

**ZILI YANG, Ph. D.**

**Current Position:**

*Professor* (September 2008 --- )

Department of Economics, State University of New York at Binghamton

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**Previous Employment:**

*Associate Professor (with tenure)* (Sep. 1, 2004 – Aug. 31, 2008)

Department of Economics, State University of New York at Binghamton

*Assistant Professor* (Aug. 1, 2002 – Aug. 31, 2004)

Department of Economics, State University of New York at Binghamton

*Assistant Professor* (July 1, 1998 - June 30, 2002)

Department of Energy, Environmental, and Mineral Economics, The Pennsylvania State University

*Research Associate* (October 1993 - June 1998)

Center for Energy and Environmental Policy Research, Massachusetts Institute of Technology

*Faculty Member* (April 1985 – August 1987)

School of Economics and Management, Tsinghua University, Beijing, China

## **Other Academic Positions:**

Adjunct Professor (2011-), Beijing Institute of Technology, China  
Chair Professor of RUC (2012-2015), Renmin University of China.

## **Visiting Positions:**

Visiting Professor (Aug. 2009 – Jan. 2010),  
Center for Operations Research and Econometrics (CORE), Universite Catholique de Louvain, Belgium.

## **Education:**

Ph.D. in Economics, Yale University, May 1993;  
Dissertation: “Essays on the International Aspects of Resource and Environmental Economics”  
Dissertation Committee: W. D. Nordhaus, T. N. Srinivasan  
M.A. and M. Phil. in Economics, Yale University, May 1989;  
M.S. in Management Science, Tianjin University, China, February 1985;  
B.S. in Mathematics, the University of Science & Technology of China, June 1982.

**Citizenship:** USA.

## **Research Interests:**

Resource and Environmental Economics, Energy Economics, Economic Modeling, Applied Game Theories, Public Economics, the Chinese Economy.

## **Teaching Experience:**

Undergraduate: Principles of Microeconomics, Resource Economics, Energy Economics, Econometrics, Statistical Methods, The Economy of China (in English and Chinese languages), Economic Forecasting, International Trade, Economics of Climate Change.  
Graduate: Resource and Environmental Economics (Ph.D. level), Environmental Economics (Master level), Microeconomics (Ph.D. level), Econometrics (Master level).

## **Research Grants and Sponsored Research Experience:**

- 2009.05 - 2010.05 Recipient, “Collaborative Research on Environmental Coalitions,” Harpur Dean’s Office, \$4,000.
- 2006.01 - 2008.01 Principal Investigator of “Optimal Coordination and Synchronization in Local Air Quality and GHG Emissions: An Economic Study of Multiple Gases Issue in Integrated Assessment of Global Change” in collaboration with Dr. Surabi Menon, Lawrence Berkeley National Laboratory, funded by US Department of Energy, (SUNY portion: \$105,551)
- 2006.02 - 2008.02 Co-Principal Investigator of “Model Developments for Development of Improved Emissions Scenarios: Developing Purchasing-Power Parity Models, Analyzing Uncertainty, and Developing Data Sets for Gridded Integrated Assessment Models” in collaboration with Professor William Nordhaus, Yale University, funded by US Department Energy, (SUNY portion: \$156,046)
- 2004.10 - 2005.11 Principal Investigator, renewal grant from US Department of Energy on RICE model development, with William Nordhaus, \$43,455.
- 2004.09 - : Recipient, SUNY Research Foundation Infrastructure Development Grant, \$11,377.
- 2002.08 - 2004.08 Principal Investigator of “Environmental Legacies of Rapid Economic Growth: A Comparative Study of the Environmental Kuznets Curve Phenomena in Mainland China and Taiwan,” a project with Daigee Shaw, funded by Chiang Ching-Kuo Foundation for International Scholarly Exchange, \$78,984.
- 2001.08 - 2004.05: Principal Investigator of “Modeling Technological Innovations and Diffusions in the New RICE Model,” a project with William Nordhaus, sponsored by US Department of Energy, \$175,052.
- 1998.09 - 2002.06: Research Associate: Center for Integrated Regional Assessment, the Penn State University, participated in various projects of regional assessments of climate change.
- 1993.10 - 1998.06: Principal researcher responsible for economic modeling and policy analysis aspect of a large-scale, multi-disciplinary research project on global change at the MIT Joint Program on the Science and Policy of Global Change.
- 1992 - 1998: Collaborator in developing the RICE model, a large scale dynamic economic-environmental model, with William Nordhaus.
- 1993 - 1994: Principal investigator in a Department of Energy research project in expanding the DICE model, \$150,000.

