Solar Energy?" 2009
- "Experiences and Environmental Preferences: the Case of Beijing Olympics," (with Jijun Tan), 2013
- "Value of Air Quality: Comparing Beijing and Shanghai," (with Jijun Tan), 2013
- "Towards a Complete Analysis of the Carbon Footprints of Biofuels," 2009
- "Incentives to Joint International Environmental Agreements with Permit Trading and Safety Valves," (with Larry Karp), 2009

## PAPER PRESENTATIONS

- 2014: International Conference on China's Environmental Challenges: A Global Perspective, Shanghai, China
- 2013: Peking University, China • Western Economic Association International Conference, Tokyo, Japan • AERE Annual Meeting, Banff, Canada • Asian Development Review Conference, Manila, Philippines • Singapore Economic Review Conference, Singapore
- 2012: ASSA/AERE Winter Meeting, Chicago • Chinese Economist Society Summer Meeting, Kaifeng, China • Global Environmental Challenges: the Role of China, Shanghai, China
- 2011: LKY School of Public Policy, National University of Singapore • Public Utilities Meeting, MSU • Central Michigan University • AERE Annual Meeting, Seattle • PACE Summer Camp, Hangzhou, China • Singapore Economic Review Conference, Singapore
- 2010: MSU Climate Change Research Forum • Energy Forum with US Senator Debbie Stabenow • Expert Consultation on Developing a Sustainable Bioenergy Program in Africa, Dakar, Senegal • Shanghai University of Finance and Economics, Shanghai, China • Fourth World Congress of Environmental and Resource Economists, Montreal, Canada • Workshop on Climate Change Impacts, Vulnerability and Adaptation in the Midwest, Indiana University, Bloomington • Yangling International Agri-Science Forum, Yangling, China • School of Economics, Renmin University, Beijing, China
- 2009: The World Bank; • International Conference on Modeling Water Pollution at Watershed Level, Hangzhou, China • Heartland Environmental and Resource Economics Workshop, UIUC
- 2008: UC Santa Barbara; • Michigan State
- 2007: University of Nebraska, Lincoln; • NBER Summer Institute on Public Economics and Environmental Economics
- 2006: Texas A&M University; • University of Central Florida; • AERE sessions, AAEA Annual Meetings, Long Beach, CA; • School of Environment, Peking University, China
- 2005: Michigan State University; • UC Berkeley
- 2004: University of Maryland; • WIDER conference on Globalization and Poverty, Helsinki, Finland; • UC Davis; • 6th Heartland Environmental and Resource Economics Conference, Ames, Iowa; • International Symposium on China's Agriculture After WTO, Hangzhou, China; • AAEA Annual Meetings, Denver
- 2003: Second Tilburg Symposium on Psychology and Economics: Games and Decisions, Tilburg, the Netherlands; • Frontiers in Natural Resource and Environmental Economics, A Conference in Honor of Gardner M. Brown; • UC Davis
- 2002: University of Minnesota; • Camp Resources X, Wilmington, North Carolina; • Center for Chinese Agricultural Policy, Chinese Academy of Sciences, Beijing, China; • China Center for Economics Research, Peking University, China; • University of Illinois at Urbana-Champaign
- 2001: University of Central Florida; • Southern Economic Association meetings, Tampa; • AERE Sessions, AAEA Annual Meetings, Chicago; • Farm Bill and the Environment, Washington, DC; • University of Washington; • University of Maryland; • UC Davis; • AERE Sessions, ASSA Annual Meetings, New Orleans
- 2000: University of Minnesota; • University of Arizona; • Columbia University; • AAEA Annual Meetings, Tampa
- 1999: AERE/Harvard Workshop on Market Based Instruments for Pollution Control, Cambridge; • AERE Sessions and AAEA Sessions, AAEA Annual Meetings, Nashville; • UC Berkeley; • UC Davis; • UC Santa Barbara;

- 1998: University of Washington; • NBER University Conference on Trade and Environment, Cambridge  
1997: Texas A&M University; • Iowa State University; • Resources for the Future; • University of Washington  
1996: Western Economic Association Annual Conference, San Francisco  
1995: AAEA Annual Meetings, Indianapolis; • International Conference on Chinese Economy, CERDI, Clermont-Ferrand, France

## PROFESSIONAL AFFILIATIONS AND REFEREEING

*Membership in:* American Economic Association, American Agricultural Economics Association, Association of Environmental and Resource Economists  
*Referee for:* Agricultural and Resource Economics Review, Agricultural Finance Review, American Journal of Agricultural Economics, Canadian Journal of Agricultural Economics, Canadian Journal of Economics, Ecological Economics, Economics Letters, Environment and Development Economics, Environmental and Resource Economics, European Economic Review, Frontier of Economics in China, International Economic Review, International Journal of Business and Economics, Journal of Agricultural and Resource Economics, Journal of Economic Dynamics and Control, Journal of Environmental Economics and Management, Journal of Health Economics, Journal of Political Economy, Journal of Public Economic Theory, Journal of Public Economics, Mathematics and Financial Economics, National Science Foundation, Optimal Control Applications and Methods, Oxford Economic Papers, Proceedings of the National Academy of Science, Quarterly Journal of Economics, Rand Journal of Economics, Review of Development Economics, Resource and Energy Economics, Review of Economic Studies, Social Sciences and Humanities Research Council of Canada