

RICHARD STEINBERG

London School of Economics
Department of Management, MAR 4.13
Houghton Street
London WC2A 2AE England

Telephone: +44-7545-259895
Email: r.steinberg@lse.ac.uk
rsteinberg53@gmail.com
Citizenship: US and UK

Experience

LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE, LONDON, ENGLAND

- 2009-present. Chair in Operations Research.
- 2016-present. Faculty Group Lead, Operations Management Group, Department of Management.
- 2010-2013. Head of Group, Management Science Group, Department of Management.
- 2001. Visiting Scholar.

UNIVERSITY OF CAMBRIDGE, CAMBRIDGE, ENGLAND

- 2004-2008. Reader in Operations Management, Judge Business School.
- 1996-2004. University Lecturer in Operations Management, Judge Business School.
- 2018-2019. Visiting Scholar, Statistical Laboratory, Department of Pure Mathematics and Mathematical Statistics.
- 2013-2014. Visiting Scholar, Statistical Laboratory, Department of Pure Mathematics and Mathematical Statistics.

GTE LABORATORIES, WALTHAM, MASSACHUSETTS

- 1995-1996. Acting Department Head, Economics and Statistics Department.
- 1994-1996. Senior Member of Technical Staff, Economics and Statistics Department.

AT&T BELL LABORATORIES, MURRAY HILL, NEW JERSEY

- 1991-1993. Member of Technical Staff, Service Concept and Business Analysis Department.
- 1985-1991. Member of Technical Staff, Operations Research Department (Holmdel, New Jersey).

COLUMBIA UNIVERSITY, NEW YORK, NEW YORK

- 1985. Associate Professor, Graduate School of Business.
- 1981-1985. Assistant Professor, Graduate School of Business.
- 1993-1994. Adjunct Associate Professor, School of Engineering and Applied Science.

UNIVERSITY OF CHICAGO, CHICAGO, ILLINOIS

- 1980-1981. Assistant Professor of Management Science, Graduate School of Business.

Education

UNIVERSITY OF CHICAGO, CHICAGO, ILLINOIS

- 1980. Master of Business Administration. Concentration in Management Science.

UNIVERSITY OF WATERLOO, WATERLOO, ONTARIO, CANADA

- 1979. Doctor of Philosophy in Combinatorics and Optimization.
Thesis: "Flows, Colorings and Embeddings of Graphs." Thesis adviser: W.T. Tutte.
- 1976. Master of Mathematics in Combinatorics and Optimization.

REED COLLEGE, PORTLAND, OREGON

- 1976. Bachelor of Arts. Major in Mathematics.

THE COOPER UNION FOR THE ADVANCEMENT OF SCIENCE AND ART, NEW YORK, NEW YORK

- 1971-1973. Major in Electrical Engineering. Scholastic Honors List. Transferred to Reed in January 1974.

PUBLICATIONS

“Combinatorial Auctions in Practice” (with I. Palacios-Heurta and D. Parkes), *Journal of Economic Literature* (2022), to appear.

“Competing Combinatorial Auctions” (with T. Kittsteiner and M. Ott), *Information Systems Research* (2021), to appear.

“Pricing, Competition and Content for Internet Service Providers” (with P. Key), *IEEE/ACM Transactions on Networking* 28, 5 (2020), 2285-2298.

“Maximizing Social Welfare in Congestion Games via Redistribution” (with V. Naroditskiy), *Games and Economic Behavior* 93 (2015), 24-41.

“Congestion-Dependent Pricing and Forward Contracts for Complementary Segments of a Communication Network” (with M. Reiter), *IEEE/ACM Transactions on Networking* 20, 2 (2012), 436-449.

“Auction Pricing”, Chapter 27 (pp. 679-712) in: O. Ozer and R. Phillips, eds., *Oxford Handbook of Pricing Management*, Oxford: Oxford University Press, 2012.