## **Teaching Grants:**

- 2007.02 Recipient, the Chinese Economists Society Chow Teaching Fellowship, \$2,400.
- 2004.12 - 2005.11 Recipient, New Curriculum Development Award from Freeman Foundation via Asian and Asian American Studies (AAAS) Program of SUNY at Binghamton, \$5,000.

## **Academic Activities:**

**Member:** American Economic Association, Association of Environmental and Resource Economists.

### **Served as Referee:**

*American Economic Review, European Economic Review, PNAS, American Political Science Review, Journal of European Economic Association, Swiss Journal of Economics and Statistics, American Journal of Agricultural Economics, Contemporary Economic Policy, Economics Bulletin, Journal of Economic Dynamics and Control, Computational Economics, Resource and Energy Economics, Journal of Environmental Economics and Management, Journal of Environment and Development, Environmental and Resource Economics, The Energy Journal, Energy Economics, Ecological Economics, Natural Resource Modeling, Journal of Regional Sciences, Economic Modelling, Journal of Environmental Economics and Policy Studies, Economic Systems Research, Automatica, Climate Policy, Climatic Change, Review of Environmental Economics and Policy, Applied Energy, Energy Policy, Climate Change Economics, International Journal of Global Energy Issues, Annals of Operations Research.*

**Reviewer:** The National Science Foundation (panelist and ad hoc reviewer), Austrian Science Fund, Academy of Finland, Oak Ridge Associated Universities (ORAU), Ministry of Education of China, Intergovernmental Panel on Climate Change (IPCC) Concept Paper.

**Textbook Reviewer:** Simon & Schuster, McGraw-Hill, Thomson South-Western, Addison-Wesley.

**Participant:** Energy Modeling Forum-14.

### **Presentations in Conferences, Workshops, and Seminars:**

The 4<sup>th</sup> World Congress of Environmental and Resource Economists, Istanbul, Turkey, July 2014;

College of Resource and Environmental Sciences, East China Normal University, Shanghai, China, March 2014;

Academy of Mathematics and System Science, Chinese Academy of Science, Beijing, China, February 2014;

Institute of Policy and Management, Chinese Academy of Science, Beijing, China, July 2013 and December 2011;

International Workshop on “Game Theory and Simulation Model for Climate Change,” Sophia University, Tokyo, Japan, February 2013;

12<sup>th</sup> Annual Conference of Association of Public Economic Theory, Taipei, Taiwan, June 2012;

Department of Energy Economics, Renmin University of China, Beijing, China, June, 2012;

School of Environmental Studies, Sophia University, Tokyo, Japan, June 2012;

Department of Economics, Kyoto University, Kyoto, Japan, May 2012;

Economic Research Institute of ASEAN and CEEP-Beijing Institute of Technology Joint Workshop on Energy and Environment Modeling, Keynote speech, Beijing, China, March 2012;

Workshop on “Modeling Climate Coalition,” Potsdam Institute for Climate Impact Research (PIK), Potsdam, Germany, February 2012;

Beijing Institute of Technology, Beijing, China, June 2011;

Microeconomics Workshop, Tilburg University, the Netherland, November 2009;

Workshop on “Political Economy and the Environment,” Center for Operations Research and Econometrics (CORE), Universite Catholique de Louvain, Belgium, September 2009;

Workshop on “Coalition for Climate Cooperation: a Game-theoretic Analysis of Post 2012 Climate Policy,” Venice, Italy, June 2009;

School of Environment and Resource, Renmin University of China, Beijing, China, June 2009;

Center for Operations Research and Econometrics (CORE), Universite Catholique de Louvain, Belgium, January, 2009;

National Bureau of Economic Research (NBER) Workshop on Environment and Public Policies (research sketch), Cambridge, Massachusetts, July 2007;

