Curriculum Vitae Michael H. Riordan

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EDUCATION

Ph.D. in Economics, University of California at Berkeley, 1981 M.A. in Economics (with distinction), University of Essex, 1975 B.S. in International Relations, Georgetown University, 1973

RESEARCH

Industrial Organization, Antitrust and Regulation, Telecommunications Economics

TEACHING

Graduate: Industrial Organization and Regulation Undergraduate: Antitrust Economics; Economics of Art and Entertainment; Industrial Organization

POSITIONS

Laurans A. and Arlene Mendelson Professor of Economics, Columbia University, 2008-present Visiting Researcher, Toulouse School of Economics, 2012-2013 Chair, Department of Economics, Columbia University, 2009-2012 Laurans A. and Arlene Mendelson Professor of Economics and Business, Columbia University, 2000-2008 Professor of Economics, Graduate School of Arts and Sciences, Columbia University, 1999-2000 Professor of Finance and Economics, Graduate School of Business, Columbia University, 1999-2000 Visiting Professor and Visiting Scholar, Department of Economics, Yale University, 1998-1999 Chief Economist, Federal Communications Commission, 1997-1998 Economic Advisor, Federal Trade Commission, 1992-1993 Visiting Research Professor, University-Wide Energy Research Group, University of California at Berkeley, 1991-1992 Professor, Department of Economics, Boston University, 1988-1999 Associate Professor, Department of Economics, Stanford University, 1988 (on leave) Assistant Professor, Department of Economics, Stanford University, 1984-1988 Assistant Professor, Department of Economics, University of Pennsylvania, 1981-1984 Acting Instructor, Department of Economics, University of California at Berkeley, 1980 Economist (summer intern), International Monetary Fund, 1978 Research Assistant, Federal Reserve Bank of San Francisco, 1976

HONORS AND AWARDS

ISERP Faculty Fellow, Fall, 2004-

Listed in *Who's Who in Economics* (3rd Edition)

Jerry S. Cohen Memorial Award for Antitrust Scholarship, July 2002

Fellow, Econometric Society, elected 1994

Fulbright Scholar, Argentina and Uruguay, 1989

National Fellow, Hoover Institution, Stanford University, 1986-1987

Faculty Research Fellowship, University of Pennsylvania, Summer 1983

GRANTS AND CONTRACTS

IPA Assignment, Chief Economist, Federal Communications Commission, 4/1/97-6/30/98.

- "Incentive Contracting for State Substance Abuse Services," with T. McGuire, National Institute of Drug Abuse, Grant No. 1-R01-DA08715-01, 9/1/93 - 8/31/96.
- "Learning-By-Doing and Industrial Organization," National Science Foundation, Grant No. SES-9122089, 6/1/92 5/31/94.
- IPA Assignment, Economic Advisor, Office of Commissioner Yao, Federal Trade Commission, 9/14/92-5/31/93.
- "The Economics of Telecommunications Networks," Research Grants, GTE Laboratories, 1990-1992.
- "The Market Structure for Drug Abuse Services," with T. McGuire, NIDA Center for Drug Services Research, Contract 2171-89-8516, 1990-1991.
- "Private Information, Communication and Contracting," National Science Foundation, Grant Nos. IST-8507300 (7/1/85 12/31/87), and IRI-8706150, 7/1/87 12/31/89.
- "Cost-Based Regulation and Competition," Research Grant, Center for Economic Policy Research, Stanford University, 1987-1988.
- "Procurement Contracting and 'Spillovers' from Learning by Suppliers," Research Grant, Center for Economic Policy Research, Stanford University, Summer 1987.
- "The Economics of Defense Contracting," Research Grant, Center for Economic Policy Research, Stanford University, 1986-1987.
- "Optimal Contracting with Asymmetric Information," National Science Foundation Grant No. IST-8317249, 1/15/84 6/30/85.

PUBLICATIONS

- "Prices, Profits, and Preference Dependence," with Yongmin Chen, *Journal of Industrial Economics*, 63, 2015. "Estimating the Impact of Low-Income Universal Service Programs," with Daniel Ackerberg, David DeRemer,
- Gregory Rosston, and Bradley Wimmer, International Journal of Industrial Organization, 37, 2014.
- "Profitability of Product Bundling" with Yongmin Chen, International Economic Review, 54, 2013.
- "Price-Increasing Competition," with Yongmin Chen, RAND Journal of Economics, 39, 2008.
- "Vertical Integration," in *The New Palgrave: A Dictionary of Economics*, 2nd edition, Steven Durlauf and Lawrence Blume (eds.), Palgrave-MacMillan, 2008.
- "Competitive Effects of Vertical Integration," in *Handbook of Antitrust Economics*, Paolo Buccirossi (ed.), MIT Press, 2008.

