

## CURRICULUM VITA

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**CITIZENSHIP:** U.S.

### EDUCATIONAL BACKGROUND:

University of Minnesota, Minneapolis, Minnesota, Ph.D., Economics (Major) and Mathematics (Minor), December 1975; Thesis Co-Advisors: Clifford Hildreth and Leonid Hurwicz;  
Carleton College, Northfield, Minnesota, B.A. Cum Laude, Distinction in History, Phi Beta Kappa, June 1968.

### CURRENT PROFESSIONAL AFFILIATIONS:

Professor of Economics, Iowa State University (ISU), August 1990 to present;  
Professor of Mathematics (Courtesy), ISU, August 1990 to present;  
Professor of Electrical and Computer Engineering (Courtesy), ISU, Jan. 2009 to present;  
Affiliate Faculty Member, Center for Computational Intelligence, Learning, and Discovery (CCILD), Iowa State University, July 2005 to present;  
Graduate Faculty Member, Human-Computer Interaction Program, Iowa State University, August 2003 to present;  
Editorial Board, *New Directions in Networks*, Book Series, Edward Elgar Publishing Company, October 2001 to present;  
Editorial Board, *Journal of Economic Interaction and Coordination*, Springer, July 2005 to present;  
Associate Editor, *Journal of Energy Markets*, July 2007 to present;  
Associate Editor, *Journal of Economic Dynamics and Control*, North-Holland/Elsevier, July 2000 to present;  
Co-Organizer, IEEE Power and Energy Society (PES) Task Force on Open-Source Software, June 2007 to present;  
Member, IEEE Computational Finance and Economics Technical Committee, June 2007 to present;  
Member, IEEE PES Multi-Agent Systems Working Group, June 2006 to present.  
Member, IEEE PES Computer and Analytic Methods Subcommittee, June 2007 to present.  
Member, IEEE PES Working Group on Test Systems for Economic Analysis, June 2007 to present.  
Contact Liaison for SCE Special Interest Group on Agent-Based Computational Economics, Fall 1999 to present.

## **PAST PROFESSIONAL AFFILIATIONS:**

Member, Committee on Organizational Modeling from Individuals to Societies, *National Research Council of the National Academies*, March 2005 to March 2008;  
Associate Editor, *Applied Mathematics and Computation*, Elsevier, North Holland, June 1991 to March 2008;  
Associate Editor, *Journal of Public Economic Theory*, Basil-Blackwell, Apr.1997-Jun.2006;  
Consultant, Los Alamos National Laboratory, New Mexico, Nov.2002-Oct.2004;  
Contributing Co-Editor, Complexity-at-Large Section, *Complexity*, John Wiley, Nov.1997-Aug.2004;  
Advisory Council Member, Society for Computational Economics (SCE), Jan.1997-Jan.2000, and March.2001-Jan.2004;  
Associate Editor, *IEEE Transactions on Evolutionary Computation*, IEEE Neural Network Council, July.1996-Dec.2002;  
Guest Editor, Special Issue on Agent-Based Computational Economics, *Journal of Economic Dynamics and Control* 25/3-4 (2001);  
Guest Editor, Special Issue on Agent-Based Computational Economics, *Computational Economics*, Vol. 18(1), October 2001;  
Guest Editor, Special Issue on Agent-Based Modeling of Evolutionary Economic Systems, *IEEE Transactions on Evolutionary Computation*, Vol. 5(5), Oct.2001;  
Guest Editor, Special Issue Dedicated to Robert E. Kalaba, *Applied Mathematics and Computation*, Vol. 45(2):Part II, Sept.1991;  
Professor of Economics, University of Southern California, Sept.1989-Aug.1990;  
Associate Professor of Economics, University of Southern California, Sept.1981-Aug.1989;  
Visiting Researcher, National Bureau of Economic Research, Cambridge, Massachusetts, Sept.1981-Aug.1982;  
Visiting Assistant Professor, University of Minnesota, Mpls, March.1980-Aug.1980;  
Assistant Professor, University of Southern California, Sept.1975-Aug.1981.

## **PRIMARY RESEARCH AREAS:**

Electricity restructuring and market design; Agent-based computational economics; Learning in dynamic multi-market contexts; Evolution of economic networks; Optimality and efficiency in open-ended dynamic economies; Multicriteria estimation (e.g., time-varying linear regression via Flexible Least Squares); Adaptive computation (nonlocal sensitivity analysis, eigenvalue/eigenvector tracking, automatic differentiation, adaptive homotopy continuation); Learning via criterion filtering (temporal difference/Q-learning).

## **CURRENT RESEARCH TOPICS:**

Integrated restructuring of wholesale and retail power markets;  
Testing the efficiency and reliability of U.S. restructured wholesale power market designs;  
Open-source software for restructured electric power markets;  
Agent-based computational economics: A constructive approach to economic theory;  
Analysis of decentralized market economies as distributed local-interaction systems;  
Concentration and market power in dynamic economies.

## **RECENT HONORS:**

Plenary Address, International Economic Science Association (IESA) Meeting, Arlington, Virginia, June 25-28, 2009.  
Plenary Address, AGENT 2007, Northwestern University, November 17, 2007.  
Invited Organizer, ACE Tutorial, Allied Social Science Association (ASSA) Meetings, Chicago, January 2007.

Plenary Address, 12th International Conference on Computing in Economics and Finance (CEF'06), Society for Computational Economics (SCE), Cyprus, June 23, 2006.

Plenary Panel Address, Workshop on Dynamic Data Driven Application Simulation (DDDAS), National Science Foundation, Washington, D.C., January 19-20, 2006.

Member, Committee on Organizational Modeling from Individuals to Societies, National Research Council of the National Academies, March 2005 - March 2008.

Plenary Address, International Workshop on Agent-Based Models for Economic Policy Design, ZiF, Bielefeld University, Germany, June 30-July 2, 2005.

Distinguished Lecture Series, sponsored by the Computation Institute and the James Franck Institute, University of Chicago, October 27-29, 2003;

Keynote Address, Workshop on Labor and Industrial Dynamics: The Agent-Based Computational Economics Approach, Moncalieri, Italy, October 4, 2003;

Distinguished Lecture, sponsored by the James Franck Institute, University of Chicago, May 22, 2002;

Plenary Address, Sixth Joint Conference on Information Sciences, Research Triangle Park, NC, March 10, 2002;

National Academy of Sciences Panel Discussant, Sackler Colloquium, Irvine, CA, October 4-6, 2001;

Keynote Address, First International Workshop on Computational Intelligence in Economics and Finance, Atlantic City, NJ, February 28, 2000.

### **CONSULTANTSHIPS, GRANTS, AND FELLOWSHIPS:**

Principal Investigator, Pacific Northwest National Laboratory: 3-Year Award 7/1/2009-6/30/2012 (Subject to Annual Review): A Test Bed for the Integrated Experimental Study of Retail and Wholesale Power Market Designs, \$120,871.18.

Principal Investigator, Electric Power Research Center Grant: 3-Year Award 8/2009-8/2012 (Subject to Annual Review), "Financial and Operational Risk Management for Restructured Wholesale Power Markets," \$91,952.

Project Advisory Board, National Science Foundation Grant: 4-Year Award to ISU (9/1/08-8/31/12): "21st Century National Energy and Transportation Infrastructures: Balancing Sustainability, Costs, and Resiliency (NETSCORE-21)," PI: Jim McCalley (ISU ECpE Department), \$2 Million.

Principal Investigator (with Chen-Ching Liu), Electric Power Research Center Grant: 3-Year Award 8/2007-8/2010 (Subject to Annual Review), "Forecasting Grid Congestion for Transmission Grid Operation and Investment," \$153,921.

Principal Investigator (with H. C. Quirnbach), Electric Power Research Center Grant: 3-Year Award 8/2006-8/2009, "Testing the Efficiency and Reliability Impacts of MISO's Midwest Market Initiative," \$75,000.

Co-Principal Investigator (with J. McCalley, S. Ryan, and S. Sapp), National Science Foundation: 3-Year Award (9/1/05-8/31/08), "Decision Models for Bulk Energy Transportation Networks," Human and Social Dynamics Competition (Decision Making, Risk, and Uncertainty), \$608,000.

Electricity Consultant, Contract C-8313, Los Alamos National Laboratory, November 2002 through October 2004.

ACE Course Development Grant (Continuation Award) for Econ 308 (Agent-Based Computational Economics), ISU Computer Advisory Committee for Liberal Arts and Sciences, Spring 2004, \$3,708.

ACE Course Development Grant for Econ 308x (Agent-Based Computational Economics, Experimental Course), ISU Computer Advisory Committee for Liberal Arts and Sciences, Spring 2003, \$3,600.

Member, Human-Computer Interaction Initiative, Funded Program Proposal, Iowa State University, January 2003.

Co-Principal Investigator (with Gerald Sheble), National Science Foundation: 3-Year Award (9/1/98-8/31/01), "Computer Simulation of an Electric Marketplace Using Artificial Adaptive Agents," Computer and Intelligent Systems Program, \$309,683.

Member, nine-member ISU research team taking part in a 4-university Advanced Power Technologies (APT) Consortium, funded by the Electric Power Research Institute and the Department of Defense, 5/99-5/2004, Total Original Award: \$5.3 million (ISU share: \$1.48 million).

Co-Principal Investigator (with A. Stanley and D. Ashlock), ISU University Research Grant: May 1991, "A Sequential Game Computer Simulation Study of AIDS Transmission," \$7,000.00.

Co-Principal Investigator (with J. Herriges, H. Quirnbach, and J. Shogren), ISU Competitive Research Equipment Grant Program: January 1991, "Laboratory Equipment for Experimental Work in Agricultural and General Economics," \$8,000.00.

Co-Principal Investigator (with R. Kalaba), National Science Foundation: 2-Year Award (6/1/78-5/31/80), "Empirical Dynamic Programming Methods for Adaptive Control," \$79,994.00.

NDEA Title IV Fellowship, 1973.

Woodrow Wilson Dissertation Fellow, 1972.

AAUW Dissertation Fellowship, 1972.