“Progressive Adaptive User Selection Environment (PAUSE) Auction Procedure,” pp. 4253-4262 in: James J. Cochran, ed., *Wiley Encyclopedia of Operations Research and Management Science*, Volume 6, John Wiley & Sons, 2011.

“Congestion Pricing and Non-Cooperative Games in Communication Networks” (with A. Ganesh and K. Laevens), *Operations Research* 55, 3 (2007), 430-438.

“An Overview of Combinatorial Auctions” (with P. Cramton and Y. Shoham), *ACM SIGecom Exchanges*, 7, 1 (2007), 3-14.

“A Contract and Balancing Mechanism for Sharing Capacity in a Communication Network” (with E. Anderson and F. Kelly), *Management Science* 52, 1 (2006), 39-53.

Combinatorial Auctions (edited with P. Cramton and Y. Shoham), Cambridge, MA: MIT Press, 2006. Second printing 2008. Third printing (paperback) 2010.

“Introduction to Combinatorial Auctions” (with P. Cramton and Y. Shoham), pp. 1-13 in: P. Cramton, Y. Shoham, and R. Steinberg (eds.), *Combinatorial Auctions*, Boston: MIT Press, 2006.

“PAUSE: A Computationally Tractable Combinatorial Auction” (with A. Land and S. Powell), Chapter 6 (pp. 139-157) in *Combinatorial Auctions*, Boston: MIT Press, 2006.

“Pricing Internet Service,” Chapter 6 (pp. 175-201) in: A.K. Chakravarty and J. Eliashberg, eds., *Managing Business Interfaces: Marketing, Engineering, and Manufacturing Perspectives*, Dordrecht: Kluwer Academic Publishers/ISQM, 2004.

“Internet Service Classes under Competition” (with R.J. Gibbens and R. Mason), *IEEE Journal on Selected Areas in Communications*, 18, 12 (2000), 2490 -2498.

PUBLICATIONS
(continued)

“A Combinatorial Auction with Multiple Winners for Universal Service” (with F. Kelly), *Management Science* 46, 4 (2000), 586-596.

“The Allocation of Value for Jointly Provided Services” (with P. Linhart, R. Radner, K.G. Ramakrishnan), *Telecommunication Systems* 4, Nos. 3, 4 (1995), 151-175.

“Marketing-Production Joint Decision-Making” (with J. Eliashberg), Chapter 18 (pp. 827-880) in: J. Eliashberg and G. Lilien, eds., *Handbooks in Operations Research and Management Science, Vol. 5, Marketing*, North-Holland, 1993. Also published in Japanese in *Marketing Handbook*, Tokyo: Asakura-Shoten, 1997.

“Planar Ramsey Numbers” (with C.A. Tovey), *Journal of Combinatorial Theory, Series B* 59, 2 (1993), 288-296.

“An Update on the State of the Three Color Problem,” *Graph Theory Notes of New York* (New York Academy of Sciences) XXV (1993), 9-12.

“The State of the Three Color Problem,” *Annals of Discrete Mathematics* 55 (1993), 211-248.

“Dynamic Pricing and Ordering Decisions by a Monopolist” (with A. Rajan and Rakesh), *Management Science* 38, 2 (1992), 240-262.

“Competitive Strategies for Two Firms with Asymmetric Production Cost Structures” (with J. Eliashberg), *Management Science* 37, 11 (1991), 1452-1473.

“Grötzsch's Theorem for the Projective Plane” (with D.H. Younger), *Ars Combinatoria* 28, Dec. (1989), 15-31.

“The Prevalence of Paradoxes in Transportation Equilibrium Problems” (with R.E. Stone), *Transportation Science* 22, 4 (1988), 231-241.

“Marketing-Production Decisions in an Industrial Channel of Distribution” (with J. Eliashberg), *Management Science* 33, 8 (1987), 981-1000.

