

JOHN DUFFY

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EDUCATION

Ph.D., Economics, University of California, Los Angeles, 1992.

M.A., Economics, University of California, Los Angeles, 1988.

A.B., Economics, with High Honors, University of California, Berkeley, 1986, Φ BK.

PROFESSIONAL POSITIONS

University of California, Irvine
Professor of Economics, 2014-present.

University of Pittsburgh
Professor of Economics, 2004-2014; Associate Professor of Economics, 1999-2004;
Assistant Professor of Economics, 1992-1999.

Monash University
Distinguished Visiting Professor, Economics Department, Spring 2013.

Carnegie-Mellon University
Visiting Professor, Social and Decision Sciences, Fall 2007.

Federal Reserve Bank of St. Louis
Visiting Scholar, Research Department, Spring 1998.

PUBLICATIONS

A. Journal Articles

1. "Equilibrium Selection in Similar Repeated Games: Experimental Evidence on the Role of Precedents," with Dietmar Fehr, forthcoming in *Experimental Economics*
2. "Learning Correlated Equilibria: An Evolutionary Approach," with Jasmina Arifovic and Joshua F. Boitnott, forthcoming in *Journal of Economic Behavior and Organization*.
3. "Coordination via Correlation: An Experimental Study," with Ernest K. Lai and Wooyoung Lim, forthcoming in *Economic Theory*.
4. "Stochastic Asymmetric Blotto Games: An Experimental Study," with Alexander Matros, *Journal of Economic Behavior and Organization*, 139, 2017, 88-105.
5. "Voting with Endogenous Information Acquisition: Experimental Evidence," with Sourav Bhattacharya and SunTak Kim, *Games and Economic Behavior*, 102, 2017, 316-338.

6. "Adaptive versus Eductive Learning: Theory and Evidence," with Te Bao, *European Economic Review*, 83, 2016, 64-89.
7. "Group Size and Cooperation Among Strangers," with Huan Xie, *Journal of Economic Behavior and Organization*, 126, Part A, 2016, 55-74.
8. "Birth, Death and Public Good Provision," with Jonathan Lafky, *Experimental Economics* 19, 2016, 317-341.
9. "Stochastic Asymmetric Blotto Games: Some New Results," with Alexander Matros, *Economics Letters* 134, 2015, 4-8.
10. "Real-Time, Adaptive Learning via Parameterized Expectations," with Michele Berardi, *Macroeconomic Dynamics* 19, 2015, 245-269.
11. "Cooperation and Signaling with Uncertain Social Preferences," with Félix Muñoz-García, *Theory and Decision* 78, 2015, 45-75.
12. "Lifecycle Consumption Plans, Social Learning and External Habits: Experimental Evidence," with Enrica Carbone, *Journal of Economic Behavior and Organization* 106, 2014, 413-427.
13. "Gift Exchange versus Monetary Exchange: Theory and Evidence," with Daniela Puzzello, *American Economic Review* 104, 2014, 1735-1776.
14. "Compulsory versus Voluntary Voting: An Experimental Study," with Sourav Bhattacharya and SunTak Kim, *Games and Economic Behavior* 84, 2014, 111-131.
15. "On the Use of Fines and Lottery Prizes to Increase Voter Turnout," with Alexander Matros, *Economics Bulletin* 34, 2014, 966-975.
16. "Learning, Forecasting and Optimizing: An Experimental Study," with Te Bao and Cars Hommes, *European Economic Review* 61, 2013, 186-204.
17. "Social Norms, Information, and Trust Among Strangers: Theory and Evidence," with Huan Xie and Yong-Ju Lee, *Economic Theory* 52, 2013, 669-708.
18. "Equilibrium Selection in Static and Dynamic Entry Games," with Jack Ochs, *Games and Economic Behavior* 76, 2012, 97-116.
19. "Patience or Fairness? Analyzing Social Preferences in Repeated Games," with Félix Muñoz-García, *Games* 3, 2012, 56-77.
20. "Differences in Risk Aversion Between Young and Older Adults," with Steven M. Albert, *Neuroscience and Neuroeconomics* 1, 2012, 3-9.
21. "Competitive Behavior in Market Games: Evidence and Theory," with Alexander Matros and Ted Temzelides, *Journal of Economic Theory* 146, 2011, 1437-1463.
22. "Investment and Monetary Policy: Learning and Determinacy of Equilibrium," with Wei Xiao, *Journal of Money, Credit, and Banking* 43, 2011, 959-992.
23. "Trust in Second Life," *Southern Economic Journal* 78, 2011, 53-62.