The Third World Congress of Environmental and Resource Economists, Kyoto, Japan, July, 2006;

Chinese Economist Society 2006 Annual Conference, Shanghai, China, July, 2006;

Chinese Economist Society 2005 Annual Conference, Chongqing, China, June, 2005;

Economics Institute, Academia Sinica, Taiwan, July, 2004;

2003 Energy Modeling Forum Summer Workshop on Climate Change Impact and Integrated Assessments, Snowmass, CO, August 2003;  
National Bureau of Economic Research (NBER) Workshop on Environment and Public Policies (research sketch), Cambridge, Massachusetts, July 2001;  
Workshop on Coalition Theories, Barcelona, Spain, January 2000;  
1999 Open Meeting of the Human Dimensions of Global Environmental Change Research Community, Kanagawa, Japan, June 1999;  
National Bureau of Economic Research (NBER) Workshop on Environment and Public Policies, Cambridge, Massachusetts, August 1998;  
EMF-14 Workshop, Stanford, California, May 1998;  
International Conference on: International Environmental Agreements on Climate Change, Venice, Italy, May 1997;  
Tokyo Modeling Forum on Integrated Global Environmental Assessment, Tokyo, Japan, March 1997;  
International Western Economic Conference, Vancouver, Canada, July 1994;  
Air & Waste Management Association International Specialty Conference on Global Climate Change, Phoenix, Arizona, April 1994.

**Invited as a Keynote Speaker, Commentator, or Panelist:**

The 5<sup>th</sup> Annual Conference of Energy Economics and Management of China, Beijing, July, 2014, the keynote speaker;  
Technological Change and the Environment Workshop, Dartmouth College, March, 2006, the panelist;  
Workshop on Chinese Environment, Harvard University, May, 1999, the commentator.

**Guest Teaching Activities:**

Lectures to Ph.D. students, School of Environment, Peking University, March, 2014;  
Lectures to graduate students, School of Economics and Management, Beijing Institute of Technology, March – April, 2014;  
Lectures to Ph.D. students, School of Environment, Renmin University of China, May – June, 2012, February – April, 2014;  
Lectures at “Summer International School”, Renmin University of China, July 2010, 2011, 2012, 2013;  
Lectures to Ph.D. students, Beijing Institute of Technology, Beijing China, December 2011;  
Lectures to Ph. D. students, University of Venice, September 2009;  
Lectures to Master programs in environmental economics, Beijing Forestry University,

Beijing, China, June 2007 and 2008.

### **Fellowships and Awards:**

Daniel Hoffman Award for Excellence in Undergraduate Teaching, SUNY at Binghamton, 2004;

Wilson Research Award, the Penn State University, 1999;

The Energy Journal Best Paper Award, 1997;

Yale University Fellowship, 1987 - 1991.

### **Citation Records: (as of July 2015)**

SSCI: 393; SCI: 88; Google Scholar: 1747.

### **Honor:**

Selected for Marquis *Who's who in America 2009-*

### **Publications: (Peer-reviewed)**

#### **Book:**

*Strategic Bargaining and Cooperation in Greenhouse Gas Mitigations: An Integrated Assessment Modeling Approach*, the MIT Press, 2008.

#### **Journal Articles:**

“Likelihood of Environmental Coalitions --- an Empirical Testing of Shrinking Core Hypothesis in an Economy with Externality,” DOI: 10.1007/s10479-015-1831-7, *Annals of Operations Research*, 2015.

“The Stability and Effectiveness of Climate Coalitions: a Comparative Analysis of Multiple Integrated Assessment Models,” lead authors: Kei Lessmann and Ulrike Kornek; with Valentina Bosetti, Rob Dellink, Johannes Emmerling, Johan Eyckmans, Miyuki Nagashima, Hans-Peter Weikard, DOI 10.1007/s10640-015-9886-0, *Environmental and Resource Economics*, 2015.

“Tackling Negatively Correlated Global and Local Stock Externalities --- An Economic Study of Multiple Gases Issue in Climate Change”, with Surabi Menon, DOI: 10.1142/S2010007813500139, *Climate Change Economics*, Vol. 4, No. 3, 2013.