### **TEACHING AND OFFICIAL ADVISING ACTIVITIES:**

Power Economics (PhD/M.S. Graduate Student Supervisor); Restructuring of Wholesale Power Markets (Undergraduate Teaching); Agent-Based Computational Economics (Undergraduate Teaching); Macroeconomics (Graduate and Undergraduate Teaching); Financial Markets and Monetary Economics (Graduate and Undergraduate Teaching); Steering Committee, ISU Graduate Minor in Complex Adaptive Systems; Freshman Honors Program Mentor (S06); Undergraduate Advisor (F'05-present).

### **GENERAL RESOURCE WEBSITES MAINTAINED:**

On-Line Guide for Newcomers to Agent-Based Modeling in the Social Sciences (with Robert Axelrod) <http://www.econ.iastate.edu/tesfatsi/abmread.htm>

Agent-Based Computational Economics  
<http://www.econ.iastate.edu/tesfatsi/ace.htm>

Formation of Economic and Social Networks  
<http://www.econ.iastate.edu/tesfatsi/netgroup.htm>

Open-Source Software for Electricity Market Research, Teaching, and Training  
<http://www.econ.iastate.edu/tesfatsi/ElectricOSS.htm>

General Resources on Electricity Restructuring  
<http://www.econ.iastate.edu/tesfatsi/epres.htm>

General Resources on Macroeconomics and Financial Economics  
<http://www.econ.iastate.edu/tesfatsi/sources.htm>

### **OPEN-SOURCE SOFTWARE RELEASES:**

AMES Market Package: Agent-Based Modeling of Electricity Systems (Java)  
<http://www.econ.iastate.edu/tesfatsi/AMESMarketHome.htm>

DCOPFJ: A DC Optimal Power Flow Solver (Java)  
<http://www.econ.iastate.edu/tesfatsi/DCOPFJHome.htm>

TNGLab: Trade Network Game Laboratory (C++/VB)  
<http://www.econ.iastate.edu/tesfatsi/TNGHome.htm>

FLS-TVLR: Flexible Least Squares for Time-Varying Linear Regression (Fortran)  
<http://www.econ.iastate.edu/tesfatsi/FLSHome.htm>

GFLS-ALS: Generalized Flexible Least Squares for Approximately Linear Systems (Fortran) <http://www.econ.iastate.edu/tesfatsi/FLSHome.htm>  
MAM: Multicriteria Associative Memories for Nonlinear Estimation (Fortran) <http://www.econ.iastate.edu/tesfatsi/MAM.htm>  
NASA: Nonlocal Automated Sensitivity Analysis (Fortran) <http://www.econ.iastate.edu/tesfatsi/NASAHome.htm>

## BOOKS:

Leigh Tesfatsion and Kenneth L. Judd, eds., *Handbook of Computational Economics: Volume 2, Agent-Based Computational Economics*, Handbooks in Economics Series, Elsevier, North-Holland Imprint, Amsterdam, the Netherlands, 2006, 904pp.  
Committee on Organization Modeling from Individuals to Societies, *Behavioral Modeling and Simulation: From Individuals to Societies*, National Research Council of the National Academies, The National Academies Press, Washington, D.C., 2008, 403pp.

## PUBLICATIONS IN JOURNALS, BOOKS, AND PROCEEDINGS:

**NOTE:** Non-refereed publications are marked by a \*, and all author orderings are alphabetical except for articles 102-4, 97, 91 and 57, as indicated below.

108. \* (Invited Contribution) “Testing Institutional Arrangements via Agent-Based Modeling: A U.S. Electricity Market Example” (with Hongyan Li and Junjie Sun), to appear in H. Dawid and W. Semmler (Eds.), *Computational Methods in Economic Dynamics*, Springer.
107. “Development of Open Source Software for Power Market Research: The AMES Test Bed” (with Hongyan Li), *Journal of Energy Markets* Vol. 2, No. 2, Summer 2009, 111-128.
106. (Invited Refereed Contribution) “Auction Basics for Wholesale Power Markets: Objectives and Pricing Rules,” *IEEE Proceedings*, Power and Energy Society General Meeting, Calgary, Alberta, CA, July 26-30, 2009.
105. (Invited Refereed Contribution) “The AMES Wholesale Power Market Test Bed: A Computational Laboratory for Research, Teaching, and Training” (with Hongyan Li), *IEEE Proceedings*, Power and Energy Society General Meeting, Calgary, Alberta, CA, July 26-30, 2009.
104. “Locational Marginal Pricing Basics for Restructured Wholesale Power Markets” (non-alphabetical order: Haifeng Liu, Leigh Tesfatsion, and A. A. Chowdhury), *IEEE Proceedings*, Power and Energy Society General Meeting, Calgary, Alberta, CA, July 26-30, 2009.
103. “Derivation of Locational Marginal Prices for Restructured Wholesale Power Markets” (non-alphabetical order: Haifeng Liu, Leigh Tesfatsion, and A. A. Chowdhury), *Journal of Energy Markets*, Vol. 2, No. 1, Spring 2009, 3-27.
102. “Scenario Generation for Price Forecasting in Restructured Wholesale Power Markets” (non-alphabetical order: Qun Zhou, Leigh Tesfatsion, and Chen-Ching Liu), *IEEE Proceedings*, Power Systems Conference & Exposition, Seattle, WA, March 2009.
101. “Capacity Withholding in Restructured Wholesale Power Markets: An Agent-

- Based Test Bed Study” (with Hongyan Li), *IEEE Proceedings*, Power Systems Conference & Exposition, Seattle, WA, March 2009.
100. \* (Invited Contribution) “An Agent-Based Test Bed Study of Wholesale Power Market Performance Measures” (with Abhishek Somani), *IEEE Computational Intelligence Magazine*, Vol. 3, No. 4, November, 2008, 56-72.
  99. \* (Invited Contribution) “Dynamic LMP Response Under Alternative Price-Cap and Price-Sensitive Demand Scenarios” (with Hongyan Li and Junjie Sun), *IEEE Proceedings*, Power and Energy Society General Meeting, Pittsburgh, PA, July 2008.
  98. \* (Invited Contribution) “Modeling Macroeconomies as Open-Ended Dynamic Systems of Interacting Agents” (with Blake LeBaron), *American Economic Review (Papers & Proceedings)*, Vol. 98, No. 2, 2008, 246-250.
  97. “Modeling of Suppliers Learning Behaviors in an Electricity Market Environment” (Non-Alphabetical Order: Nanpeng Yu, Chen-Ching Liu, and Leigh Tesfatsion), *International Journal of Engineering Intelligent Systems*, Vol. 15, No. 2, 2007, pp. 115-121.
  96. (Invited Refereed Entry) “Agent-Based Computational Economics,” *Scholarpedia*, 2(2), Article No. 1970, 2007.
  95. (Invited Refereed Contribution) “Dynamic Testing of Wholesale Power Market Designs: An Open-Source Agent-Based Framework” (with Junjie Sun), *Computational Economics*, Vol. 30, No. 3, 2007, 291-327.
  94. (Invited Refereed Contribution) “An Agent-Based Computational Laboratory for Wholesale Power Market Design” (with Junjie Sun), *IEEE Proceedings*, Power and Energy Society General Meeting, Tampa, Florida, June 2007.
  93. (Invited Refereed Contribution) “Open-Source Software for Power Industry Research, Teaching, and Training: A DC-OPF Illustration” (with Junjie Sun), *IEEE Proceedings*, Power and Energy Society General Meeting, Tampa, Florida, June 2007.
  92. \* (Invited Contribution) “Agents Come to Bits: Towards a Constructive Comprehensive Taxonomy of Economic Entities,” *Journal of Economic Behavior and Organization*, Vol. 63, Issue 2, June 2007, 333-346.
  91. (Invited Refereed Contribution) “Market Design Test Environments” (non-alphabetical order: Steven Widergren, Junjie Sun, and Leigh Tesfatsion), *IEEE Proceedings*, Power and Energy Society General Meeting, Montreal, June 2006.
  90. (Invited Refereed Contribution) “Agent-Based Computational Modeling and Macroeconomics,” pp. 175-202 in David Colander (Ed.), *Post-Walrasian Macroeconomics: Beyond the Dynamic Stochastic General Equilibrium Model*, Cambridge University Press, Cambridge, UK, 2006.
  89. \* “A Guide for Newcomers to Agent-Based Modeling in the Social Sciences” (with Robert Axelrod), Appendix, in Leigh Tesfatsion and Kenneth L. Judd (Eds.), *Handbook of Computational Economics: Volume 2, Agent-Based Computational Economics*, Handbooks in Economics Series, North-Holland, Amsterdam, 2006.

88. “Agent-Based Computational Economics: A Constructive Approach to Economic Theory,” introductory chapter (pp. 831-880) in Leigh Tesfatsion and Kenneth L. Judd (Eds.), *Handbook of Computational Economics: Volume 2, Agent-Based Computational Economics*, Handbooks in Economics Series, North-Holland, Amsterdam, the Netherlands, 2006.
87. (Invited Refereed Contribution) “An Agent-Based Computational Laboratory for Testing the Economic Reliability of Wholesale Power Market Designs” (with Deddy Koesrindartoto and Junjie Sun), *IEEE Proceedings*, Power and Energy Society General Meeting, Mira Digital Publishing, 2005, 931-936.
86. \* (Invited Contribution) “Testing the Reliability of FERC’s Wholesale Power Market Platform: An Agent-Based Computational Economics Approach” (with Deddy Koesrindartoto), in *Energy, Environment, and Economics in a New Era*, Proceedings of the 24th North American Conference of the United States Association for Energy Economics (USAEE) and the International Association for Energy Economics (IAEE), Washington, D.C., 2004.
85. \* (Invited Contribution) “Evolution of Worker-Employer Networks and Behaviors Under Alternative Unemployment Benefits: An Agent-Based Computational Study” (with Mark Pingle), pp. 129-163 in Roberto Leombruni and Matteo Richiardi (eds.), *Industry and Labor Dynamics: The Agent-Based Computational Economics Approach*, World Scientific Press, Singapore, 2004. [Reprint of Article 84, below, with permission of Edward Elgar Publishers.]
84. (Invited Refereed Chapter) “Evolution of Worker-Employer Networks and Behaviors Under Alternative Unemployment Benefits: An Agent-Based Computational Study” (with Mark Pingle), Chapter 12 (pp. 256-285) in Anna Nagurney (ed.), *Innovations in Economic and Financial Networks*, Edward Elgar Publishers, 2003.
83. \* (Invited Article) “Agent-Based Computational Economics: Modelling Economies as Complex Adaptive Systems,” *Information Sciences*, Vol. 149, 2003, 263-269.
82. \* (Invited Article) “Economic Agents and Markets as Emergent Phenomena,” *Proceedings of the National Academy of Sciences U.S.A.*, Vol. 99, Supplement 3, 2002, 7191-7192.
81. (Invited Refereed Article) “Agent-Based Computational Economics: Growing Economies from the Bottom Up,” *Artificial Life*, Vol. 8, No. 1, 2002, 55-82.
80. \* (Invited Plenary Address) “Agent-Based Computational Economics: Modelling Economies as Complex Adaptive Systems,” pp. 40-43 in H. John Caufield et al. (eds.), *Proceedings of the Sixth Joint Conference on Information Sciences*, Association for Intelligent Machinery, Inc., 2002.
79. \* (Invited Chapter) “Hysteresis in an Evolutionary Labor Market with Adaptive Search,” pp. 189-210 in Shu-Heng Chen (ed.), *Evolutionary Computation in Economics and Finance*, Physica-Verlag Heidelberg, 2002.
78. \* (Invited Guest Editorial) “Agent-Based Modeling of Evolutionary Economic Systems,” *IEEE Transactions on Evolutionary Computation*, Vol. 5, No. 5, October 2001, 437-441.
77. “Market Power and Efficiency in a Computational Electricity Market with Dis-