"Price and Variety in the Spokes Model," with Yongmin Chen, Economic Journal, 117, July 2007.

- "Vertical Integration, Exclusive Dealing, and Ex Post Cartelization," with Yongmin Chen, *RAND Journal of Economics*, 38, Spring 2007.
- "Product Improvement and Technological Tying in a Winner-Take-All Market," with Richard Gilbert, *Journal of Industrial Economics*, 55, March 2007.
- "Benchmarking for Productivity Improvement: A Health Care Application," with Daniel Ackerberg and Matilde Machado, *International Economic Review*, 47, February 2006.

- "How Do Capital Markets Influence Product Market Competition?," *Review of Industrial Organization*, 23 (3-4), December 2003, 179-191.
- "Health Insurance, Moral Hazard, and Managed Care," with Ching-to Albert Ma, *Journal of Economics and Management Strategy*, 11 (1), Spring 2002, 81-107.
- "Universal Residential Telephone Service," in Martin Cave, Sumit Majumdar, Ingo Vogelsang (eds.), *Handbook* of Telecommunications Economics, Elsevier, 2002.
- "Predatory Pricing: Strategic Theory and Legal Policy: Response to Critique and Further Elaboration," with Patrick Bolton and Joseph Brodley, *Georgetown Law Journal*, 89, 2001.
- "An Economist's Perspective on Universal Residential Service," in Ingo Vogelsang and Benjamin M. Compaine (eds.), *The Internet Upheaval: Raising Questions, Seeking Answers in Communications Policy*, MIT Press, 2000.
- "Dynamics of Price Regulation," with Gary Biglaiser, RAND Journal of Economics, 31(4), Winter 2000.
- "Predatory Pricing: Strategic Theory and Legal Policy," with Patrick Bolton and Joseph Brodley, *Georgetown Law Journal*, 88, 2000.
- "Anticompetitive Vertical Integration by a Dominant Firm," *American Economic Review*, 88(5), December 1998, 1232-48.
- "Performance Contracting for Substance Abuse Treatment," with Margaret Commons and Thomas G. McGuire, *Health Services Research*, 32(5), December 1997, 631-50.
- "The Learning Curve, Predation, Antitrust, and Welfare," with Luis M. B. Cabral, *Journal of Industrial Economics*, 45(2), June 1997, 155-69.
- "Contracting with Qualified Suppliers," International Economic Review, 37(1), February 1996, 115-28.
- "Evaluating Vertical Mergers: Reply to Reiffen and Vita Comment" with Steven Salop, *Antitrust Law Journal*, 63, 1995, 513-568.
- "Evaluating Vertical Mergers: A Post-Chicago Approach," with Steven Salop, *Antitrust Law Journal*, 63, 1995, 943-950.
- "Incomplete Information and Optimal Market Structure: Public Purchases from Private Providers," with Thomas G. McGuire, *Journal of Public Economics*, 56(1), January 1995, 125-41.
- "Regulating Complementary Products: A Comparative Institutional Analysis," with Richard Gilbert, *Rand Journal of Economics*, 26(2), Summer 1995, 243-56.
- "Antitrust and Managed Competition for Health Care," with Dennis A. Yao and Thomas N. Dahdouh, *Antitrust Bulletin*, 39(2), Summer 1994, 301-31.
- "The Learning Curve, Market Dominance and Predatory Pricing," with Luis Cabral, *Econometrica*, 65(5), September 1994, 1115-40.
- "Price and Quality in a New Product Monopoly," with Kenneth L. Judd, *Review of Economic Studies*, 61(4), October 1994, 773-89.
- "Preemptive Adoption of an Emerging Technology," with David J. Salant, *Journal of Industrial Economics*, 42(3), September 1994, 247-61.
- "The Industrial Organization of Health Care: Introduction," with Thomas G. McGuire, *Journal of Economics and Management Strategy*, 3(1), Spring 1994, 1-6.
- "Paying for Public Drug Abuse Services in the Six New England States and Summaries of State Programs," with Margaret Commons, Dominic Hodgkin and Thomas McGuire, NIDA Treatment Services Research Monograph, 1994.
- "Contracting for Community-Based Public Mental Health Services," with Thomas G. McGuire, in Teh Weh Hu and Agnes Rupp (eds.), *Advances in Health Economics and Health Services Research*, Research in the Economics of Mental Health, vol. 14, Greenwich, Conn. and London: JAI Press, 1993, 55-69.
- "Sectoral Shocks and Structural Unemployment," with Robert W. Staiger, *International Economic Review*, 34(3), August 1993, 611-29.
- "Incentives for Cost Reduction in Defense Procurement," in Jim Leitzel and Jean Tirole (eds.), *Incentives in Procurement Contracting*, Pew Studies in Economics and Security, Boulder and Oxford: Westview Press, 1993, 135-42.