24. "Correlated Equilibria, Good and Bad: An Experimental Study," with Nick Feltovich, *International Economic Review* 51, 2010, 701-721.
25. "Self-Organized Criticality in a Dynamic Game," with Andreas Blume and Ted Temzelides, *Journal of Economic Dynamics and Control* 34, 2010, 1380-1391.
26. "Does Competition Affect Giving?," with Tatiana Kornienko, *Journal of Economic Behavior and Organization* 74, 2010, 82-103.
27. "Decentralized Organizational Learning: An Experimental Investigation," with Andreas Blume and April Franco, *American Economic Review* 99, 2009, 1178-1205.
28. "Cooperative Behavior and the Frequency of Social Interaction," with Jack Ochs, *Games and Economic Behavior* 66, 2009, 785-812.
29. "Experiments with Network Formation," with Dean Corbae, *Games and Economic Behavior* 64, 2008, 81-120.
30. "Beliefs and Voting Decisions: A Test of the Pivotal Voter Model," with Margit Tavits, *American Journal of Political Science* 52, 2008, 603-618.
31. "Internet Auctions with Artificial Adaptive Agents: A Study on Market Design," with M. Utku Ünver, *Journal of Economic Behavior and Organization* 67, 2008, 394-417.
32. "Giving Little by Little: Dynamic Voluntary Contribution Games," with Jack Ochs and Lise Vesterlund, *Journal of Public Economics* 91, 2007, 17081730.
33. "Instability of Sunspot Equilibria in Real Business Cycle Models Under Adaptive Learning," with Wei Xiao, *Journal of Monetary Economics* 54, 2007, 879-903.
34. "The Value of Interest Rate Stabilization Policies When Agents are Learning," with Wei Xiao, *Journal of Money, Credit, and Banking* 39, 2007, 2041-2056.
35. "The Value of Central Bank Transparency When Agents are Learning," with Michele Berardi, *European Journal of Political Economy* 23, 2007, 9-29.
36. "Words, Deeds, and Lies: Strategic Behaviour in Games with Multiple Signals," with Nick Feltovich, *Review of Economic Studies* 73, 2006, 669-688.
37. "Dollarization Traps," with Maxim Nikitin and R. Todd Smith, *Journal of Money, Credit, and Banking* 38, 2006, 2073-2098.
38. "Multiple Regimes in U.S. Monetary Policy? A Nonparametric Approach," with Jim Engle-Warnick, *Journal of Money, Credit, and Banking* 38, 2006, 1363-1377.
39. "Asset Price Bubbles and Crashes with Near-Zero Intelligence Traders," with M. Utku Ünver, *Economic Theory* 27, 2006, 537-563.
40. "Sunspots in the Laboratory," with Eric O'N. Fisher, *American Economic Review* 95, 2005, 510-529.
41. "Anarchy in the Laboratory (and the Role of the State)," with Minseong Kim, *Journal of Economic Behavior and Organization* 56, 2005, 297-329.