“Common Cost Allocation in the Firm” (with G. Biddle), Chapter 2 (pp. 31-54) in: H.P. Young, ed., *Cost Allocation: Methods, Principles, Applications*, North Holland 1985.

“Allocations of Joint and Common Costs” (with G. Biddle), *Journal of Accounting Literature* 3 (1984), 1-45.

“Tutte's 5-flow Conjecture for the Projective Plane,” *Journal of Graph Theory* 8, 2 (1984), 277-289.

“The Prevalence of Braess' Paradox” (with W.I. Zangwill), *Transportation Science* 17, 3 (1983), 301-318.

“A Topological Space for which Graph Embeddability is Undecidable” (with S. Foldes), *Journal of Combinatorial Theory, Series B* 29, 2 (1980), 342-344.

“One Counterexample for Two Conjectures on Three Coloring” (with L.S. Mel'nikov), *Discrete Mathematics* 20, 2 (1977), 203-206.

OTHER PAPERS

Slot Auctions Can Help Airports Reduce Congestion and Airlines Reach Environmental Targets,” *Airline Economics* 11, 4 (August-September 2021), pp. 66-69.

“Now Is the Time to Tackle the Problem of Runway Congestion,” *Travel Weekly*, July 19, 2021.

“Introduction to the Special Issue on E-Auctions for Procurement (with M. Bichler), *Production and Operations Management* 16, 4 (2007), 401-404.

“Congestion Pricing and User Adaptation (with A. Ganesh and K. Lavens), *IEEE INFOCOM* (2001), 959-965.

“Price Symmetry in a Duopoly with Congestion” (with O. Haimanko), CORE Discussion Paper, 2000/56, Dec. 2000.

EXPERT REPORTS

“Design of Initial Auctions for New ETS Covering Fuel for Buildings and Road Transport” (with A. Lilico, D. Harbord, and M. Pagnozzi), *Europe Economics*, 14 April 2022.

- Prepared for the Directorate-General for Climate Action, European Commission.

“Preliminary Market Consultation and Analysis for the Procurement of the Third Common Auction Platform”, *Europe Economics*, February 2020. Senior economist on five-member team that prepared the report.

- Prepared for the Directorate-General for Climate Action, European Commission.

“4G Radio Spectrum Auction: Lessons Learned”, Comptroller and Auditor General, UK National Audit Office, 12 March 2014. Supporting Adviser on report.

- Report to Parliament, House of Commons HC 968, Session 2013-14.

“Carbon Capture and Storage (CCS): Analysis of Incentives and Rules in a European Repeated Game Situation” (with D. Newbery, D. Reiner, T. Jamasb, F. Toxvaerd, and P. Noel), Electricity Policy Research Group, University of Cambridge, June 1, 2009.

- Prepared for and published by the UK Department of Energy & Climate Change (URN 09D/676).

“Comments on Public Notice DA 00-1075, In the Matter of Auction of Licenses in the 747-762 and 777-792 MHz Bands Scheduled for September 6, 2000” (with F. Kelly), June 7, 2000.

- Submitted before the US Federal Communications Commission, June 7, 2000.

“A Combinatorial Auction with Multiple Winners for COLR” (with F. Kelly), University of Cambridge, March 17, 1997.

- Submitted *ex parte* by Citizens for a Sound Economy Foundation before the US Federal Communications Commission re CC Docket No. 96-45—Federal-State Board on Universal Service, March 18, 1997.

“Consumer Benefit from Federal Preemption of Nationwide Caller ID Policy” (with P.B. Linhart, R. Radner, K.G. Ramakrishnan, and R. Rubin), AT&T Bell Laboratories memorandum, January 1994.

- Prepared at the request of AT&T for use in a legislative or regulatory context.

WORK IN PROGRESS

“Assortment Optimization and Pricing under a Threshold-based Choice Model” (with A. Li and X. Tian).

OTHER ACADEMIC APPOINTMENTS

Massachusetts Institute of Technology, Cambridge, Massachusetts

Summer 2011. Visiting Scientist, Sloan School of Management.
Summer 1996. Visiting Scientist, Operations Research Center.