- criminary Double-Auction Pricing” (with James Nicolaisen and Valentin Petrov), *IEEE Transactions on Evolutionary Computation*, Vol. 5, No. 5, October 2001, 504-523.
76. “A Computational Laboratory for Evolutionary Trade Networks” (with David McFadzean and Deron Stewart), *IEEE Transactions on Evolutionary Computation*, Vol. 5, No. 5, October 2001, 546-560.
  75. \* (Invited Guest Editorial) “Introduction to the Special Issue on Agent-Based Computational Economics,” *Computational Economics*, Vol. 18, No. 1, August 2001, 1-8.
  74. \* (Invited Guest Editorial) “Introduction to the Special Double Issue on Agent-Based Computational Economics,” *Journal of Economic Dynamics and Control*, Vol. 25, Nos. 3-4, March 2001, 281-293.
  73. “Structure, Behavior, and Market Power in an Evolutionary Labor Market with Adaptive Search,” *Journal of Economic Dynamics and Control* Vol. 25, Nos. 3-4 (2001), 419-457.
  72. \* (Invited Chapter) “Agent-Based Computational Economics: A Guide to the Literature,” in Jonathan Michie (ed.), *Reader’s Guide to the Social Sciences*, Volume 1, Fitzroy Dearborn Publishers, London, March 2001.
  71. (Invited Refereed Article) “Nonlocal Sensitivity Analysis with Automatic Differentiation,” pp. 2642-2647 in C. A. Floudas and P. M. Pardalos (eds.), *Encyclopedia of Optimization*, Second Edition, Springer, 2009.
  70. “Concentration and Capacity Effects on Electricity Market Power” (with James Nicolaisen, Valentin Petrov, and Matthew Smith), pp. 1041-1047 in Ali Alzala (ed.), *Evolution at Work for the New Millenium*, Proceedings of the 2000 Congress on Evolutionary Computation, Volume II, IEEE, Piscataway, N.J., 2000.
  69. “Concentration, Capacity, and Market Power in an Evolutionary Labor Market,” pp. 1033-1040 in Ali Alzala (ed.), *Evolution at Work for the New Millenium*, Proceedings of the 2000 Congress on Evolutionary Computation, Volume II, IEEE, Inc., N.J., 2000.
  68. “A C++ Platform for the Evolution of Trade Networks” (with David McFadzean), *Computational Economics*, Vol. 14, 1999, 109-134.
  67. “Preferential Partner Selection in Evolutionary Labor Markets: A Study in Agent-Based Computational Economics,” pp. 15-24 in V. W. Porto, N. Saravanan, D. Waagan, and A. E. Eiben, *Evolutionary Programming VII*, Proceedings of the Seventh Annual Conference on Evolutionary Programming, Springer-Verlag, Berlin, 1998.
  66. “Active Intermediation in a Monetary Overlapping Generations Economy” (with Mark Pingle), *Journal of Economic Dynamics and Control*, Vol. 22, 1998, 1543-1574.
  65. “Active Intermediation in Overlapping Generations Economies with Production and Unsecured Debt” (with Mark Pingle), *Macroeconomic Dynamics* Vol. 2, 1998, 183-212.

64. “Macrodynamic Implications of Income Transfer Policies for Human Capital Investment and School Effort” (with Peter Orazem), *Journal of Economic Growth*, Vol. 2, November, 1997, 305-329.
63. \* (Invited Chapter) “How Economists Can Get Alive,” pp. 533-564 in W. Brian Arthur, Steven Durlauf, and David Lane (eds.), *The Economy as an Evolving Complex System, II*, Santa Fe Institute Studies in the Sciences of Complexity, Proceedings Volume XXVII, Addison-Wesley, 1997.
62. “An Agent-Based Computational Model for the Evolution of Trade Networks” (with David McFadzean), pp. 73-83 in Peter Angeline, Robert G. Reynolds, John R. McDonnell, and Russell C. Eberhart (eds.), *Evolutionary Programming VI: Proceedings of the Sixth Annual Conference on Evolutionary Programming*, Springer-Verlag, Berlin, 1997.
61. \* (Invited Chapter) “A Trade Network Game With Endogenous Partner Selection,” pp. 249-269 in Hans Amman, Berc Rustem, and Andrew B. Whinston (eds.), *Computational Approaches to Economic Problems*, Kluwer Academic Publishers, Dordrecht, the Netherlands, 1997.
60. “An Evolutionary Trade Network Game with Preferential Partner Selection,” pp. 45-54 in Lawrence J. Fogel, Peter J. Angeline, and Thomas Baeck (eds.), *Evolutionary Programming V: Proceedings of the Fifth Annual Conference on Evolutionary Programming*, MIT Press, Cambridge, 1996.
59. “A Multicriteria Approach to Model Specification and Estimation” (with Robert E. Kalaba), *Computational Statistics and Data Analysis*, Vol. 21, 1996, 193-214.
58. “Preferential Partner Selection in an Evolutionary Study of Prisoner’s Dilemma” (with Daniel Ashlock, Mark D. Smucker, and E. Anne Stanley), *BioSystems* Vol. 37, Nos. 1-2, (1996), 99-125.
57. “Iterated Prisoner’s Dilemma with Choice and Refusal of Partners” (non-alphabetical order: E. Anne Stanley, Daniel Ashlock, and Leigh Tesfatsion), pp. 131-175, in C. Langton (ed.), *Artificial Life III*, Vol. XVII, Santa Fe Institute Studies in the Sciences of Complexity, Addison-Wesley, 1994.
56. \* (Invited Chapter) “A Multicriteria Approach to Dynamic Estimation” (with Robert E. Kalaba), Chapter 18, pp. 288-300, in R. Day and P. Chen (eds.), *Nonlinear Dynamics and Evolutionary Economics*, Oxford University Press, 1993.
55. “Nonlocal Automated Comparative Static Analysis,” *Computer Science in Economics and Management* (now *Computational Economics*), Vol. 5, 1992, 313-331.
54. “Linear and Nonlinear Associative Memories for Parameter Estimation” (with Robert E. Kalaba, Z. Lichtenstein, and T. Simchony), *Information Sciences*, Vol. 61, April, 1992, 45-66.
53. (Invited Refereed Chapter) “Automatic Evaluation of Higher-Order Partial Derivatives for Nonlocal Sensitivity Analysis,” pp. 157-165 in Andreas Griewank and George Corliss (eds.), *Automatic Differentiation of Algorithms: Theory, Implementation, and Application*, SIAM, Philadelphia, 1991.
52. “Obtaining Initial Parameter Estimates for Nonlinear Systems Using Multicrite-

- ria Associative Memories” (with Robert E. Kalaba), *Computer Science in Economics and Management* (now *Computational Economics*), Vol. 4, No. 4, November, 1991, 237-259.
51. “Overlapping Generations, Intermediation, and the First Welfare Theorem” (with Mark Pingle), *Journal of Economic Behavior and Organization*, Vol. 15, 1991, 325-345.
  50. “Solving Nonlinear Equations By Adaptive Homotopy Continuation” (with Robert E. Kalaba), *Applied Mathematics and Computation*, Vol. 41, No. 2:Part II, January, 1991, 99-115.
  49. \* (Invited Article) “Work by Robert Kalaba on Automated Sensitivity Analysis,” *Applied Mathematics and Computation*, Vol. 45, No. 2, Part II: Special Issue Dedicated to Robert E. Kalaba, September 1991, 121-131.
  48. \* (Invited Article) “Work by Robert Kalaba on Multicriteria Estimation,” *Applied Mathematics and Computation*, Vol. 45, No. 2, Part II: Special Issue Dedicated to Robert E. Kalaba, September 1991, 159-171.
  47. \* (Invited Article) “A Unified Approach to Dynamic Estimation” (with Robert E. Kalaba), *Information Sciences*, Vols. 57-58, Special Issue on Information Sciences: Past, Present, and Future (1991), 159-169.
  46. “Flexible Least Squares for Approximately Linear Systems” (with Robert E. Kalaba), *IEEE Transactions on Systems, Man, and Cybernetics*, Vol. 20, No. 5 (1990), 978-989. [This generalized flexible least squares (GFLS) algorithm was incorporated into the statistical package GAUSS/TSM in 1997.]
  45. “Nonlocal Automated Sensitivity Analysis” (with Robert E. Kalaba), *Computers and Mathematics With Applications*, Vol. 20, 1990, 53-65.
  44. “A Further Note on Flexible Least Squares and Kalman Filtering” (with Robert E. Kalaba), *Journal of Economic Dynamics and Control*, Vol. 14, No. 1, February 1990, 183-185.
  43. “U.S. Money Demand Instability: A Flexible Least Squares Approach” (with John Veitch), *Journal of Economic Dynamics and Control*, Vol. 14, No. 1 (February 1990), 151-173.
  42. “An Organizing Principle for Dynamic Estimation” (with Robert E. Kalaba), *Journal of Optimization Theory and Applications*, Vol. 64, No. 3 (March 1990), 445-470.
  41. “A Fortran Program for Time-Varying Linear Regression Via Flexible Least Squares” (with R. Kalaba and N. Rasakhoo), *Computational Statistics and Data Analysis*, Vol. 7, No. 3 (February 1989), 291-309.
  40. “Time-Varying Linear Regression Via Flexible Least Squares” (with R. Kalaba) *Computers and Mathematics with Applications*, Vol. 17, No. 8/9, (1989), 1215-1245. [The flexible least squares (FLS) algorithm was incorporated into the statistical packages GAUSS/TSM and SHAZAM in 1997.]
  39. “Sequential Nonlinear Estimation With Nonaugmented Priors” (with Robert E.