- "The Choice of What to Procure: Discussion," in Jim Leitzel and Jean Tirole (eds.), *Incentives in Procurement Contracting*, Pew Studies in Economics and Security, Boulder and Oxford: Westview Press, 1993, 100-102.
- "Competition and Bank Performance: A Theoretical Perspective," in Colin Mayer and Xavier Vives (eds.), *Capital Markets and Financial Intermediation*, Cambridge, New York and Melbourne: Cambridge University Press, 1993, 328-43.

"Regulation and Preemptive Technology," RAND Journal of Economics, 23(3), Autumn 1992, 334-49.

- "Ownership without Control: Towards a Theory of Backward Integration," *Journal of Japanese and International Economies*, 5(2), June, 1991, 101-19.
- "High and Declining Prices Signal Product Quality," with Kyle Bagwell, *American Economic Review*, 81(1) March 1991, 224-39.
- "Asset Specificity and Backward Integration," *Journal of Institutional and Theoretical Economics*, 146(1), March 1990, 133-46.
- "What is Vertical Integration?, " in Masahiko Aoki, Bo Gustafsson and Oliver E. Williamson (eds.), *The Firm as a Nexus of Treaties*, Swedish Collegium for Advanced Study in the Social Sciences series, London, Newbury Park, Calif. and New Dehli: Sage Publications, 1990, 94-111; reprinted in Oliver E. Williamson and Scott E.Masten (eds.), *Transaction Cost Economics, Volume 1: Theory and Concepts*, Elgar Reference Collection, International Library of Critical Writings in Economics, Volume 54, Aldershot, U.K.: Elgar, distributed in U.S. by Ashgate, Brookfield, Vt., 1995, 356-73.
- "Contracting Out: Assessing Government Experience," in R. Gordon Cassidy and Jack M. Mintz (eds.), *Policy Forum on Public Sector Management*, John Deutsch Institute for the Study of Economic Policy, 1989.
- "Incentives for Cost Reduction Under Price Cap Regulation", with Luis Cabral, *Journal of Regulatory Economics* 1(2), June 1989, 93-102; reprinted in Michael A. Einhorn (ed.), *Price Caps and Incentive Regulation in Telecommunications*, Topics in Regulatory Economics and Policy Series, Norwell, Mass. and Dordrecht: Kluwer Academic, 1991, 155-65.
- "Second Sourcing," with David Sappington, Rand Journal of Economics, 20(1), Spring 1989, 41-58.
- "Industry Structure With Sequential Technology Choice," with Richard P. McLean, *Journal of Economic Theory*, 47(1), February 1989, 1-21.
- "Optimal Contracts with Public Ex Post Information," with David E. M. Sappington, *Journal of Economic Theory*, 45(1), June 1988, 189-99.
- "Commitment in Procurement Contracting," with David E. M. Sappington, *Scandinavian Journal of Economics*, special issue on "Information and Incentives in Organizations," 90(3), Spring 1988, 357-72.
- "On Governing Multilateral Transactions with Bilateral Contracts," with Jacques Cremer, *Rand Journal of Economics*, 18(3), Autumn 1987, 436-51.
- "Awarding Monopoly Franchises," with David E. M. Sappington, *American Economic Review*, 77(3), June 1987, 37-87.
- "Cooperation and Punishment under Repeated Majority Voting," with Dennis Epple, *Public Choice* 55(1-2), Carnegie Papers in Political Economy, Vol. 7, May 1987, 243-63.
- "Information, Incentives and Organizational Mode," with David E. M. Sappington, *Quarterly Journal of Economics*, 102(2), May 1987, 243-63.
- "A Note on Optimal Procurement Contracts," Information Economics and Policy, 2(3), September 1986, 211-19.

"Monopolistic Competition with Experience Goods," Quarterly Journal of Economics, 101(2), May1986, 265-79.