“Is the Leading Role Desirable? --- an Analysis of the Strategic Stackelberg Behavior in World Petroleum Market,” *Computational Economics*, Vol. 42. No. 1, pp. 133-150, 2013.

“Identifying the Lindahl Equilibrium without Transfers as a Social Optimum,” *Metroeconomica*, Vol. 46, No. 1, pp. 25-43, 2013.

“‘Lucky’ Numbers, Unlucky Consumers,” *The Journal of Socio-Economics*, Vol. 40, pp. 492-499, 2011. Introduced as the “Research Watch” item in *Harvard Business Review*, Jan-Feb 2012 issue.

“Contemporary Fairness vs. Historical Justice --- A Normative Analysis of Regional GHG Emissions,” with P. Sirianni, *Energy Economics*, Vol. 32, pp. 1121-1130, 2010.

“How Does ANWR Exploration Affect OPEC Behavior? A Simulative Study of an Open-loop Cournot-Nash Game,” *Energy Economics*, Vol. 30, No. 2, pp. 321-332, 2008.

“Negatively Correlated Local and Global Stock Externalities: Tax or Subsidy?” *Environment and Development Economics*, Vol. 11, pp. 301-316, 2006.

“Magnitude and Direction of Technological Transfers for GHG Mitigation,” with W.D. Nordhaus, *Energy Economics*, Vol. 28, pp. 730-741, 2006.

“A Pseudo ‘Folk’ Theorem in the Strategic Provision of Stock Externalities,” *International Game Theory Review*, Vol. 5, No. 4, pp. 347-359, 2003.

“Dual-Rate Discounting in Dynamic Economic-Environmental Modeling,” *Economic Modelling*, Vol. 20, No. 5, pp. 941-957, 2003.

“Re-negotiation of Climate Change Coalitions: A Sequential Dynamic Game Approach,” *Journal of Economic Dynamics and Control*, Vol. 27/9, pp. 1563-1594, 2003.

“Time Preference, Stock Externalities and Strategic Reactions: Policy Implications in Climate Change,” *Environmental and Resource Economics*, Vol. 18, No. 2, pp. 233-251, 2001.

“A Coupling Algorithm for Computing Large-Scale Dynamic Computable General Equilibrium Models,” *Economic Modelling*, Vol. 16, pp. 455-473, 1999.

“Integrated Global System Model (IGSM) for Climate Policy Analysis: Feedbacks and Sensitivity Studies,” with H. Jacoby, R. Prinn et al. *Climatic Change*, Vol. 41, pp. 469-546, 1999.

“Should North Make Unilateral Technology Transfers to South? --- North-South Cooperation and Conflicts in Responses to Global Climate Change,” *Resource and Energy Economics*, Vol. 21, No. 1, pp.67 - 87, 1999. The paper is selected in *Climate Change*, edited by M. A. Toman and B. Sohngen, Ashgate Publishing, 2004.

“CO<sub>2</sub> Emission Limits: Economic Adjustments and the Distribution of Burdens,” with H.D. Jacoby et al, *The Energy Journal*, Vol. 18, No. 3, pp.31-58, 1997.

“Economic Assessment of CO<sub>2</sub> Capture and Disposal,” with R. S. Eckaus, et al., *Energy Conservation and Management*, Vol. 38, pp. 621-627, 1997.

“A Regional Dynamic General-Equilibrium Model of Alternative Climate-Change Strategies,” with William D. Nordhaus, *American Economic Review*, Vol. 86, No. 4, pp.741-65, 1996. The paper is selected in *Recent Developments in Environmental Economics*, Edited by M. Hoel, Edward Elgar Publishing, 2004. Also selected in *Environmental Economics: Critical*



*Concepts*, edited by C. Mason and E. Bulte, Routledge Publishing, 2007. Also selected in *Climate Change and the World Economy*, edited by D. I. Stern, F. Jotzo, and L. Dobes, Edward Elgar Publishing, 2014.

"Optimal Exporting of the Exhaustible Resources with Endogenous Trade Revenue," *Resource and Energy Economics*, Vol. 17, No. 4, pp.379-404, 1995.

### **Conference proceedings, book chapters, and other publications:**

"Integrated Assessment Models for Climate Change." In Oxford Bibliographies in Environmental Science. Ed. Ellen Wohl. New York: Oxford University Press, forthcoming.