- Kalaba), *Journal of Optimization Theory and Applications*, Vol. 60, No. 3 (1989), 421-438.
38. "The Flexible Least Squares Approach to Time-Varying Linear Regression" (with Robert E. Kalaba), *Journal of Economic Dynamics and Control*, Vol. 12, No. 1 (March 1988), 43-48.
  37. "Exact Sequential Filtering, Smoothing, and Prediction for Nonlinear Systems," (with Robert E. Kalaba), *Nonlinear Analysis*, Vol. 12, 1988, 599-615.
  36. "An Invariant Imbedding Solution for General Linear Two-Point Boundary Value Problems" (with Robert E. Kalaba, Donald Marsh, and Anthony Wexler), *Applied Mathematics and Computation*, Vol. 26, 1988, 237-244.
  35. "Automation of Nested Matrix and Derivative Operations" (with Robert E. Kalaba and Thomas Plum), *Applied Mathematics and Computation*, Vol. 23, 1987, 243-268.
  34. "Automatic Differentiation of Functions of Derivatives" (with Robert E. Kalaba), *Computers and Mathematics With Applications* 12A (Nov. 1986), 1091-1103.
  33. "Nonlocal Sensitivity Analysis, Automatic Derivative Evaluation, and Sequential Nonlinear Estimation" (with Robert E. Kalaba), *Computational Statistics and Data Analysis* 4 (July 1986), 79-91.
  32. "Time Inconsistency of Benevolent Government Economies," *Journal of Public Economics* 31 (1986), 25-52.
  31. "Fair Division With Uncertain Needs and Tastes," *Social Choice and Welfare* 2 (1985), 295-309.
  30. "Welfare Implications of Net Social Security Wealth," *Journal of Public Economics* 24 (1984), 1-27.
  29. "Games, Goals, and Bounded Rationality," *Theory and Decision* 17 (1984), 149-175, abstracted in *Zentralblatt fur Mathematik*, August 1985, p. 410.
  28. "Pure Strategy Nash Equilibrium Points and the Lefschetz Fixed Point Theorem," *International Journal of Game Theory* 12 (1983), 181-191, abstracted in *Zentralblatt fur Mathematik*, July 1984, p. 595.
  27. "A Finite Algorithm for the Exact Evaluation of Higher-Order Partial Derivatives of Functions of Many Variables," (with Robert E. Kalaba and Jon-Lin Wang), *Journal of Mathematical Analysis and Applications* 92 (1983), 552-563.
  26. "Macro Implications of Government Redistributive Tax-Transfer Policies," *Journal of Public Economics* 19 (1982), 139-169.
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  24. "A Stability Theorem for Symmetrically Rational Counterplanning," (with Robert E. Kalaba and Karl Spingarn), *Journal of Optimization Theory and Applications* 37 (1982), 379-385.

23. "A Sequential Method for Nonlinear Filtering: Numerical Implementation and Comparisons," (with Robert E. Kalaba and Karl Spingarn), *Journal of Optimization Theory and Applications* 34 (1981), 541-559.
22. "An Exact Sequential Solution Procedure for a Class of Discrete-Time Nonlinear Estimation Problems," (with Robert E. Kalaba), *IEEE Transactions On Automatic Control* AC-26 (1981), 1144-1149.
21. "Dynamic Investment, Risk Aversion, and Foresight Sensitivity," *Journal of Economic Dynamics and Control* 3 (1981), 65-96.
20. "Individual Tracking of an Eigenvalue and Eigenvector of a Parameterized Matrix," (with Robert E. Kalaba and Karl Spingarn), *Nonlinear Analysis* 5 (1981), 337-340.
19. "Variational Equations for the Eigenvalues and Eigenvectors of Nonsymmetric Matrices," (with Robert E. Kalaba and Karl Spingarn), *Journal of Optimization Theory and Applications* 33 (1981), 1-8.
18. "Local and Nonlocal Comparative Static Analysis of Economic Systems," (with Robert E. Kalaba and Jon-Lin Wang), *Applied Mathematics and Computation* 9 (1981), 227-234.
17. "Complete Comparative Static Differential Equations," (with Robert E. Kalaba), *Nonlinear Analysis* 5 (1981), 821-833.
16. "A Least-Squares Model Specification Test for a Class of Dynamic Nonlinear Economic Models With Systematically Varying Parameters," (with Robert E. Kalaba), *Journal of Optimization Theory and Applications* 32 (1980), 538-567.
15. "Criterion Decomposition for the Myopic Sequential Control of Uncertain Systems," *Proceedings of the 13th Annual Asilomar Conference on Circuits, Systems, and Computers*, IEEE Computer Society, 1980, 475-478.
14. "Global and Approximate Global Optimality of Myopic Economic Decisions," *Journal of Economic Dynamics and Control* 2 (1980), 135-161.
13. "A Conditional Expected Utility Model for Myopic Decision Makers," *Theory and Decision* 12 (1980), 185-206.
12. "A New Differential Equation Method for Finding the Perron Root of a Positive Matrix," (with Robert E. Kalaba and Karl Spingarn), *Applied Mathematics and Computation* 7 (1980), 187-193.
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6. "Two Solution Techniques for Adaptive Reinvestment: A Small Sample Comparison," (with R. Kalaba), *Journal of Cybernetics* 8 (1978), 101-111.
5. "A New Approach to Filtering and Adaptive Control: Stability Results," *Applied Mathematics and Computation* 4 (1978), 27-44.
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2. "A Note on the Dependence Between a Venture and a Current Prospect," (with Clifford Hildreth), *Journal of Economic Theory* 15 (1977), 381-391.
1. "Stochastic Dominance and the Maximization of Expected Utility," *Review of Economic Studies* 43 (1976), 301-315.

#### **OTHER PUBLICATIONS:**

- "Complexity at Large" (with D. Ashlock), approximately twelve pages of news notes published in each issue of the bi-monthly John Wiley journal *Complexity*, November 1997-August 2004.
- Review of *Growing Artificial Societies: Social Science from the Bottom Up*, by Joshua M. Epstein and Robert Axtell, *Journal of Economic Literature*, Vol. XXXVI (March 1998), 233-234.
- "How to Get Alive," *CSWEP Newsletter*, Winter Issue, February 1995, pp. 16-18.
- Review of *Utilitarianism and Beyond*, edited by A. K. Sen and B. Williams, in *Journal of Economic Behavior and Organization* 6 (1985), 211-212.
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#### **UNPUBLISHED WORKING PAPERS:**

- "ISO Net Surplus Collection and Allocation in Wholesale Power Markets Under Locational Marginal Pricing" (with H. Li), ISU Economics Working Paper No. 09015, Economics Department, Iowa State University, July 2009 (revised December 2009).
- "Separation and Volatility of Locational Marginal Prices in Restructured Wholesale Power Markets" (with H. Li and J. Sun), ISU Economics Working Paper No. 09009, Economics Department, Iowa State University, June 2009.

- “DC Optimal Power Flow Formulation and Solution Using QuadProgJ” (with J. Sun), ISU Economics Working Paper No. 06014, Economics Department, Iowa State University, March 2006.
- “Non-Employment Benefits and the Evolution of Worker-employer Cooperation: Experiments with Real and Computational Agents” (with M. Pingle), ISU Economic Report 55, June 2001.
- “Gale-Shapley Matching in an Evolutionary Trade Network Game,” Economic Report No. 43, Iowa State University, April 1998.
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- “Inconsistency With Lump-Sum Taxes and Transfers: An Example,” Modelling Research Group Working Paper No. 8418, Department of Economics, University of Southern California, September 1984.
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## **PROFESSIONAL PRESENTATIONS:**

- “Stress Testing Institutional Arrangements via Agent-Based Modeling: Illustrative Results for U.S. Restructured Electric Power Markets,” Sloan Foundation, New York City, October 2, 2009.
- “Auction Basics for Wholesale Power Markets: Objectives and Pricing Rules,” Invited Paper, IEEE Power and Energy Society General Meeting, Calgary, CA, July 26-30, 2009.
- “The AMES Wholesale Power Market Test Bed: A Computational Laboratory for Research, Teaching, and Training,” Invited Paper, presented by co-author Hongyan Li, IEEE Power and Energy Society General Meeting, Calgary, CA, July 26-30, 2009.
- “Development of Open Source Software for Power Market Research: The AMES Test Bed,” Invited Paper, presented by co-author Hongyan Li, IEEE Power and Energy Society General Meeting, Calgary, CA, July 26-30, 2009.
- “Locational Marginal Pricing Basics for Restructured Wholesale Power Markets,” presented by co-author Haifeng Liu, IEEE Power and Energy Society General Meeting, Calgary, CA, July 26-30, 2009.
- Plenary Address: “From Human-Subject to Computational-Agent Experiments (and Everything In Between),” presented at the Economic Science Association (ESA) Meeting, George Mason University, June 25-28, 2009.
- “Agent-Based Computational Modeling and Macroeconomics,” Invited Paper, The Economic Crisis and its Implications for the Science of Economics, Perimeter Institute for Theoretical Physics, Waterloo, Ontario, CA, May 1-4, 2009.
- “Stress-Testing Institutional Arrangements via Agent-Based Modeling: Illustrative Results for U.S. Restructured Electric Power Markets,” Invited Paper, Interdisciplinary Center for Economic Science (ICES), George Mason University, Arlington, VA, April 3, 2009.
- “Scenario Generation for Price Forecasting in Restructured Wholesale Power Markets,” presented by co-author Qun Zhou, IEEE Power Systems Conference and Exposition, Seattle, WA, March 15-18, 2009.
- “Capacity Withholding in Restructured Wholesale Power Markets: An Agent-Based Test Bed Study,” presented by co-author Hongyan Li, IEEE Power Systems Conference and Exposition, Seattle, WA, March 15-18, 2009.
- “Dynamic LMP Response Under Alternative Price-Cap and Price-Sensitive Demand Scenarios,” presented by co-author Junjie Sun, Institute for Operations Research and Management Science (INFORMS), Washington DC, October 12-15, 2008.