- "Asset Specificity and Economic Organization," with Oliver E. Williamson, *International Journal of Industrial Organization*, 3(4), December 1985, 365-78.
- "Imperfect Information and Dynamic Conjectural Variations," *Rand Journal of Economics*, 16(1), Spring 1985, 41-50.
- "A Sequential Solution to the Public Goods Problem," with Jacques Cremer, *Econometrica*, 53(1), January 1985, 77-84.
- "Advertising as a Signal," with Richard E. Kihlstrom, Journal of Political Economy, 92(3), June 1984, 427-50.

"On Delegating Price Authority to a Regulated Firm," Rand Journal of Economics, 15(1), Spring 1984, 108-15.

"Uncertainty, Asymmetric Information and Bilateral Contracts," *Review of Economic Studies*, 51(1), January 1984, 427-50.

"Contracting in an Idiosyncratic Market," Bell Journal of Economics, 14(2), Autumn 1983, 338-50.

"What do Implicit Contracts Do?," with Michael L. Wachter, *Industrial Relations Research Association 35th* Annual Proceedings, 1983.

"Stabilization Policy in a World Context," with Michael W. Keran, *Federal Reserve Bank of San Francisco Economic Review*, 76, Fall 1976, 5-19.

BOOK REVIEWS

Review of "Optimal Regulation: The Economic Theory of Natural Monopoly, by Kenneth E. Train," <u>Journal of Economic Literature</u> 30, September 1992.

SUBMISSIONS AND CURRENT RESEARCH

- "Make and Buy: Outsourcing, Vertical Integration, and Cost Reduction," with Simon Loertscher, working paper, November 2016, under review.
- "Ain't It 'Suite'? Strategic Bundling in the PC Office Software Market," with Neil Gandal and Sarit Markovich, working paper, August 2015, under review.
- "Security in Partnerships," manuscript, October 2014.
- "Product Improvement in a Winner-Take-All Market," working paper, March 2013.

"Endogenous Vertical Differentiation," with Ilton Soares, work in progress.

"Privacy Protection," with Bruno Jullien and Yassine Lefouili, work in progress.

OTHER UNPUBLISHED WORKING PAPERS

- "Low Income Demand for Telephone Service: Effects of Lifeline and Linkup" with D. Ackerberg, G. Rosston and B. Wimmer, May 2011; SIEPR Discussion Paper 08-047, August 2009.
- "Capital Markets Constrain Industry Scale," with Eslyn Jean-Baptiste, working paper, September 2003.
- "Exclusion and Integration in the Market for Video Programming Delivered to the Home," with David Salant, Boston University Industry Studies Program working paper #51, September 1994.
- "Predatory Pricing in Immature Markets," for presentation at the Charles River Associates' conference on *Antitrust in Today's Economy*, April 1994.
- "The Effect of Reimbursement Policy on Services and Capacity in Public Drug Treatment," with Dominic Hodgkin and Tom McGuire, August 1991.
- "Hierarchical Control and Investment Incentives in Procurement." Working Paper E-87-44, Hoover Institution, Stanford University, September 1987.
- "Equilibrium Price Dynamics for an Experience Good," with Kyle Bagwell, Discussion Paper #175, The Center for Mathematical Studies in Economics and Management Sciences, Northwestern University, October 1986, revised September 1987.
- "Optimal Contracts with Public and Private Ex Post Information," with David E.M. Sappington, Discussion Paper #127, Studies in Industry Economics, Stanford University, June 1985.
- "Incomplete Information and Conjectural Variations," Discussion Paper No. 165, Center for the Study of Organizational Innovation, University of Pennsylvania, January 1984.
- "A Theory of Customer Markets," Discussion paper #149, Center for the Study of Organization Innovation, University of Pennsylvania, March 1983.
- "A Stackelberg Solution to the Public Goods Problem," with Jacques Cremer, CARESS Working Paper #82-12, University of Pennsylvania, November 1982.
- "Price Regulation with Asymmetric Information," manuscript, University of Pennsylvania, April 1982.
- "Bilateral Contracts and Asymmetric Information," CSOI Discussion Paper #124, University of Pennsylvania, January 1982.
- "Credit-Labor Transactions with a Dominant Landlord: A Theoretical Note," with Pranab Bardhan, manuscript.

PRESENTATIONS AT CONFERENCES AND PROFESSIONAL MEETINGS

"Regulating Bundling," Keynote Address, Conference on Regulation Theory and Policy,' Zhejiang University of Finance and Economics, Hangzhou, China, November 2016.

"Vertical Restraints in an E-Commerce World," Keynote Address, 13th CPRC International Symposium on Vertical Restraints in e-Commerce: Competition Policy Perspectives," Japan Fair Trade Commission, Tokyo, June 2016.