Stanford University, Stanford, California

Autumn 2008. Visiting Scholar, Department of Economics
Autumn 2003. Visiting Associate Professor of Operations, Information, and Technology, Grad. School of Business

University of Oxford, Oxford, England

Autumn 2006. Academic Visitor, Said School of Business

Center for Operations Research and Econometrics (CORE), Université catholique de Louvain, Belgium

Autumn 2000. Research Visitor.

RESEARCH GRANTS

Economic and Social Research Council (ESRC), UK

- Grant of £288,000 as Principal Investigator on:
“A Comparison of Centralized and Decentralized Combinatorial Auctions,” awarded January 2009

Cambridge-MIT Institute (CMI)

- Grant of £167,000 as Principal Investigator on “Internet Congestion Control using Pricing,” awarded January 2004
- Grant of £10,000 as Co-Organizer (with M. Pollitt, University of Cambridge & P. Joskow, MIT) for workshop on “Innovation and Liberalization in Network Markets,” awarded January 2001

EDITORIAL POSITIONS

Manufacturing and Service Operations Management

2002-2018. Senior Editor / Associate Editor.
1999-2002. Member of Editorial Review Board.

Production and Operations Management

2003-2018. Senior Editor, E-Business and Operations.

Special Issue Editor:

- “E-Auctions for Procurement Operations” 16, 4 (2007)

Special Issue Associate Editor:

- “Operations Management in Business to Business Markets: Practice and Research” 20, 2 (2011)
- “Marketing and Operations Management Interfaces and Coordination” 18, 4 (2009)

PRIZE COMMITTEES

Invited nominator

- The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel for 2020, 2021, 2022

Member of prize committee

- Michael H. Rothkopf Junior Research Paper Prize, 2020, 2021
- Frederick W. Lanchester Prize, 2013, 2014
- INFORMS Expository Writing Prize, 2010, 2011, 2012 (Chairman)
- MSOM (Manufacturing and Service Operations Management Society) Student Paper Competition, 2006-11
- George Nicholson Student Paper Competition, 1991

WORKSHOP ORGANIZATION & INVITED TALKS

Workshop Organization

Combinatorial Auctions for Spectrum: State of the Art. London School of Economics, September 2013

Ofcom-LSE Workshop. (Organized with Geoffrey Myers, Ofcom)

Innovation and Liberalization in Network Markets. University of Cambridge, January 2001

Cambridge-MIT Institute Workshop. (Organized with Michael Pollitt, Univ. of Cambridge, and Paul Joskow, M.I.T.)

Keynote Talks

Peking University HSBC Business School, Shenzhen, China

- “Carbon Trading and CCS”, *Opportunities in the Low Carbon Economy in China*, Beijing, August 2010

Austrian Computer Society, Vienna, Austria

- “Pricing Internet Service”, *Workshop on Advanced Internet Charging and QoS Technology*, September 2001

The Cato Institute, Washington, DC

- “New Ideas for Universal Service: Are Auctions the Answer?”, *Roundtable Luncheon*, April 1999

Talks at Government Agencies

Ofcom, London, England

- Economics Seminar invited talk: “Combinatorial Auctions” (simulcast to Ofcom Edinburgh office), September 2018

Industry Canada, Ottawa, Canada

- Discussant at invited workshop: “Lessons Learned, Canada’s 700 MHz Spectrum Auction”, November 2014

National Audit Office, London, England

- Invited talk: “Government Auctions for Procurement and Sale”, January 2011

Invited Workshops

Columbia Institute for Tele-Information, Columbia University, New York, New York

- *Spectrum Auction Design, Experience in Auctions, and Post-Auction Market Structure*, June 2014
- *Wireless Communications and Universal Service*, December 2005