- “Dynamic LMP Response Under Alternative Price-Cap and Price-Sensitive Demand Scenarios,” presented by co-author Hongyan Li, IEEE Power and Energy Society General Meeting, David L. Lawrence Convention Center, Pittsburgh, PA, July 21-24, 2008.
- “Dynamic Price Response Under Alternative Price-Cap and Price-Sensitive Demand Scenarios: Experimental Evidence from a Simulated Wholesale Electric Power Market,” presented by co-author Junjie Sun, North American Summer Meetings of the Econometric Society, Carnegie-Mellon University, June 19-22, 2008.
- “Dynamic LMP Response Under Alternative Price-Cap and Price-Sensitive Demand Scenarios” presented by co-author Junjie Sun, International Industrial Organization Conference (IIOC), Washington, D.C., May 16-18, 2008.
- “Agent-Based Modeling: A Bridge Between Games and the Social Sciences,” Workshop Sponsored by the Office of Precollegiate Programs for the Talented and Gifted (OPPTAG), Iowa State University, April 5, 2008.
- “Agent-Based Computational Economics and Behavioral Modeling: Potential Applications to Energy Science and Technologies” (with Bart Wilson), Symposium/Webcast, Department of Energy - National Renewable Energy Laboratory (DOE-NREL), Washington, D.C., February 22, 2008.
- “A Test Bed for the Integrated Experimental Study of Retail and Wholesale Power Market Designs: Seaming GridLab-D with AMES” (with Lynne Kiesling), Tele-Seminar and Webcast, sponsored by the Pacific Northwest National Laboratory (PNNL), February 15, 2008.
- “Agent-Based Test Beds for Power Industry Research, Teaching, and Training,” Tele-Seminar and Webcast, sponsored by the Power Systems Energy Research Center (PSERC), Cornell University, February 5, 2008.
- “Modeling Macroeconomies as Open-Ended Dynamic Systems of Interacting Agents” (presented by co-author Blake LeBaron), American Economic Association (AEA) Meeting, New Orleans, January 6, 2008.
- Plenary Address: “Agent-Based Test Beds for Critical Infrastructure Research, Teaching, and Training,” AGENT 2007, Northwestern University, November 17, 2007.
- “Modeling of Suppliers’ Learning Behaviors in an Electricity Market Environment” (with Nanpeng Yu and Chen-Ching Liu, presented by Nanpeng Yu), 14th International Conference on Intelligent Systems Applications to Power Systems (ISAP 2007), Kaohsiung, Taiwan, November 5, 2007.
- “Dynamic Testing of Wholesale Power Market Designs: An Agent-Based Computational Approach” (presented by co-author Junjie Sun), North American Summer Meetings of the Econometric Society, Duke University, Durham, NC, June 21-24, 2007.
- “Dynamic Testing of Wholesale Power Market Designs: An Agent-Based Computational Approach” (presented by co-author Junjie Sun), 13th International Conference on Computing in Economics and Finance, Society for Computational Economics (SCE), Montreal, Canada, June 14-16, 2007.
- “Open-Source Software for Power Industry Research, Teaching, and Training: A DC-OPF Illustration,” IEEE Power and Energy Society General Meeting, Tampa, Florida, June 24-28, 2007.
- “An Agent-Based Computational Laboratory for Wholesale Power Market Design,” IEEE Power and Energy Society General Meeting, Tampa, Florida, June 24-28, 2007.
- “Modeling Behavior, Learning, and Social Interactions in Dynamic Economic Contexts: An Agent-Based Computational Approach,” Center for the Advancement of Computational Research (CACR) Invited Lecture in Business, Miami University, Oxford, Ohio, April 20, 2007.
- “Dynamic Testing of Wholesale Power Market Designs: An Agent-Based Computational Approach” (presented by co-author Junjie Sun), 5th Annual International Industrial Organization Conference (IIOC), Savannah, Georgia, April 14-15, 2007.
- “Agent-Based Computational Economics: A Constructive Approach to Economic Theory,” Allied Social Science Associations (ASSA) Annual Meeting, Chicago, IL, January 5-7,

2007.

- “Agent-Based Test Beds for Market Design,” (presented by co-author Junjie Sun), Allied Social Science Associations (ASSA) Annual Meeting, Chicago, IL, January 5-7, 2007.
- “Dynamic Testing of Wholesale Power Market Designs: An Agent-Based Computational Approach” (presented by co-author Junjie Sun), Institute for Operations Research and Management Science (INFORMS) annual meeting, Pittsburgh, PA, November 5-8, 2006.
- “Market Design Test Environments” (presented by co-author Steven Widergren), IEEE Power and Energy Society General Meeting, Montreal, Canada, June 2006.
- Plenary Address: “Agent-Based Computational Economics: A Constructive Approach to Economic Theory,” Computing in Economics and Finance 2006 (CEF’2006), Society for Computational Economics, Limassol, Cyprus, June 23, 2006.
- “Testing the Efficiency and Reliability Impacts of MISO’s Midwest Market Initiative: An Agent-Based Computational Approach,” presented at the Forty-Third Annual Meeting of the Electric Power Research Center (Power Affiliate Research Program), Scheman, Iowa State University, May 10, 2006.
- “Testing the Efficiency and Reliability Impacts of MISO’s Midwest Market Initiative: An Agent-Based Computational Approach,” presented to a joint meeting of the Iowa Utilities Board and NSF/EPRC energy project groups, Iowa State University, April 21, 2006.
- “Introduction to Agent-Based Computational Economics,” Invited Lecture, CAS 503, Iowa State University, April 17, 2006.
- “Dynamic Testing of Wholesale Power Market Designs: An Agent-Based Computational Approach,” 2006 International Industrial Organization Conference, Boston, MA, April 7-9, 2006.
- “Testing the Reliability of Wholesale Power Market Designs: An Iterative Participatory Modeling Approach,” Plenary Panel Address, NSF-DDDAS Workshop, National Science Foundation, Washington D.C., January 19-20, 2006.
- “Market Design as Social Policy: An Agent-Based Modeling Approach,” Conference-Call Presentation, National Research Council Committee on Organizational Modeling from Individuals to Societies, National Academies of Science Keck Building, Washington D.C., July 6, 2005.
- Plenary Address: “Market Design as Social Policy: An Agent-Based Modeling Approach,” Workshop on Agent-Based Models for Economic Policy Design (ACEPOL05), Center for Interdisciplinary Research, Department of Economics, University of Bielefeld, Germany, July 1, 2005.
- “Agent-Based Computational Laboratories for the Experimental Study of Complex Economic Systems,” Invited Address, Special Session on Teaching Economics on a Computer, 11th International Conference on Computing in Economics and Finance (CEF2005), Society for Computational Economics, Washington, D.C., June 24, 2005.
- “An Agent-Based Computational Laboratory for Testing the Economic Reliability of Wholesale Power Market Designs,” Market Design Session, 11th International Conference on Computing in Economics and Finance (CEF2005), Society for Computational Economics, Washington, D.C., June 23, 2005.
- “An Agent-Based Computational Laboratory for Testing the Economic Reliability of Wholesale Power Market Designs,” Invited Address, Panel Session on Economic Agents for Power Market Simulation, IEEE Power and Energy Society General Meeting, San Francisco, California, June 14, 2005.
- “Agent-Based Electricity Market Design: Operational Validation Issues,” Workshop on Empirical Agent-Based Modeling, Indiana University, Bloomington, June 3, 2005.
- “Testing the Economic Reliability of FERC’s Wholesale Power Market Platform: An Agent-Based Computational Approach,” Department of Electrical and Computer Engineering, Iowa State University, March 29, 2005.

- “Multi-Agent Learning in Dynamic Exchange Contexts,” Learning in Exchange Workshop, Department of Economics, George Mason University, March 7, 2005.
- “Modeling Decentralized Market Economies as Distributed Local-Interaction Systems: An Agent-Based Approach,” No Free Lunch (NFL) Workshop, Department of Economics, ISU, November 12, 2004.
- “A Computational Laboratory for Pre-Testing the Reliability of Restructured Wholesale Power Markets” (presented by co-author D. Koesrindartoto), Institute for Operations Research and Management Science (INFORMS) Annual Meeting, Denver, CO, October 2004.
- “Testing the Reliability of FERC’s Wholesale Power Market Platform: An Agent-Based Computational Economics Approach” (co-presented with D. Koesrindartoto), 24th USAEE/IAEE North American Conference, Washington, D.C., July 8-10, 2004.
- “Agent-Based Computational Economics: A Constructive Approach to Economic Theory,” ACE Handbook Workshop, University of Michigan, Ann Arbor, MI, May 21-23, 2004.
- “Labor Institutions and Macroeconomic Performance: An Agent-Based Computational Economics Approach,” Midwest Macroeconomics Association Meeting, Iowa State University, May 15-17, 2004.
- “Using Agent-Based Computational Laboratories for the Experimental Study of Complex Economic Processes: Research and Pedagogy,” Iowa Economists Meeting, Iowa State University, May 15, 2004.
- “Agent-Based Computational Economics: A Constructive Approach to Economic Theory,” Workshop on Post-Walrasian Economics, Middlebury College, Middlebury, Vermont, May 1-2, 2004.
- “Electricity Market Design: An Agent-Based Computational Economics Approach,” No Free Lunch (NFL) Workshop, Economics Department, ISU, April 9, 2004.
- “Computational Laboratories for the Experimental Exploration of Complex System Behaviors” (with C. Cook), Case Studies in Online Learning Colloquium, Iowa State University, April 5, 2004.
- “CAS 503 Lecture Series on ACE,” 10-11am, 1034 Black Engineering, Iowa State University, March 1, 3, and 5, 2004.
- “Electricity Market Design: An Agent-Based Computational Economics Approach” (with D. Koesrindartoto), Complex Adaptive Systems Seminar, Iowa State University, December 8, 2003.
- “Testing the Reliability of FERC’s Wholesale Power Market Platform: An Agent-Based Computational Economics Approach” (with D. Koesrindartoto), IMA Hot Topics Workshop on Agent-Based Modeling and Simulation, Institute for Mathematics and its Applications (IMA), University of Minnesota, November 3, 2003.
- “Electricity Market Design: An Agent-Based Computational Economics Approach,” sponsored by the James Franck Institute (Computations in Science Distinguished Lecture Series), University of Chicago, and the Argonne National Laboratory, Chicago, October 29, 2003.
- “Agent-Based Computational Economics: Virtual Economic Reality,” sponsored by the Computation Institute (CSPP Distinguished Lecture Series) and the James Franck Institute (Computations in Science Distinguished Lecture Series), University of Chicago, October 28, 2003.
- “Agent-Based Computational Economics: A Constructive Approach to Economic Theory,” sponsored by the Computation Institute (CSPP Distinguished Lecture Series) and the James Franck Institute (Computations in Science Distinguished Lecture Series), University of Chicago, October 27, 2003.
- Plenary Address: “Labor Institutions and Market Performance,” Workshop in Industry and Labor Dynamics: The Agent-Based Computational Economics Approach (WILD@ACE), Moncalieri, Italy, organized jointly by the LABORatorio Riccardo Revelli (Centre for Employment Studies, Real Collegio Carlo Alberto, Moncalieri),