42. "Learning, Information and Sorting in Market Entry Games: Theory and Evidence," with Ed Hopkins, *Games and Economic Behavior* 51, 2005, 31-62.
43. "Trust Among Strangers," with Cristina Bicchieri and Gil Tolle, *Philosophy of Science* 71, 2004, 286-319.
44. "Capital-Skill Complementarity? Evidence from a Panel of Countries," with Chris Papageorgiou and Fidel Pérez-Sebastián, *The Review of Economics and Statistics* 86, 2004, 327-344.
45. "Comment on Adaptive Learning and Monetary Policy Design," *Journal of Money, Credit, and Banking* 35, 2003, 1073-1080.
46. "Intrinsically Worthless Objects as Media of Exchange: Experimental Evidence," with Jack Ochs, *International Economic Review* 43, 2002, 637-673.
47. "Do Actions Speak Louder Than Words? An Experimental Comparison of Observation and Cheap Talk," with Nick Feltovich, *Games and Economic Behavior* 39, 2002, 1-27.
48. "Approximating and Simulating the Stochastic Growth Model: Parameterized Expectations, Neural Networks and the Genetic Algorithm," with Paul D. McNelis, *Journal of Economic Dynamics and Control* 25, 2001, 1273-1303.
49. "Learning and Excess Volatility," with James Bullard, *Macroeconomic Dynamics* 5, 2001, 272-302.
50. "Learning to Speculate: Experiments with Artificial and Real Agents," *Journal of Economic Dynamics and Control* 25, 2001, 295-319. [Reprinted in: N. Gilbert (Eds.), *Computational Social Science*, SAGE Publications Ltd., 2010].
51. "A Cross-Country Empirical Investigation of the Aggregate Production Function Specification," with Chris Papageorgiou, *Journal of Economic Growth* 5, 2000, 87-120.
52. "Emergence of Money as a Medium of Exchange: An Experimental Study," with Jack Ochs, *American Economic Review* 89, 1999, 847-877. [Reprinted in: E. Carbone and C. Starmer, (Eds.), *New Developments in Experimental Economics*, Edward Elgar Publishing, 2007].
53. "Does Observation of Others Affect Learning in Strategic Environments?," with Nick Feltovich, *International Journal of Game Theory* 28, 1999, 131-152.
54. "Using Genetic Algorithms to Model the Evolution of Heterogeneous Beliefs," with James Bullard, *Computational Economics* 13, 1999, 41-60.
55. "Monetary Theory in the Laboratory," *Federal Reserve Bank of St. Louis Review*, September/October 1998, 9-26.
56. "Learning and the Stability of Cycles," with James Bullard, *Macroeconomic Dynamics* 2, 1998, 22-48.
57. "A Model of Learning and Emulation with Artificial Adaptive Agents," with James Bullard, *Journal of Economic Dynamics and Control* 22, 1998, 179-207.
58. "Corruption Cycles," with Cristina Bicchieri, *Political Studies* 45, 1997, 477-495.

59. "On the Robustness of Behavior in Experimental 'Beauty Contest' Games," with Rosemarie Nagel, *Economic Journal* 107, 1997, 1684-1700.
60. "The Transition from Stagnation to Growth: An Adaptive Learning Approach," with Jasmina Arifovic and James Bullard, *Journal of Economic Growth* 2, 1997, 185-209.
61. "On Learning and the Nonuniqueness of Equilibrium in an Overlapping Generations Model with Fiat Money," *Journal of Economic Theory* 64, 1994, 541-553.

B. Book

62. *Experiments in Macroeconomics*, John Duffy, Editor, Research in Experimental Economics Volume 17, Bingley, UK: Emerald Group Publishing, 2014.

C. Chapters in Books

63. "Macroeconomics: A Survey of Laboratory Research," in: J.H. Kagel and A.E. Roth (Eds.), *The Handbook of Experimental Economics* Vol. 2, Princeton: Princeton University Press, 2016, 1-90.
64. "Experimental Evidence on the Essentiality and Neutrality of Money in a Search Model," with Daniela Puzzello, in J. Duffy (Ed.), *Experiments in Macroeconomics*, (Research in Experimental Economics Vol. 17). Bingley, UK: Emerald Group Publishing, 2014, 259-311.
65. "Experimental Macroeconomics," in S.N. Durlauf and L.E. Blume (Eds.), *The New Palgrave Dictionary of Economics*, 2nd ed., New York: Palgrave Macmillan, 2008.
66. "Agent-Based Models and Human Subject Experiments," in L. Tesfatsion and K.L. Judd (Eds.), *Handbook of Computational Economics* Vol. 2, (Handbooks in Economics Series). Amsterdam: North-Holland, 2006, 949-1011.
67. "Equilibrium Selection via Adaptation: Using Genetic Programming to Model Learning in a Coordination Game," with Shu-Heng Chen and Chia-Hsuan Yeh, in A.S. Nowak and K. Szajowski (Eds.), *Advances in Dynamic Games*, (Annals of the International Society of Dynamic Games Vol. 7). Boston: Birkhäuser, 2005, 571-598.
68. "Using Symbolic Regression to Infer Strategies From Experimental Data," with Jim Engle-Warnick, in S.H. Chen (Ed.), *Evolutionary Computation in Economics and Finance* (Studies in Fuzziness and Soft Computing, Vol. 100) New York: Physica-Verlag, 2002, 61-82.