"Cybersecurity, Industrial Organization, and Competition Policy," keynote address, CRESSE Conference on Advances in the Analysis of Competition Policy and Regulation, Corfu, July 2014

"Outsourcing, Vertical Integration, and Cost Reduction".

- MaCCI Summer Institute in Competition Policy, Schloss Gracht, Germany, June 2014
- Workshop of Public Private Collaboration, IESE Business School (Barcelona), May 2013
- Canadian Economics Association Conference, Montreal, May 2013
- KICK Off Workshop, Dusseldorf Institute for Competition Economics, June 2013.
- "Procurement, Cost Reduction and Vertical Integration," Industrial Economics Conference, Zhejiang University, June 2011.
- "Economics of Bundling," Workshop on Law and Economics, Hitotsubashi University, March 2010.
- "Preferences, Prices and Products: Monopoly and Duopoly in a Discrete Choice Product
- Differentiation Model," Industrial Organization Conference, Marbella, Chile, December 2009.
- "Equilibrium Product Selection," IO Day Conference, NYU, September 18, 2009.
- "Equilibrium Product Selection," Summer Workshop on Antitrust Economics and Competition Policy," Shanghai University of Finance and Economics, June 20-21, 2009.
- "Quality Competition and Multiple Equilibria," 27th Australasian Economic Theory Workshop, Massey Unviersity, February 20-21, 2009.
- "Equilibrium Product Selection," Fifth Summer Workshop in Industrial Organization," University of Auckland, February 27-28, 2009.
- "Universal Service Reform" (keynote lecture), Fourth Conference on Regulation, Competition and Universal Service in the Postal Sector, Institut d'Economie Industrielle (IDEI), Toulouse, March 16-17, 2006.
- "Product Improvement and Technological Tying in a Winner-Take-All Market," Conference on Economics in Competition Policy, Canadian Competition Bureau, Ottawa, April 27-28, 2006.
- "Quality Competition in a Winner-Take-All Market," Conference in Celebration of Jim Friedman's 70th Birthday, Duke University, November 4-5, 2006.
- "Competitive Effects of Vertical Integration," LEAR Conference on Advances in the Economics of Competition Law, Rome, June 23-25, 2005.
- "Price and Variety in the Spokes Model," Summer Workshop on Industrial Organization and Management Strategy, Tsinghua University, Beijing, June 8-9, 2005.
- "Low Income Demand for Telephone Service: The Effects of Lifeline and Linkup," International Industrial Organization Conference, Atlanta, April 9-10, 2005.
- "Vertical Integration, Exclusive Dealing, and Ex Post Cartelization," International Industrial Organization Conference, Atlanta, April 9-10, 2005.
- "Ain't It Suite: Bundling in the PC Office Software Market," 18th Summer Conference on Industrial Organization, University of British Columbia, Whistler, July 9-10, 2004.
- "Predatory Pricing: Strategic Theory and Legal Policy," Conference on Use of Economics in Competition Law, London, March 11-12, 2004.
- "Vertical Integration, Exclusive Dealing, and Ex Post Cartelization," Duke-Northwestern-Texas IO Theory Conference, Evanston, October 18-19, 2003.
- "Low Income Demand for Telephone Service: The Effects of Lifeline and Linkup" Telecommunications Policy Research Conference, September 2003.