The Royal Society, London, England

- *Workshop on Net Neutrality*, December 2006

Schloss Dagstuhl, Wadern, Germany

- *Computing and Markets*, January 2005
- *Electronic Market Design*, June 2002

The Aspen Institute, Wye River Conference Center, Queenstown, Maryland

- *NEXTOR Workshop on National Airspace System Resource Allocation*, March 2002
- *FCC Conference on Combinatorial Bidding*, May 2000

Statistical Laboratory, University of Cambridge, Cambridge, England

- *Stochastic Networks Workshop*, December 2000
- *Stochastic Networks Workshop*, December 1996

International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria

- *Task Force Meeting on Cost Allocation*, August 1983

TEACHING

Courses Taught

MBA, MSc & MEng

Operations Management

- Operations Management for Management Consultancy (LSE)
- Quantitative Techniques in Operations Management (Cambridge)
- Operations Management (Cambridge, Columbia, Chicago)
- Manufacturing Management (Cambridge)
- Scheduling and Inventory Control (Columbia)
- Facilities Layout and Planning (Columbia)

Game Theory

- Auctions and Game Theory (LSE)
- Dynamic Processes and Game Theory (LSE)

Operations Research and Mathematics

- Operations Research (Columbia)
- Management Science (Chicago)
- Mathematics for Business (Columbia)

PhD & MPhil

Operations Management

- Topics in Operations Management (Cambridge)
- Production Scheduling (Columbia)
- Transportation Networks (Columbia)

Undergraduate

Operations Management

- Operations Management (Cambridge)
- Operations Management for Engineers (Cambridge)
- Production Scheduling (Cambridge)
- Scheduling (Cambridge)
- Inventory Control (Cambridge)

Operations Research

- Modelling of Queuing Systems (Cambridge)

M.Math. Supervision

- Supervised University of Cambridge M.Math. students on Part III essay, “Applicable Combinatorial Auctions,” 2013-14

Ph.D. Supervision

- Miklós Reiter, University of Cambridge (PhD 2007)
Thesis: “Internet Congestion Pricing: Long-Term Bandwidth Contracts and Investment in Oligopoly”
- Mira Slavova, University of Cambridge (PhD 2006)
Thesis: “Uncertainty, Microstructure and Bidding Behavior in Internet Auction Marketplaces”
- Sang-Bum Lee, Columbia University (PhD 1985)
Thesis: “Topics in Dynamic Lot-Sizing”

Executive Education

- “Pricing Internet Service,” Thought Leadership Seminar, British Telecom, Adastral Park, Ipswich, England, May 2004

INDUSTRIAL EXPERIENCE

Bell Laboratories

1993. CONSUMER BENEFIT FROM FEDERAL PREEMPTION OF NATIONWIDE CALLER ID POLICY^{[1],[2]}
Developed (with P.B. Linhart, R. Radner, and K.G. Ramakrishnan) economic analysis determining the benefit to consumers of Federal preemption of call blocking of Caller ID service.

Co-authored report explaining economic argument to be used before US Congress. (See EXPERT REPORTS, 1994.)

1992-1993. FRIENDS AND FAMILY RESPONSE^[3]

Organized and contributed to joint project (with P.B. Linhart, R. Radner, and K.G. Ramakrishnan) involving design of computer simulation tool to study possible AT&T pricing responses to MCI's Friends and Family services.

Co-authored report for corporate management explaining use of the tool.

1991-1993. VALUE OF CALLER ID^[3]

Organized and contributed to joint project (with P.B. Linhart, R. Radner, and K.G. Ramakrishnan), at the request of corporate management, to investigate the economic theory of pricing for caller ID services. Implemented game-theoretic models to propose strategies for allocating profits among cooperating companies. (See PUBLICATIONS, 1995.)

1991-1993. SPLIT-CABLE ADVERTISING EFFECTIVENESS STUDY

Designed and implemented tracking analysis to monitor difference in usage rates for two groups of households, with one group shielded from AT&T advertising. Represented AT&T in contract negotiations with consultant.