- the Department of Economics of the University of Turin, and the Social Interaction and Computing Group (SIEC) of Ancona, October 4, 2003.
- “Evolution of Worker-Employer Networks and Behaviors Under Alternative Non-Employment Benefits: An Agent-Based Computational Study” (presented by Leigh Tesfatsion, joint work with Mark Pingle), Society of Computational Economics, Ninth International Conference on Computing in Economics and Finance, University of Washington, Seattle, July 12, 2003.
- “Evolution of Worker-Employer Networks and Behaviors Under Alternative Non-Employment Benefits: An Agent-Based Computational Study” (presented by Leigh Tesfatsion, joint work with Mark Pingle), Summer 2003 Econometric Society Meetings, Northwestern University, Evanston, IL, June 28, 2003.
- “Agent-Based Computational Economics: Modeling Economies as Complex Adaptive Systems,” Complex Adaptive Systems Seminar, Harvard University, Cambridge, MA, April 7, 2003.
- “Evolution of Worker-Employer Networks and Behaviors Under Alternative Non-Employment Benefits: An Agent-Based Computational Study” (presented by Leigh Tesfatsion, joint work with Mark Pingle), Human Resources Workshop, Department of Economics, Iowa State University, December 5, 2002.
- “Agent-Based Computational Economics: Growing Economies from the Bottom Up,” Computations in Science Distinguished Lecture Series, James Franck Institute, University of Chicago, May 22, 2002.
- “Non-employment Benefits and the Evolution of Worker-Employer Cooperation: Experiments with Real and Computational Agents” (presented by Leigh Tesfatsion, joint work with Mark Pingle), UCLA Computational Social Sciences Conference, Lake Arrowhead, California, May 10, 2002.
- Plenary/Keynote Address: “Agent-Based Computational Economics: Modeling Economies as Complex Adaptive Systems,” Plenary address, Sixth Joint Conference on Information Sciences (JCIS’2002), co-listed as the Keynote Address for the Second International Workshop on Computational Intelligence in Economics and Finance (CIEF’2002), Raleigh, North Carolina, March 10, 2002.
- “Economic Markets and Agents as Emergent Phenomena: Discussion,” National Academy of Sciences Sackler Colloquium on *Adaptive Agents, Intelligence, and Emergent Human Organization: Capturing Complexity Through Agent-Based Modeling*, The Beckman Center, Irvine, California, October 4-6, 2001.
- “Non-employment Benefits and the Evolution of Worker-Employer Cooperation: Experiments with Real and Computational Agents” (presented by co-author Mark Pingle), 7th International Conference of the Society for Computational Economics (SCE), *Computing in Economics and Finance*, Yale University, June 28-29, 2001.
- “Non-employment Benefits and the Evolution of Worker-Employer Cooperation: Experiments with Real and Computational Agents” (presented by co-author Mark Pingle), Biennial Conference: Society for Advancement of Behavioral Economics (SABE), *Applied Behavioral Economics: Can It Improve Decisions and Policies?*, Center for Economic Research, Department of Economics, George Washington University, Washington D. C., June 11-12, 2001.
- “A Computational Laboratory for Evolutionary Trade Networks: Presentation and Demonstration,” Colloquium, Computer Science Department, Iowa State University, November 9, 2000.
- “A Computational Laboratory for Evolutionary Trade Networks,” Complex Adaptive Systems Workshop, Iowa State University, September 15, 2000.
- “Concentration and Capacity Effects on Electricity Market Power” presented (with V. Petrov) at the Congress on Evolutionary Computation (CEC’2000), San Diego, CA, July 16-19, 2000.
- “Structure, Behavior, and Market Power in an Evolutionary Labor Market with Adaptive Search,” presented at the Congress on Evolutionary Computation (CEC’2000), San

- Diego, CA, July 16-19, 2000.
- “Agent-Based Computational Economics: Growing Economies from the Bottom Up,” presented at the UCLA Center for Computational Social Science, May 4-6, 2000.
- “Agent-Based Computational Economics: Growing Economies from the Bottom Up,” Internet-based presentation to the NSF-sponsored Industry University Cooperative Research Center PSerc (Power Systems Energy Research Council) whose members include electric power research groups at ISU, Cornell University, University of Illinois, University of Wisconsin at Madison, Berkeley, and Washington State University, April 25, 2000.
- “Structure, Behavior, and Market Power in an Evolutionary Labor Market with Adaptive Search,” presented at the Midwest Macroeconomics Conference, University of Iowa, April 14, 2000.
- “Agent-Based Computational Economics: Growing Economies from the Bottom Up,” Keynote Address, First International Workshop on Computational Intelligence in Economics and Finance, Atlantic City, New Jersey, February 28, 2000.
- “The Trade Network Game: A Computational Laboratory for the Study of Agent-Based Markets,” Seminar Series on Complexity and its Business Applications, University of Iowa, November 5, 1999.
- “Complex Adaptive Systems: A Test of the Hypothesis ‘You Know One When You See One,’” CAS Workshop, ISU, October 27, 1999.
- “Agent-Based Computational Economics: A Tutorial” (with D. McFadzean), Genetic and Evolutionary Computation Conference (GECCO’99), Orlando, Florida, July 12-July 18, 1999.
- “Market Power Effects on Worker-Employer Network Formation in Evolutionary Labor Markets with Adaptive Search,” Society for Computational Economics, 5th Conference, Boston College, June 24-June 26, 1999.
- “Market Power Effects in Evolutionary Labor Markets with Adaptive Search,” Macro Workshop, Department of Economics, ISU, April 22, 1999.
- “Further Results on Evolutionary Labor Markets with Adaptive Search,” CAS Workshop, ISU, April 21, 1999.
- “Agent-Based Computational Economics: Growing Economies from the Bottom Up,” Invited Colloquium, Indiana University, sponsored by the Workshop in Political Theory and Policy Analysis, April 6, 1999.
- “Agent-Based Computational Economics: Growing Economic Systems from the Bottom Up,” presented at the 45th North American Meetings of the Regional Science Association International (RSAI), Santa Fe, New Mexico, November 13, 1998.
- “Contractual Network Formation in Evolutionary Labor Markets with Adaptive Search,” Complex Adaptive Systems Workshop, Iowa State University, Ames, Iowa, October 30, 1998.
- “Testing for Structure, Behavior, and Performance Correlations in Evolutionary Labor Markets with Adaptive Search,” presented at the Computation in Economics and Finance Conference (CEF’98), Cambridge University, England, July 1, 1998.
- “Agent-Based Computational Economics: A Tutorial,” presented at the Computation in Economics and Finance Conference (CEF’98), Cambridge University, England, June 29, 1998.
- “Gale-Shapley Matching in an Evolutionary Trade Network Game,” presented at the Agents, Alife, and Computational Economics Workshop, Hewlett-Packard Laboratories, Bristol, England, June 24, 1998.
- “Gale-Shapley Matching in an Evolutionary Trade Network Game,” presented at the Public Economic Conference, University of Alabama, May 26, 1998.
- “Gale-Shapley Matching in an Evolutionary Trade Network Game,” presented to the Department of Economics, University of Oregon, May 7, 1998.
- “Agent-Based Computational Economics: Growing Economic Systems From the Bottom Up,” presented to the Institute for Cognitive and Decision Sciences, University of

- Oregon, May 4, 1998.
- “Preferential Partner Selection in Evolutionary Labor Markets: A Study in Agent-Based Computational Economics,” presented at the Seventh Annual Conference on Evolutionary Programming, San Diego, March 24-27, 1998.
  - “An Agent-Based Computational Model for the Evolution of Trade Networks,” Third International Conference on Computing in Economics and Finance, Hoover Institution, Stanford University, July 1, 1997.
  - “An Agent-Based Computational Model for the Evolution of Trade Networks” (presented jointly with D. McFadzean), Sixth International Conference on Evolutionary Programming, Indianapolis, April 14, 1997.
  - “A C++ Platform for the Evolution of Trade Networks,” ISU Alife Workshop, February 11, 1997.
  - “A C++ Platform for the Evolution of Trade Networks,” UCLA Conference on Computable Economics, Los Angeles, February 8, 1997.
  - “A C++ Platform for the Evolution of Trade Networks,” American Economic Association Meetings, New Orleans, January 4, 1997.
  - “A C++ Platform for the Evolution of Trade Networks,” Cooperative Game Seminar Series, Department of Economics, ISU, December 11, 1996.
  - “An Evolutionary Trade Network Game with Preferential Partner Selection,” Second International Conference on Computational Economics, University of Geneva, Switzerland, June 25, 1996.
  - “A C++ Platform for the Evolution of Trade Networks,” Second International Conference on Computational Economics, University of Geneva, Switzerland, June 25, 1996.
  - “A C++ Platform for the Evolution of Trade Networks,” Department of Economics, University of Trento, Italy, June 20, 1996.
  - “An Evolutionary Trade Network Game with Preferential Partner Selection,” Institute for Cognitive and Decision Sciences, University of Oregon, May 20, 1996.
  - “An Evolutionary Trade Network Game with Preferential Partner Selection,” Fifth Annual Conference on Evolutionary Programming, San Diego, California, February 29, 1996.
  - “An Evolutionary Trade Network Game with Preferential Partner Selection,” UCLA Economic Simulation Conference, Los Angeles, February 9, 1996.
  - “An Evolutionary Trade Network Game with Preferential Partner Selection,” Annual Meetings of the Allied Social Science Associations, San Francisco, January 7, 1996.
  - “Tradebots and Trade Networks,” ISU Alife Workshop, October 27, 1995.
  - “How Economists Can Get Alife,” Macroeconomics Seminar, ISU Department of Economics, October 26, 1995.
  - “A Trade Network Game with Endogenous Partner Selection,” Economic Science Association Meeting, Tucson, Arizona, October 13-15, 1995.
  - “How Economists Can Get Alife,” SFI Conference: The Economy as a Complex Evolving System II, Santa Fe, New Mexico, August 26-September 1, 1995.
  - “A Trade Network Game with Endogenous Partner Selection,” First Economic Alife Conference, Santa Fe Institute, Santa Fe, New Mexico, May 26-29, 1995.
  - “A Trade Network Game with Endogenous Partner Selection,” First International Conference of the Society on Computational Economics, University of Texas, Austin, May 21-24, 1995.
  - “A Trade Coalition Game with Preferential Partner Selection,” Department of Economics, University of Oregon, April 7, 1995.
  - “A Trade Coalition Game with Preferential Partner Selection,” Department of Economics, Simon Fraser University, April 5, 1995.
  - “A Trade Coalition Game with Preferential Partner Selection,” ISU Alife Workshop, March 31, 1995.
  - “Building a C++ Platform for Alife Simulations,” ISU Alife Workshop, February 10, 1995.
  - “The Meaning of Rationality in Evolutionary Game Contexts,” ISU Alife Workshop, December 2, 1994.