- "Competitive Local Exchange Services," Conference on Regulatory Reforms in Telecommunications, Moscow, Russia, June 27-28, 2003.
- "Vertical Integration, Exclusive Dealing and Cartelization," Workshop on Antitrust and Regulation, Padua, Italy, April 2003.
- "Industrial Organization and Corporate Finance," keynote address, First Annual International Industrial Organization Conference, Boston, April 2003.
- "Competitive Effects of Vertical Mergers," plenary session (invited), E.A.R.I.E. Conference, Madrid, Spain, September 2002.
- "Product Improvement and Technological Tying," Theoretical Industrial Organization Conference, University of Texas, May 2002.
- "An Economist's Perspective on Universal Residential Telephone Service," 27th Annual Telecommunications Policy Research Conference, Alexandria, VA, September 25-27, 1999.
- "Universal Residential Service: An Economist's Perspective," London Business School Conference, April 1999.
- "Dynamics of Price Regulation," with Gary Biglaiser, Tel Aviv University Mini-Conference on Antitrust and Regulation, May 26, 1999.
- "Estimation of a Production Process for Health Care Treatment: A Preliminary Analysis," NBER Productivity Workshop, December 1998.
- "Dynamics of Price Regulation," with Gary Biglaiser, Telecommunications Policy Research Conference, Washington D.C., September 1988.
- "Dynamics of Price Regulation," with Gary Biglaiser, European Summer Symposium in Economic Theory, Gerzensee, Switzerland, June 29-July 10, 1998.
- "Predatory Pricing: Strategic Theory and Legal Policy," with Patrick Bolton and Joseph Brodley, European Summer Symposium in Economic Theory, Gerzensee, Switzerland, June 29-July 10, 1998.
- "The Transition to Competition," with Gary Biglaiser, European Summer Symposium in Economic Theory, Gerzensee, Switzerland, June 29-July 10, 1998.
- "The Transition to Competition," with Gary Biglaiser, Conference on Regulation and Competition in Network Industries, Barcelona, Spain, June 5-6, 1998.
- "Anticompetitive Vertical Integration by a Dominant Firm," Summer Conference on Industrial Organization, University of British Columbia, Vancouver, July 11-12 1996.
- "Anticompetitive Vertical Integration by a Dominant Firm," Economia Industrial Conference, Universidad Carlos III de Madrid, Spain, July 3-5 1996.
- "Predation in a Learning Curve Model," Conference on Networks and Competition, October 20-22, 1994, Institute d'Economie Industrielle, Toulouse, France.
- "Predatory Pricing in New Markets," Charles River Associates' Conference on "Antitrust in Today's Economy," Boston, April 1994.
- "Learning to Compete and Vice Versa," Carleton Industrial Organization Summer Conference, July 1992.
- "Competition in Banking: A Theoretical Perspective," CEPR Conference on Financial Intermediation and the Reconstruction of Europe, San Sebastian, Spain, March 1992.
- "Learning to Compete and Vice-Versa," Econometric Society Meetings, January 1992.

"Preemptive Adoption of New Technologies," Telecommunication Policy Research Conference, September 28-30, 1991, Solomon's Island, MD.

- "Regulation and Preemptive Technology Adoption: Cable TV versus Telephone Companies," Telecommunication Policy Research Conference, September 30-October 2, 1990, Airlie House, Warrenton, VA.
- "Technology Adoption in a Regulated Duopoly," International Conference on Information, Incentive and Regulation, September 4-5 1990, Institute d'Economie Industrielle, Toulouse, France.
- "Ownership Without Control: Toward a Theory of Backward Integration," ASSA Meetings, Atlanta, December 1989.
- "Auditing and Investment Incentives in Procurement," ORSA/TIMS Meetings, New York, October 1989.
- "Incentives for Cost Reduction in Defense Procurement," Conference on Incentives in Procurement Contracting, NBER, Cambridge, September 1989.

- "Asset Specificity and Backward Integration," Summer Industrial Organization Workshop, Northwestern University, July 1989.
- "Ownership Without Control: Towards a Theory of Backward Integration," Carleton Industrial Organization Summer Conference, Carleton University, Canada, July 1989.
- "Asset Specificity and Vertical Integration," International Seminar on the New Institutional Economics, Universitat des Saarlandes, West Germany, May/June 1989.
- "Contracting Out," Policy Forum on Public Sector Management, John Deutch Institute for the Study of Economic Policy, Queen's University, Canada, February 1989.
- "Second Sourcing," with D. Sappington, Econometric Society Summer Meeting, University of Minnesota, June 1988.
- "Hierarchical Control and Investment Incentives in Procurement," Econometric Society Summer Meeting, University of Minnesota, June 1988.
- "What is Vertical Integration?," SCASSS Conference on The Firm as a Nexus of Treaties, Uppsala, Sweden, June 1988.
- "Incentives for Cost Reduction Under Price Cap Regulation," with L. Cabral, CEPR Conference on Public Utility Regulation, Stanford University, April 1988.
- "Commitment in Procurement Contracting," with D. Sappington, ORSA/TIMS Meeting, New Orleans, May 1987.
- "Information, Incentives and Organizational Mode," with D. Sappington, Workshop on Incentives and Hierarchies, Birkbeck College, University of London, July 1986.
- "Awarding Monopoly Franchises," with D. Sappington, Econometric Society Summer Meeting, June 1986, Duke University.
- "Repeated Majority Voting," with D. Epple, Carnegie Conference on Political Economy, Carnegie-Mellon University, May 1986.
- "Designing Procurement Contracts," Conference on Issues in the Economics of Defense Procurement, Rand Corporation, May 1986.
- "Awarding Monopoly Franchises," with D. Sappington, Conference on Regulation and Information, Bell Communications Research, May 1986.
- "Industry Structure with Sequential Technology Choice," with R. McLean, Conference on Games and the Theory of Firm Behavior, University of Western Ontario, May 20-21, 1985.
- "Incomplete Information and Conjectural Variations," Econometric Society Summer Meeting, Stanford University, June 27-30, 1984.
- "Information, Incentives and Vertical Contracting," with D. Sappington, CSOI/Sloan Conference on the Economics or Organization, University of Pennsylvania, June 13-14, 1984.
- "Asset Specificity and Economic Organization," with O. Williamson, Eastern Economics Association Convention, New York, March 1984.
- "Advertising as a Signal," with R. Kihlstrom, Econometric Society Meeting San Francisco, December 1983.
- "Contracting in an Idiosyncratic Market," Econometric Society Summer Meeting, New York, June 1982.
- "Advertising as a Signal," with R. Kihlstrom, NBER/KGSM Conference on Time and Uncertainty in Economics, Northwestern University, April 16-18, 1982.
- "Optimal Contracts in an Idiosyncratic Market," Eastern Economics Association Convention, Washington, D.C., April 19 May 1, 1982.