"A New Approach for Study Coalition Issues in Climate Change," feature article in *Coalition Theory Network (CTN) Newsletter* No. 13,

[http://www.feem-web.it/ctn/41\\_publ\\_news13.10.php](http://www.feem-web.it/ctn/41_publ_news13.10.php)., 2010

"Technology Transfers," in *Smart Solutions to Climate Change*, edited by B. Lomborg, Cambridge University Press, 2010. <http://fixtheclimate.com/>

"Efficiencies, Wage Rates, and Environmental Performances of Industrial Firms in Tianjin Municipality: Does the Environmental Kuznets Curve Have a Micro-foundation?" with Quan Zhou, 2005 Chinese Economist Society Annual Conference Proceeding, Vol. 1, pp. 662-673.

"Necessary Conditions for Stabilization Agreements," with H. D. Jacoby, in C. Carraro ed., *International Environmental Agreements on Climate Change*, Kluwer Academic Press, London, 1999.

"The MIT Emission Prediction and Policy Analysis (EPPA) Model," with R.S. Eckaus, A.D. Ellerman and H.D. Jacoby, MIT Joint Program on the Science and Policy of Global Change Report No. 6, May, 1996.

"Integrating Scientific, Economic, Ecological Aspects of Global Change," with H.D. Jacoby, in Proceedings of the Air & Waste Management Association International Specialty Conference on Global Climate Change, pp.645-53, 1994.

### **Finished Working Papers:**

"Mitigation Costs and Climate Damage vs. Incentive Shifts of Climate Coalition," 2014.

"Someone's Poison, Others' Manna --- Studies of Mixed Externality Phenomena," 2014.

"On the Equivalence of the Nash Bargaining Solution and the Lindahl Equilibrium in an Economy with Public Good or Externalities," 2014.

"Should Uncertain Environmental Externalities Deter Extraction of Exhaustible Resources? --- A Theoretical Modeling Approach and its Policy Implications," 2013.

"The Samuelson Rule and Side Payments in Efficient Provision of Stock Externalities," 2006.

“The Shapley Value of a Dynamic Cooperative Game of Greenhouse Gases Reduction,” 2004.

“Welfare Weights, Lindahl Price, and Core Property of Environmental Coalitions,” 2003.

“Carbon Dioxide Sequestration: When and How Much?” with K. Keller, M. Hall, and D. Bradford, 2003.

“Forming Coalitions in International Agreements on Global Climate Change: Feasibility, Incentive Compatibility, and Impacts of Mitigation Costs and Climate Damage,” 2003.

“Mechanisms of Carbon Leakage,” 1999.

“The Prospect of Sino-Japanese Coal Trading under the Kyoto Protocol,” 2000.

### **Works in Progress:**

“The Coalition Structure of an Economy with Detrimental Externality and Identical Agents”;

“Increasing Returns to Scale and the Incentives to Join an Environmental Coalition”;

“Strategic Competition in Acquiring Fugitive Exhaustible Resources --- A Simulative Approach”;

“Trade, Product Quality, and the Environment”;

### **Service on Ph.D. Students’ Committees:**

Penn State University:

Shu-yi Liao (Committee member), Bo Yang (Committee member);

SUNY Binghamton:

Tae Heon Kim (Main advisor, graduated), Philip Sirianni (Main advisor, graduated), Bo Zhang (Main advisor, graduated);

Liang Xie (Committee member, graduated), Liang Liu (Committee member, graduated).

Serving as outside Ph.D. thesis examiner:

Institute of Policy and Management, Chinese Academy of Science,  
Macquarie University, Australia.

### **Services:**

Penn State University:

Various committee duties in a 5-faculty department,

College Committee on Calculus Instruction.

SUNY at Binghamton:

Director of MA Program, Economics Department (2014-now)

Economics Department Graduate Committee (2003 – now)

Economics Department Undergraduate Committee (2004 Fall)

Economics Department Graduate Admission Committee (2006-2007)

AAAS Personnel Committee (2005-2006)

University Faculty Senate Executive Committee (2007 - 2009)

University Faculty Senate (2011 -2013)

**References:**

Available upon requests.