- “Dynamic Estimation as an Approximate Reasoning Problem,” Mathematics Colloquium, Department of Mathematics, ISU, August 30, 1994.
- “Evolutionary Iterated Prisoner’s Dilemma with Choice and Refusal of Partners,” ISU Alife Workshop, August 3, 1994.
- “Evolutionary Iterated Prisoner’s Dilemma with Preferential Partner Matching,” 1994 Summer Econometric Society Meeting, Universite Laval, Quebec City, June 26, 1994.
- “Active Intermediation in a Monetary Overlapping Generations Economy,” 1994 Decentralization Conference, University of Toronto, April 14-17, 1994.
- “On Selten’s ‘Evolution, Learning, and Economic Behavior’,” ISU Alife Workshop, Iowa State University, April 8, 1994.
- “Human Capital Investment and the Locally Rational Child,” Winter 1994 Econometric Society Meeting, Boston, Massachusetts, January 3, 1994.
- “Evolution of Strategies for Multiagent Environments,” ISU Alife Workshop, November 12, 1993.
- “A Multicriteria Approach to Model Specification and Estimation,” Department of Statistics, Iowa State University, November 3, 1993.
- “Evolutionary Iterated Prisoner’s Dilemma with Choice and Refusal of Partners,” Economic Science Association, Tucson, Arizona, October 23, 1993.
- “What are Evolutionary Algorithms (and Why Should Social Scientists Care)?”, ISU Alife Workshop, September 24, 1993.
- “An Evolutionary Iterated Prisoner’s Dilemma Game with Choice and Refusal of Partners” (with D. Ashlock and E. Ann Stanley), Santa Fe Institute, August 2, 1993.
- “An Evolutionary Iterated Prisoner’s Dilemma Game with Choice and Refusal of Partners” (with D. Ashlock and A. Stanley), Los Alamos National Laboratory, Los Alamos, New Mexico, July 29, 1993.
- “Iterated Prisoner’s Dilemma with Choice and Refusal of Partners,” presented (with D. Ashlock and A. Stanley), ISU Alife Workshop, February 5 and February 11, 1993.
- “Iterated Prisoner’s Dilemma with Choice and Refusal of Partners,” presented (with A. Stanley) at the Math Biology Workshop, Department of Mathematics, Iowa State University, September 30, 1992.
- “Multicriteria Estimation,” Midwest Econometrics Group, Federal Reserve Bank of Minneapolis, Minneapolis, MN, September 12, 1992.
- “Iterated Prisoner’s Dilemma with Choice and Refusal of Partners,” presented (with D. Ashlock) at the Artificial Life III Conference, sponsored by the Santa Fe Institute, Sweeney Center, Santa Fe, New Mexico, June 15, 1992.
- “Nonlinear Estimation by Linear Associative Memories,” presented at the American Economic Association Meeting in New Orleans, January 7, 1992.
- “Obtaining Initial Parameter Estimates for Nonlinear Systems Using Multicriteria Associative Memories,” Department of Statistics, Iowa State University, Ames, Iowa, October 16, 1991.
- “Obtaining Initial Parameter Estimates for Nonlinear Systems Using Multicriteria Associative Memories,” Midwest Econometrics Group, University of Notre Dame, Southbend, Indiana, September 15, 1991.
- “Intermediation, Bubbles, and Pareto Efficiency in Economies With Production,” Theory Seminar, Department of Economics, University of Iowa, April 1, 1991.
- “Intermediation, Bubbles, and Pareto Efficiency in Economies With Production,” Mathematical Economics and Dynamical Systems Session, American Mathematical Society Meeting, South Bend, Indiana, March 15, 1991.
- “Automatic Evaluation of Higher-Order Partial Derivatives for Nonlocal Sensitivity Analysis,” SIAM Workshop on Automatic Differentiation, Breckenridge, Colorado, January 7, 1991.
- “Obtaining Initial Parameter Estimates for Nonlinear Systems Using Multicriteria Associative Memories,” Neural Network Seminar, Computer Science Department, Iowa State University, Ames, Iowa, December 5, 1990.

- “Linear and Nonlinear Associative Memories for Parameter Estimation,” Eleventh Annual Conference of the Society for Economic Dynamics and Control, University of Minnesota, St. Paul Campus, June 28-30, 1990.
- “Solving Nonlinear Equations By Adaptive Homotopy Continuation,” Midwest Mathematical Economics Conference, Indiana University, Indiana, May 12, 1990.
- “Analysis of Experimental Data Using Flexible Least Squares” (with John Veitch), Fifth Annual Tax Research Symposium, Sponsored by the Center for Accounting Research, and Deloitte and Touche, Sheraton at Redondo Beach, California, Jan 19, 1990.
- “A Multicriteria Approach to Dynamic Estimation, Econometric Society Meeting, Atlanta, Georgia, Dec 28, 1989.
- “Restoring the First Welfare Theorem for Overlapping Generations Economies” (with M. Pingle), Econometric Society Meeting, Atlanta, Georgia, Dec 30, 1989.
- “A Multicriteria Approach to Dynamic Estimation,” Econometrics Seminar, Olin School of Business, Washington University, Nov 8, 1989.
- “Overlapping Generations and the First Welfare Theorem,” Theory Seminar, Iowa State University, Nov 6, 1989.
- “Overlapping Generations and the First Welfare Theorem,” Theory Seminar, University of California at San Diego, Nov 1, 1989.
- “A Multicriteria Approach to Dynamic Estimation,” International Symposium on Evolutionary Dynamics and Nonlinear Economics, *IC<sup>2</sup>* Institute, Austin, Texas, April 16-19, 1989.
- “An Organizing Principle for Dynamic Estimation,” Workshop on Econometric Estimation and Inference for Nonlinear Dynamic Macroeconomic Models, University of Southern California, Los Angeles, California, April 7-9, 1989.
- “U.S. Money Demand Instability: A Flexible Least Squares Approach,” Macroeconomics Seminar, Finance Department, University of Southern California, Nov 17, 1988.
- “Pareto-Efficiency of Competitive Equilibria in Overlapping Generations Models,” Summer Workshop of the IMSSS, Stanford, CA, Aug 18, 1988.
- “Money Demand Instability: A Flexible Least Squares Approach” (with John Veitch), Tenth Annual Conference of the Society for Economic Dynamics and Control, Arizona State University, Tempe, Arizona, March 9-11, 1988.
- “Time-Varying Regression Via Flexible Least Squares,” Department of Economics, University of Arizona, Tucson, Jan 22, 1988.
- “Time-Varying Regression Via Flexible Least Squares,” Ninth Annual Conference of the Society for Economic Dynamics and Control, Boston College, Chestnut Hill, Massachusetts, June 25, 1987.
- “Pareto-Efficiency of Stationary Competitive Equilibria in Overlapping Generation Economies,” Theory Workshop, UCLA, Los Angeles, California, May 28, 1987.
- “Sequential Nonlinear Estimation With Nonaugmented Priors,” Department of Agricultural Economics, University of California at Berkeley, Berkeley, California, April 24, 1987.
- “Exact Sequential Filtering, Smoothing, and Prediction for Nonlinear Systems,” Econometric Society Meeting, Duke University, Durham, North Carolina, June 25, 1986.
- “New Computer Methods for Nonlocal Comparative Statics and Analytical Higher-Order Partial Differentiation,” Fifth World Congress of the Econometric Society, Cambridge, Massachusetts, Aug 17-24, 1985.
- “The Inconsistency of Benevolent Government Economies,” Econometric Society Meeting, Stanford University, Stanford, California, June 29, 1984.
- “The Inconsistency of Benevolent Government Economies,” Society for Economic Dynamics and Control Conference, Nice, France, June 13, 1984.
- “Fair Division With Uncertain Needs and Tastes,” Public Economics Workshop, Department of Economics, University of Wisconsin, Madison, March 26, 1984.
- “The Inconsistency of Benevolent Government Economies,” Economic Theory Seminar, University of Texas at Austin, Jan 27, 1984.