OTHER PROFESSIONAL ACTIVITIES

Editorial Advisory Board, Review of Network Economics, 2010-2015

Member, Scientific Advisory Board, International Journal of Industrial Organization, 2007-2012

Member, Board of Directors, New York Census Regional Data Center, 2004-2012

• Finance Committee Member, 2008-2012

• Executive Committee Member, 2004-2005

Member, Census Committee, American Economic Association, 2007 - 2009

Co-chair, Universal Service Working Group, Digital Age Communication Act Project, Progress and Freedom Foundation, 2005-2006

Editor:

Associate Editor, *Journal of the European Economic Association*, 2009 -2011 Member, Board of Editors, *American Economic Review*, 1999-2004 Co-Editor, *RAND Journal of Economics*, 1990-1997 Associate Editor, *Quarterly Journal of Economics*, 1988-1997

Director, Industry Studies Program, Department of Economics, Boston University, 1990-1999

Program Committee:

Econometric Society Meetings: Winter 2003, Winter 2000, Summer 1993, and Winter 1992 Telecommunications Policy Research Conference: 1992 and 1993

Speeches and Panels:

- Panelist: "Addressing Cybersecurity," BRUEGEL, Brussels, June 5, 2014.
- Panelist: "Cyber-criminality," TIGER Forum, Toulouse, June 3, 2014.
- Seminar: "Cyber-criminality: Economic and Legal Issues," Toulouse, June 2014
- "Competition, Innovation, and the Future of Postal Markets," invited presentation, La Poste, Paris, April 2013.
- Panel Discussion, Cornerstone Research New York Antitrust Forum, October 2008.
- Panel Discussion, "Investment and Competition in Network Industries," Toulouse School of Economics Inauguration, June 2, 2008.
- Panel Discussion, "Structural Separation in Dynamic Markets: Lessons for the Internet, Lessons for Europe," Conference on The Enduring Lessons of the Breakup of ATT&T: A Twenty-five Year Perspective, University of Pennsylvania Law School, April 18-19, 2008.
- Panel Discussion, Symposium on Telecommunications Regulation, USC, Annenberg Center for Communication, Oct. 13, 2006
- Panel Discussion, "Procurement Options," CITI Conference on Wireless Communications and Universal Service, Columbia University, December 2005.
- Panel Discussion, "DACA Working Group Proposal on Universal Service Reform," Progress and Freedom Foundation, Washington D.C., December 7, 2005.
- Panel Discussion, "Marketplace Reality Check: The Rhetoric and Reality of Universal Service," Conference on Universal Service Policy - Challenges and Opportunities for a New Telecom Act (Center for the New West), Washington, D.C., April 22, 2005.
- Panel Discussion, "Universal Service," Silicon Flatirons Conference on Universal Service and E-911 Policy in an Age of Convergence, University of Colorado School of Law, October 21, 2004.
- "Universal Broadband: Can We Get There, and How?" Presentation to Congressional staff, sponsored by Georgetown University, McDonough School of Business, October 18, 2004.
- "Competitive Local Exchange Service," FCC Chief Economists Conference, Georgetown, October 17, 2003.
- Panel Discussion, "Entering the Debate, Influencing the Agenda, Continued," Telecommunications Policy Research Conference, Alexandria, VA, September 2002
- Panel Discussion, "Why Close the Digital Divide?," CITI Conference, Columbia University, June 2001.
- "Conundrums for Telecommunications Policy," National Economists Club, Washington, D.C., May 28, 1998.