D. Book Reviews

69. Review of *Learning and Expectations in Macroeconomics* by George W. Evans and Seppo Honkapohja and published by Princeton University Press, 2001, in *Journal of Economic Literature* 40, 2002, 168-169.
70. Review of *Discovering Artificial Economics: How Agents Learn and Economies Evolve* by David F. Batten and published by Westview Press, 2000, in *Artificial Life* 7, 2001, 321-323.
71. Review of *Growing Artificial Societies: Social Science from the Bottom Up* by Joshua M. Epstein and Robert Axtell and published by Brookings/MIT Press, 1996, in *Southern Economic Journal* 64, 1998, 791-794.

E. Working Papers/Work in Progress

“Adoption of a New Payment Method: Theory and Evidence,” with Jasmina Arifovic and Janet Jiang, May 2017.

“All-Pay Auctions Versus Lotteries as Provisional Fixed-Prize Fundraising Mechanisms: Theory and Evidence,” with Alexander Matros, May 2016.

“An Experimental Test of the Lucas Asset Pricing Model,” with Sean Crockett, revise and resubmit.

“An Experimental Study of Bond Market Pricing,” with Matthias Weber and Arthur Schram, revise and resubmit

“Central Bank Reputation, Cheap Talk and Transparency as Substitutes for Commitment: Experimental Evidence,” with Frank Heinemann, December 2016.

“De-framing the Rules to De-Anchor Beliefs in Beauty Contest Games,” with Jess Benhabib and Rosemarie Nagel, August 2016.

“Financial Contagion in the Laboratory: Does Network Structure Matter?,” with Akaterini Karadimitropoulou and Melanie Parravano, June 2017.

“The Friedman Rule in the Laboratory,” with Daniela Puzzello, June 2017.

“Heterogeneous Agent Modeling: Experimental Evidence” with Jasmina Arifovic for *Handbook of Computational Economics* Vol. 4, June 2017.

“Lifecycle Consumption Under Different Income Profiles: Experimental Evidence,” with Yue Li, December 2016.

“Living a Lie: Laboratory Evidence on Public Preference Falsification,” with Jonathan Lafky, October 2015.

“Lone Wolf or Herd Animal? An Experiment on Choice of Information and Social Learning,” with Ed Hopkins and Tatiana Kornienko, December 2016.

“Learning and Structural Change in Macroeconomic Data,” with James Bullard, December 2005.

“Maternal Certainty, Paternal Uncertainty and Holiday Gift-Giving,” October 2006.

“Planar Beauty Contests,” with Mikhail Anufriev and Valentyn Panchenko, May 2017

“Routine Formation in Organizations: An Experimental Investigation,” with Andreas Blume, June 2017.

RESEARCH GRANTS

Department of the Army, 68493-NS-RIP, “Instrumentation for the UC Irvine Experimental Social Science Laboratory” Co-Principal Investigator with Michael McBride, Michelle Garfinkel and Stergios Skaperdas, June 2016-May 2017.

National Science Foundation, SES-1530820, “Collaborative Research: Experimental Evidence on Monetary Policies,” Co-Principal Investigator with Daniela Puzzello, August 2015-July 2017.

National Science Foundation, SES-1258789, “Collaborative Research: Routine Formation in Organizations: Theory and Experimental Evidence,” Co-Principal Investigator with Andreas Blume, February 2013-January, 2016.

National Science Foundation, SES-1123914, “Doctoral Dissertation Research In Economics: Compulsory versus Voluntary Voting: An Experimental Study,” Co-Principal Investigator with SunTak Kim, August 2011-July 2013.