Wrote report on findings for use by corporate management.

1989-1990. ACTIVITY-BASED COSTING FOR SALES

Used Activity-Based Costing to analyze cost of sales effort per product across the AT&T General Business Systems product line. Conducted in-depth interviews with AT&T salespeople throughout the US (Chicago, New Orleans, Biloxi Mississippi, Seattle, Atlanta, Baltimore, Washington D.C.). Presented findings to senior corporate management.

1988. A TOOL FOR SUPPLIER INVENTORY MANAGEMENT

Designed information system and accompanying tool for AT&T Allentown Works to control the manufacture and inventory of integrated circuits used as components at other AT&T factories.

Wrote report for corporate management explaining the information system and use of the tool.

1987. THE EFFECTS OF NEW AND CHANGED DESIGN ON INVENTORY

Analyzed impact on inventory costs of design changes to circuit board production at AT&T Oklahoma City Works. Interviewed senior corporate executives, factory managers, and senior engineers. Designed PC-based tool for determining optimal inventory levels. Wrote report for corporate management on findings and use of the tool.

1985-1986. MANUFACTURING DISRUPTIONS MANAGEMENT AND CONTROL

Studied several product lines at AT&T Columbus Works, North Carolina Works, and Omaha Works.

Made recommendations for the reduction of frequency and severity of disruptions to the manufacturing processes.

Wrote report on findings for use by corporate management.

Special Recognition from Bell Laboratories

[1] Contribution to report "Consumer Benefit from Federal Preemption of Nationwide Caller ID Policy" recognized with appreciation by Arno Penzias, Vice President of Research, AT&T Bell Laboratories (Oct. 1994).

[2] Work on project "Consumer Benefit from Federal Preemption of Nationwide Caller ID Policy" recognized with appreciation by Arno Penzias (Sept. 1993).

[3] Received Bell Laboratories Mathematical Sciences Research Center's *Member of Technical Staff Merit Award* for work on "Value of Caller ID" and "Friends and Family Response" projects (Nov. 1992). (See AWARDS, 1992.)

Additional Bell Laboratories Project

1989-1990. Developed new internship program, called the "Martin Farber Internship," to promote theoretical research in the Operations Research Department.

INDUSTRIAL EXPERIENCE (continued)

GTE Laboratories

1995-1996. TELECOMMUNICATIONS AUCTION DESIGN

Developed Web-based auction model for use in determining carrier responsibility for Universal Service. Hired and supervised members of project team. Worked with public interest group.

1994-1995. BUSINESS SIMULATION MODELING II

Developed PC-based business planning tool to enable GTE planners to address strategic-level questions.

1994-1995. BUSINESS SIMULATION MODELING I

Enhanced externally-developed UNIX-based business planning tool. Supported corporate headquarters in use of the tool.

Other Industrial Appointments

MICROSOFT RESEARCH, CAMBRIDGE, ENGLAND

2010-2012. Visiting Researcher (part-time) in the Networks, Economics and Algorithms Group.

SALOMON BROTHERS, NEW YORK, NEW YORK

Summer 1979. Summer Associate under Martin L. Leibowitz in the Bond Portfolio Analysis Group.

Introduced bond immunization to the firm through a series of talks to the Bond Portfolio Analysis Group, which led to the development of bond immunization as a major product for Salomon Brothers.

Consulting

Environmental Auctions

Directorate-General for Climate Action (DG Clima), European Commission

- 2022. Adviser on auctions for fuel emissions allowances for buildings & road transport. (See EXPERT REPORTS, 2022.)
- 2019-20. Adviser on the third procurement of the Common Auction Platform (CAP3). (See EXPERT REPORTS, 2020.)

Department of Energy & Climate Change (DECC), UK

- 2009. Auction designer for EU demonstration projects for Carbon Capture & Storage. (See EXPERT REPORTS, 2009.)