Roundtable Discussion, IOS/PIEP Mini-Conference: Making Microeconomic Policy, George Washington University, Washington, D.C., June 9, 1999.

"FCC Merger Policy," CRA Conference on "Economists' Perspectives on Antitrust Today," Boston, Mass., April 30, 1998.

- "FCC Merger Policy: The Bell Atlantic NYNEX Order," 1998 Spring Meeting of the NARUC Staff Subcommittee on Accounts, San Diego, March 17, 1998.
- "The Regulation of Privatized Industries," conference organized by British Embassy in Mexico, the World Bank, and the Secretariat of Trade and Industrial Development in Mexico, Mexico City, December 1997.
- "The Transition to Competition," AICGS Conference on "Telecommunications Reform in Germany: Lessons and Priority," Bonn, Germany, November 19-20, 1997.
- "Market Power: Mergers, Acquisitions and Deregulation," National Association of Regulatory Utility Commissioners Convention, Boston, Mass., November 11, 1997.
- FCC Panel, Janney Montgomery Scott Telecommunications Regulation Conference, Boston, Mass., November 11, 1997.
- "Mobile Communications: Lessons Learnt from the U.S.," ACI Mobile Communications Conference, Sydney, Australia, September 24-25, 1997.
- "The Interplay Between Antitrust and Intellectual Property Protection," Antitrust conference sponsored by Business Development Associates, Washington, DC, March 1995.
- Session on "Information Markets and Firms," Global Communications Forum, Tokyo, Japan, October 30-31, 1991.

Invited Lectures:

- "Telecommunications Regulation in the United States," Harvard Institute for International Development, July 1998.
- "The Theory of Contracts," Tel Aviv University, Israel, May-June 1994.
- "The Theory of Contracts," Center for the Study of the New Institutional Economics, Universitat des Saarlandes, West Germany, August 1992.
- "Economics and Law of Incomplete Contracts," Center for the Study of the New Institutional Economics, Universitat des Saarlandes, West Germany, July-August 1990.
- "Incomplete Contracts, Renegotiation and Ownership," Faculdade de Economia, Universidad Nova de Lisboa, Portugal, May-June 1990.
- "The Regulation of Monopolies," Conference on Regulation: U.S. Experiences, CERES, Montevideo, Uruguay, August 1989.
- "Information and Coordination in the Enterprise and the Economy," People's University of China, Beijing, July 1987.
- "Contracting with Asymmetric Information," Universidad Autonoma de Barcelona, March 1987.

Conference Organizer:

- 14th Annual Columbia-Duke-Northwestern Theoretical Industrial Organization Conference, December 2015 (with Andrea Prat).
- 10th Annual Columbia-Duke-Northwestern Theoretical Industrial Organization Conference, November 2011 (with Patrick Bolton, Yeon-koo Che, Marina Halac, and Navin Kartik).
- "Conference on Industrial Organization of Health Care", Boston University, 1993 (with Thomas McGuire) and 1995 (with Albert Ma and Thomas McGuire).
- "Regulating Diverse Competitors," with Michael Salinger and Ingo Vogelsang, Telecommunications Policy Forum, Boston University, May 1995.
- "A Vision of Telecommunications Market Structure," with Michael Salinger and Ingo Vogelsang, Telecommunications Policy Forum, Boston University, May 1994.

"Conference on the Economics of Organization," with David Sappington and Pablo Spiller, University of Pennsylvania, June 1984.

- Referee: American Economic Review; Bell Journal of Economics; B.E. Press; Information, Economics and Policy; Economica; Econometrica; Economic Inquiry; Economic Journal; Economic Letters; European Economic Review; Quarterly Journal of Economics; International Economic Review; International Journal of Industrial Organization; Journal of Economic Behavior and Organization; Journal of Economics and Management Strategy; Journal of the European Economics Association; Journal of Industrial Economics; Journal of the Japanese and International Economies; Journal of the European Economic Association; Journal of Law, Economics and Organization; Journal of Labor Economics; Journal of Political Economy; Journal of Public Economics; RAND Journal of Economics; Review of Economic Studies; Review of Industrial Organization; Scandinavian Journal of Economics; Journal of Economics and Management Strategy; Journal of Public Economics.
- Reviewer: Academic Press; M.I.T. Press; National Science Foundation; Oxford Economic Press; University of Chicago Press.

Member: American Economic Association, Econometric Society.

Consulting: American Cable Association, AOL-Time Warner, Charles River Associates, Communication Workers of America, Conmed Corporation, Department of Justice, Federal Trade Commission, New Zealand Commerce Commission, RIAA, SESAC, Vodafone.