University of Pittsburgh, Graduate School of Public Health, “Using a Lottery-Choice Decision Game to Model Risk Aversion in Vaccine Behavior,” Co-Principal Investigator with Steven Albert, February 2008-March 2010.

National Science Foundation, SES-0721901, “MRI: Acquisition of Equipment to Upgrade the Pittsburgh Experimental Economics Laboratory,” September 2007-August 2009.

National Science Foundation, SES-0550963, “Equilibrium Selection in Entry Games: An Experimental Study,” Co-Principal Investigator with Jack Ochs, February 2006-January 2008.

University of Pittsburgh FAS Faculty Research and Scholarship Program grant in support of the International Conference of the Economic Science Association held at Pitt in 2003.

National Science Foundation, SES-0213658, “Cooperative Behavior and the Frequency of Social Interaction,” Co-Principal Investigator with Jack Ochs, August 2002-January 2004.

National Science Foundation, SES-0111123, “Sunspots in the Laboratory,” Principal Investigator, August 2001-June 2003.

National Science Foundation, SES-0095234, “Experiments with Network Economies,” Co-Principal Investigator with Dean Corbae, March 2001-February 2003.

University of Pittsburgh Central Research Development Fund, “Anarchy in the Laboratory,” 1999.

National Science Foundation, SES-9813622, “Collaborative Research: Do Actions Speak Louder than Words? Observation of Others versus Cheap Talk as Coordination Devices,” Co-Principal Investigator with Nick Feltovich, August 1998-July 1999.

National Science Foundation, SES-9507968, “Emergence of Money as a Medium of Exchange: An Experimental Analysis,” Co-Principal Investigator with Jack Ochs, September 1995-February 1998.

University of Pittsburgh Central Research Development Fund, “The Effect of Additional Information on Learning in Strategic Environments,” 1994.

KEYNOTE & PLENARY PRESENTATIONS

Duke Forest Conference: Economics in the Era of Natural Computation and Big Data, Duke University, Durham, North Carolina, November 2016.

20th Workshop of Economic Science with Heterogeneous Interacting Agents (WEHIA), SKEMA Business School, Sophia-Antipolis, France, May 2015.

International Conference on Experimental Methods and Economic Modeling, Second University of Naples, Italy, June 2011.

International Workshop on Experimental Economics and Finance, Xiamen University, Xiamen, China, December 2010.

DIME International Workshop on Market and Firm Dynamics, Pointe-à-Pitre, Guadeloupe, France, December 2009.

International Conference on the Shadow Economy, Tax Evasion and Social Norms, Münster, Germany, July 2009.

19th Annual Teaching Economics Conference, Robert Morris University, PA USA, February 2008.

International Workshop on Agent-Based Models for Economic Policy Design, ZiF, Bielefeld, Germany, July 2005.

International Meeting on Experimental and Behavioral Economics, Valencia, Spain, December 2005.

OTHER PRESENTATIONS (Last 5 Years)

2017

Southwest Experimental and Behavioral Economics (SWEBE) Conference, UC Santa Barbara, May. Korea University, Seoul, Korea, June. KAIST - Korea Advanced Institute of Science & Technology, Seoul, Korea, June. Economic Science Association, International Meeting, UC San Diego, June. Workshop on Adaptive Learning, Stony Brook Summer Game Theory Festival, July.

2016

Purdue University, April. ESI Theory/Experiments Workshop, Chapman University, April. IFREE/ESI Lecture, Chapman University, April. Amsterdam Symposium on Behavioral and Experimental Economics, University of Amsterdam, August. International Monetary Fund, September. University of Southern California, September. California State University, Fullerton, September. University of Graz, Austria, November. University of Vienna, Austria, November. University of Texas at Dallas, December.

2015

American Economic Association Meeting, Boston, January. University of California, Santa Barbara, April. Frontiers in Experimental Economics Conference, Kansai University, Japan, July. Workshop on Experimental Economics, Kyoto University, Japan, July. Expectations in Dynamic Macroeconomics Models Conference, Eugene, August. World Congress of the Econometric Society, Montréal, Canada, August. UC Irvine, Institute for Mathematical Behavioral Sciences, October. Workshop in Honor of John Van Huyck, SMU, Dallas, October. Bank of Canada Conference on Electronic Money and Payments, Ottawa, Canada, November.