Spectrum Auctions

Innovation, Science and Economic Development (ISED), Canada

- 2019-20. Co-leader of audit of the Canadian 600 MHz auction.

Bidder support, Canada

- 2015. Senior Consultant advising a bidder in the Canadian 2500 MHz auction.

National Audit Office (NAO), UK

- 2013-14. Project Lead and Supporting Adviser evaluating the UK 4G spectrum auction. (See EXPERT REPORTS, 2014.)
- 2013. Supporting Adviser on scoping exercise addressing the outcome of the UK 4G spectrum auction.

Federal Communications Commission (FCC), US

- 1997-2000. Adviser to FCC Office of Plans and Policy on the design of its first combinatorial spectrum auctions.

Expert Witness

Facility Location

Westminster City Council, London

- 2013. Assessed impact of Fifth London Safety Plan on critical emergency preparedness of London Fire Brigade.

UNIVERSITY SERVICE

Administrative positions

- PhD Director for Management Science, London School of Economics, 2012-13, 2014-17
- Member, REF (Research Excellence Framework) Strategy Committee, London School of Economics, 2011-13
- Chair of Research Committee, Department of Management, London School of Economics, 2010-13

Examining and assessment

- Chair of the Examination Board, Department of Management MSc Electives, LSE, 2010-13, 2017-18
- External Examiner, Mathematics Tripos, Part II, University of Cambridge, 2013-16
Responsible for the courses in probability, statistics, and operations research.
- Assessor for DPhil Transfer of Status examination, University of Oxford, 2006
- Chair of Examiners, Management Studies Tripos, University of Cambridge, 2003-06

PhD thesis committees

- University of Cambridge, Department of Pure Mathematics and Mathematical Statistics, 2004, 2011
- London Business School, Management Science and Operations, 2010
- Columbia University, Department of Electrical Engineering, 1982

AWARDS

- London School of Economics *Academic Staff Reward Committee Award*, 2018
- *Production and Operations Management Society Award*, 2016: “For the outstanding work performed as a Senior Editor, E-Business and Operations, for its research journal, *Production & Operations Management*.”
- London School of Economics *Top Ten Teachers in the Department of Management*, 2015-16
- M&SOM (Manufacturing and Service Operations Management) *Meritorious Service Award*, 2004, 2009, 2010
- Bell Laboratories Mathematical Sciences Research Center *Member of Technical Staff Merit Award*, 1992:
“For facilitating, organizing, and contributing to a joint project between BL05143 [Consumer Communications Services Center] and BL01121 [Mathematical Sciences Research Center] (Linhart, Radner, Ramakrishnan) investigating the economic theory of pricing for caller ID services, particularly using game-theoretic models and linear programming to examine strategies for allocating profits among participating companies cooperating to provide such a service for long-distance calls. Also played a significant role in interactions between these two organizations studying pricing for Friends and Family services.”

MEDIA

Interview with aviation website regarding the use of auctions to allocate airport runway slots:

- *Key.Aero*, “The Innovative Way to Reduce Airport Runway Congestion,” May 31, 2021.

Interview with Winifred Robinson regarding Just-In-Time inventory and the 2010 Icelandic ash cloud:

- *BBC Radio 4, You and Yours*, April 24, 2010.

Research on auctions featured:

- *Times Higher Education Supplement*, “Rethink on Bids Plan for Net Access,” May 12, 2000, p. 12.
- *Financial Times*, “Auction Leaves Many a Dream in Tatters,” May 2, 2000, p. 40.

Research on transportation paradoxes featured:

- *The New York Times*, “What if They Closed 42nd Street and Nobody Noticed?” Dec. 25, 1990, p. 38.
- *American Scientist*, “The Counterintuitive in Conflict and Cooperation,” Nov.-Dec. 1988, pp. 577-584.

Research on production-marketing joint decision making featured, with interview:

- *Financial News Network, Wharton Business Times Management Report*, January 19, 1985.