- “The Inconsistency of Benevolent Government Economies,” Economic Theory Workshop, University of Wisconsin, Madison, Dec 19, 1983.
- “The Inconsistency of Benevolent Government Economies,” Economic Theory Seminar, University of Toronto, Canada, Jan 4, 1983.
- “The Inconsistency of Benevolent Government Economies,” Monetary Economics Workshop, Department of Economics, UCLA, Los Angeles, Oct 4, 1982.
- “Welfare Implications of Net Social Security Wealth,” Econometric Society Meeting, Cornell University, Ithaca, New York, June 18, 1982.
- “A Stability Theorem for Symmetrically Rational Counterplanning,” Game Theory Seminar, Department of Economics, Harvard University, March 10, 1982.
- “Macro Implications of Government Redistributive Tax-Transfer Policies,” Economic Theory Seminar, SUNY Stony Brook, New York, Nov 19, 1981.
- “Distribution and Competitive Equilibria in a Heterogeneous Overlapping Generations Model,” Econometric Society Meetings, UC San Diego, June 23-26, 1981.
- “Macro Implications of Government Redistributive Tax-Transfer Policy in a Heterogeneous Overlapping Generations Model,” Economic Theory Seminar, UC San Diego, April 15, 1981.
- “Planning Horizon Specification for a Class of Dynamic Investment Problems,” 19th IEEE Conference on Decision and Control, Albuquerque, New Mexico, Dec 10-12, 1980.
- “An Exact Sequential Solution Procedure for a Class of Nonlinear Econometric Estimation Problems with Systematically Varying Parameters,” Session on Advances in Estimating Econometric Relationships, Econometric Society Meeting, Denver, Colorado, Sept 5-7, 1980.
- “A Least-Squares Model Specification Test for a Class of Dynamic Nonlinear Economic Models with Systematically Varying Parameters,” Research Seminar, Federal Reserve Bank of Minneapolis, Minnesota, May 14, 1980.
- “Criterion Decomposition for the Myopic Sequential Control of Uncertain Systems,” Systems Session, 13th Annual Asilomar Conference on Circuits, Systems, and Computers, Pacific Grove, California, Los Angeles, Nov 5-7, 1979.
- “Macroeconomic Policy Modelling and Adaptive Control,” AFOSR Workshop on Adaptive Control, Coordinated by J. B. Cruz, Jr., University Inn, Champaign, Illinois, May 8-10, 1979.
- “Time-Horizon Sensitivity Study for a General Stochastic Resource Allocation Model,” Workshop in Mathematical Economic Theory and Econometrics, UCLA, Los Angeles, California, Nov 30, 1978.
- “Criterion Filtering Methods for Adaptive Control,” Adaptive Control Session, 12th Annual Asilomar Conference on Circuits, Systems, and Computers, Pacific Grove, California, Nov 6-8, 1978.
- “A Dual Approach to Bayesian Statistical Inference and Adaptive Control Theory,” 17th NBER-NSF Seminar on Bayesian Inference in Econometrics, University of Michigan, Ann Arbor, Nov 3-4, 1978.

## **OTHER PROFESSIONAL SERVICE PARTICIPATIONS:**

- Session Organizer, IEEE Power and Energy Society General Meeting, Calgary, CA, July 2009.
- Participant, ISU Electric Power Research Center Meeting, Iowa State University, May 13-14, 2009.
- Session Co-Organizer, IEEE Power and Energy Society General Meeting, Pittsburgh, PA, June 2008.
- Participant, Power Systems Engineering Research Center (PSERC) Meeting, Iowa State University, May 14-16, 2008.

Participant, ISU Electric Power Research Center Meeting, Iowa State University, May 12-13, 2008.

Program Coordinator, 13th International Conference on Computation in Economics and Finance (CEF'2007), Montreal, Canada, June 2007.

International Program Committee Member and Session Organizer, Second International Conference on Artificial Economics, Aalborg, Denmark, September 2006.

Co-Director, VII Trento Summer School, Intensive Course on Agent-Based Computational Economics, Sardagna-Trento, Italy, July 3-21, 2006.

International Program Committee Member and Session Organizer for the ACE Special Interest Group, Twelfth International Conference on Computation in Economics and Finance (CEF'2006), Amathus Beach Hotel, Limassol, Cyprus, June 22-25, 2006.

Participant, Sixth Task Force Meeting, National Research Council Committee on Organizational Modeling from Individual to Societies, National Academies of Science, Jonsson Center, Woods Hole, Massachusetts, May 31-June 2, 2006.

Participant, Fifth Task Force Meeting, National Research Council Committee on Organizational Modeling from Individual to Societies, National Academies of Science Keck Building, Washington, D.C., March 3-4, 2006.

Participant, Fourth Task Force Meeting, National Research Council Committee on Organizational Modeling from Individual to Societies, National Academies of Science Beckmann Center, Irvine, California, December 9-10, 2005.

Participant, Third Task Force Meeting, National Research Council Committee on Organizational Modeling from Individual to Societies, National Academies of Science Keck Building, Washington, D.C., September 8-10, 2005.

Participant, Second Task Force Meeting, National Research Council Committee on Organizational Modeling from Individual to Societies, National Academies of Science Keck Building, Washington, D.C., July 6-8, 2005.

Participant, First Task Force Meeting, National Research Council Committee on Organizational Modeling from Individual to Societies, National Academies of Science Keck Building, Washington, D.C., April 25-26, 2005.

Participant, Workshop on Power Systems and LMP Fundamentals, sponsored by the ISO-New England, Inc., Hyatt Regency, Boston, MA, November 15-16, 2004.

International Program Committee Member and Session Organizer for the ACE Special Interest Group, Tenth International Conference on Computation in Economics and Finance (CEF'2004), Amsterdam, the Netherlands, July 8-10, 2004.

International Program Committee Member and Session organizer for the ACE Special Interest Group, Ninth International Conference on Computation in Economics and Finance (CEF'2003), University of Washington, Seattle, July 11-13, 2003.

Eighth Annual Power Research Conference, Center for the Study of Energy Markets, University of California at Berkeley, March 14, 2003.

International Program Committee Member and Session Organizer for the ACE Special Interest Group, Eighth International Conference on Computation in Economics and Finance (CEF'2002), Aix-en-Provence, June 27-29, 2002.

International Program Committee Member, 2002 Congress on Evolutionary Computation (CEC'2002), Honolulu, Hawaii, May 12-17, 2002.

International Program Committee Member and Session Organizer for the ACE Special Interest Group, Seventh International Conference on Computation in Economics and Finance (CEF'2001), Yale University, June 24-28, 2001.

International Program Committee Member and Session Organizer, 2000 Congress on Evolutionary Computation (CEC'2000), La Jolla Marriott Hotel, La Jolla, CA, 16-19 July 2000.

International Program Committee Member and Session Organizer for the ACE Special Interest Group, Sixth International Conference on Computation in Economics and Finance (CEF'2000), Barcelona, Spain, July 6-8, 2000.

International Program Committee Member and Session Organizer for the ACE Special Interest Group, Fifth International Conference on Computation in Economics and Finance (CEF'99), Boston College, Boston, June 24-26, 1999.

International Program Committee Member, Congress on Evolutionary Computation (CEC'99), Washington D.C., July 6-9, 1999.

Participant, Panel on Evolutionary Economics, Seventh Annual Conference on Evolutionary Programming, San Diego, March 24-27, 1998.

International Program Committee Member and Session Organizer, Symposium on Computation in Economics, Finance, and Engineering: Economic Systems, Cambridge, UK, June 29-July 1, 1998. Organizer of a coordinated track of five workshop sessions on agent-based computational economics (ACE).

Program Committee Member, Seventh Annual Conference on Evolutionary Programming, San Diego, March 25-27, 1998.

Program Committee Member and Session Organizer, Third International Conference on Computation in Economics and Finance (CEF'97), Stanford University, June 30-July 2, 1997. Organizer of two contributed paper sessions on agent-based computational economics (ACE) plus a special post-conference ACE meeting.

Program Committee Member and Session Organizer, Sixth Annual Conference on Evolutionary Programming, Indianapolis, April 1997. Organizer of a special invited paper session on "The Evolution of Social Systems."

Session Organizer, Second International Conference on Computation in Economics and Finance (CEF'96), Geneva, Switzerland, June 26-28, 1996. Organizer of a contributed paper session on "The Evolution of Markets" and a special satellite session on agent-based computational economics.

Visiting Research Scholar, Computable Economics Group, Department of Economics, University of Trento, Italy, June 15-25, 1996.

Artificial Life IV Conference, MIT, July 5-8, 1994.

Program Committee Member and Session Organizer, 1994 Summer Econometric Society Meeting, Quebec, June 24-28. Organizer of three contributed paper sessions on "Self-Organization and Emergent Behavior."

Session Organizer, American Economic Association Meetings, Anaheim, January 4-7, 1993. Co-organized three contributed paper sessions on financial markets and monetary theory,

Mid-West Mathematical Economics Meeting, University of Illinois, Champaign, Illinois, November 9-11, 1990.

Co-chair, Program Committee, Tenth Annual Conference of the Society for Economic Dynamics and Control, Arizona State University, Tempe, Arizona, March 9-11, 1988.

Applied General Equilibrium Workshop, National Bureau of Economic Research, Stanford, California, May 1-2, 1987.

Workshop on Cooperative Games and Distributive Justice, Virginia Polytechnic Institute, Blacksburg, Virginia, June 18-23, 1986.

Applied General Equilibrium Workshop, National Bureau of Economic Research, Stanford, California, April 18-19, 1986.

#### **OTHER PROFESSIONAL ACTIVITIES:**

Member: Society for Computational Economics (SCE); Econometric Society; American Economic Association (AEA); Committee for the Status of Women in the Economics Profession (CSWEP), IEEE Power and Energy Society.

Referee for: *Journal of Mathematical Economics*, *Review of Economic Studies*, *International Economic Review*, *American Journal of Agricultural Economics*, *National Science Foundation*, *Journal of the American Statistical Association*, *IEEE Transactions on Automatic Control*, *Economic Inquiry*, *Bell Journal of Economics*,

*Applied Mathematics and Computation, Journal of Econometrics, Journal of Economic Behavior and Organization, Journal of Economic Dynamics and Control, Journal of Public Economics, Journal of Economic Theory, Automatica, Econometrica, Journal of Political Economy, SIAM Journal on Scientific and Statistical Computing, Optimal Control, Economic Theory, Southern Economic Journal, SIAM Proceedings, Neural Computation, American Economic Review, Scandinavian Journal of Economics, SIAM Journal of Optimization, Journal of Forecasting, Computational Economics, Games and Economic Behavior, Psychological Review, IEEE Transactions on Evolutionary Computation, Complexity, Journal of Economic Growth, Journal of Economic Literature, Journal of Public Economic Theory, Environment and Planning, Journal of Applied Econometrics, Energy Journal, Austrian Science Fund, Energy Economics, European Transactions on Electrical Power, IEEE Transactions on Power Systems, Journal of Energy Markets, Journal of Economic Interaction and Coordination*