2014

University of Arizona, January. University of California, Irvine, January. Voting Experiment Workshop, University of Montreal, March. Bank of Canada, Ottawa, May. European University Institute, Florence, June. UC Irvine, Institute for Mathematical Behavioral Sciences, October. CalTech Mini-conference in Experimental Economics, November. University of California, Riverside, November.

2013

University of Southern California, February. Claremont Graduate University, February. Conference on Experiments in Macroeconomics and Financial Economics, Columbia University,

March. Monash University, March and April. Australia National University, April. University of Michigan, April. Conference on Extensive Form Games in the Lab, Sciences Po, Paris, June. Workshop on Experimental Game Theory, Stony Brook, NY, July. Economic Science Association, North American Meeting, Santa Cruz, CA, October.

PROFESSIONAL ACTIVITIES

Associate/Advisory Editor: *European Economic Review*, 2005–present; *Experimental Economics* 2007–present; *Games and Economic Behavior* 2008–present; *Journal of Economic Dynamics and Control*, 2000–present; *Journal of the Economic Science Association*, 2014–present.

Co-Director, Experimental Social Science Laboratory (ESSL) at UC Irvine 2014–present; Director, Pittsburgh Experimental Economics Laboratory (PEEL) 1999–2014.

Co-Founder and Instructor, Barcelona LeeX Experimental Economics Summer School in Macroeconomics (BLEESS-M), June 2007, 2008, 2009, 2011, 2012, 2013, 2014, 2015, 2016 at Universitat Pompeu Fabra, Barcelona, Spain; July 2017 at Stony Brook, NY.

Conference Organizer, Workshop on Theoretical and Experimental Macroeconomics, Barcelona GSE Summer Forum, June 2010, 2011, 2012, 2013, 2014, 2015, 2016; held in Stony Brook, NY in 2017. Southwest Experimental & Behavioral Economics Conference, UC Irvine, May 2016. International Meetings of the Economic Science Association, Pittsburgh June 2003.

Conference Program Committee Member: 2008 North American Summer Meeting of the Econometric Society; Midwest Macroeconomics Conference, April 1999; Society for Computational Economics, Summer Meetings, 1995, 1996, 1997; Society for Economic Dynamics and Control Summer Meetings, 1994.

Consultant for Moblab, a developer of interactive game software for teaching economics, management, and the social sciences, 2015–present.

Executive Committee Member (elected), Economic Science Association, 2009–2012.

Member, Institute for Mathematical Behavioral Sciences, University of California, Irvine, 2015–present.

Panel Member, National Science Foundation, Human and Social Dynamics Program, 2007; Decision, Risk and Management Science Program 2014–2017.

Affiliated Faculty, Pittsburgh Experimental Economics Laboratory, University of Pittsburgh 2014–present.

Referee for journal articles and books in Economics, Computer Science, Philosophy, Political Science, and Sociology. American Economic Review Excellence in Refereeing Award 2012. Reviewer of grant proposals for the National Science Foundation and other agencies.

PhD DISSERTATIONS SUPERVISED (19):

Jim Engle-Warnick, McGill University; Cesar Fuentes, Wharton Econometric Forecasting; Iulia Igescu, Global Insight; S. Cem Karaman, Portland State University; Matejka Kavcic, Central Bank of Slovenia; SunTak Kim, National Taiwan University; Tatiana Kornienko, University of Edinburgh; Jonathan Lafky, Lafayette College; Claudia M. Landeo, Yale Law School; Yong-Ju Lee, Samsung Research Institute of Finance; Michael LeGower, Federal Trade Commission; Felix Muñoz-García,

Washington State University; Maxim Nikitin, International College of Economics and Finance, State University, Moscow; Chris Papageorgiou, International Monetary Fund; Hyeon Sook Park, Manhattan College; M. Utku Ünver, Boston College; Ayla Yilmaz, Indiana University-Purdue University; Yun Wang, Xiamen University; Katherine Wick, Allegheny College.

I have also served as an internal/external committee member (reader) on many other dissertations.