

ARNOLD IRVIN BARNETT

*George Eastman Professor of Management Science
Professor of Statistics
Sloan School of Management
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Born: April 21, 1948, Brooklyn, N.Y.
Citizenship: U. S.
Education: B.A., Physics, Columbia University, 1969
PhD, Mathematics, MIT, 1973

Thesis Title: On Controlling Randomness in Transportation Systems
Thesis Advisor: Professor Daniel J. Kleitman

Primary Research Interests: Operations Research, Applied Statistics, Applied Mathematical Modeling, Public Policy, Health and Safety

MIT Experience:

1971-73	Summer Session Instructor, Dept. of Mathematics, M.I.T.
1973-75	Instructor of Applied Mathematics, Dept. of Mathematics, M.I.T.
1975-78	Assistant Professor of Operations Research, Sloan School of Management, M.I.T.
1978-87	Associate Professor of Operations Research, Sloan School of Management (received tenure, May 1982)
1987-present	Professor of Operations Research, Sloan School of Management
1998	Named George Eastman Professor of Management Science

Outside Experience:

1973-75	U. S. Atomic Energy Commission (Bethesda, MD)
1975	Norton Publishing Co. (New York)
1975-90	Public Systems Evaluation Inc., Enforth (Cambridge)
1975	U. S. Dept. of Justice, Law Enforcement Assistance Administration (Washington)
1976-81	Tufts-New England Medical Center, Dept. of Hematology (Boston)
1978-81	U. S. General Accounting Office, Division of Energy and Minerals (Washington)
1980	Vermont State College System
1980	Citizens Crime Commission of New York City
1981	Professional Development Institute, Ltd. (Ottawa)
1982-84	National Center for State Courts (Williamsburg, Virginia)
1984	Manchester Business School (sabbatical)
1984-present	Educational Testing Service (Princeton, New Jersey)
1984-85	McKinsey and Company (London, Sydney)
1985	Australian Graduate School of Management (sabbatical)
1987	U. S. Sentencing Commission (Washington)
1987-95	KOBA Associates (Washington)
1988	Abt Associates (Cambridge)
1988	MacArthur Foundation/National Institute of Justice
1989	Centers for Disease Control (Atlanta)
1990-91	U.S. General Accounting Office (Washington)
1990-91	Federal Aviation Administration (Atlantic City)
1992-94	Burns and Levinson, Counselors-at-Law, Boston
1992-3	Clinton and Musaka, Counselors-at-Law, Boston
1993-present	Amsterdam Schiphol Airport
1993	American Airlines
1993-present	Analysis Group (Cambridge)
1994	Goodwin Proctor and Hoar, Counselors-at-Law, Boston
1994-95	<u>Newsweek</u> magazine
1994	CSSI (Washington)
1994	Liberty Mutual Insurance
1995-99	<u>Computerworld</u> magazine
1995	ATMS (Falls Church, VA)
1995	Ropes and Gray, Counselors-at-Law, Boston
1995	Association of American Railroads
1996	Verner, Liipfert, Bernhard, McPherson, and Hand (Washington)
1996	Morgan-Stanley, Hong Kong
1996-present	Gell-Mann Research Associates (Philadelphia)
1997-present	Environmental Science Associates (San Francisco)
1997	Volpe National Transportation Center
1997	Coopers & Lybrand

1997	Holland & Knight Law Offices (Miami)
1998-2000	Federal Express Airlines
1999	Connecticut Home Care Association
1999	Locke, Liddell, and Sapp (Counselors at Law) (Houston)
1999-2001	Urban Institute (Washington)
1999-present	J.P. Morgan and Co.
1999-present	McNatt, Greene, and Thompson Law Offices (Vidalia, GA)
2000	Amsterdam Schiphol Airport, Committee on Crosswinds and Tailwinds
2000	University Access Inc. (Los Angeles)
2000	American Association of Actuaries
2000	O'Melveny and Myers (Los Angeles)
2000	Louisville International Airport
2001-present	Cornerstone Research (New York, Los Angeles, San Francisco, Menlo Park)
2001	Flight Safety Foundation
2001	Jenner and Block (Chicago)
2001	Simpson, Thacher, and Bartlett (New York)
2000-present	Sonnenschein, Nath and Rosenthal (Kansas City, Chicago, St. Louis, New York)
2002	(U.S.) Transportation Security Administration
2002	Wollmuth, Maher, and Deutsch (New York)
2002	Finnegan, Henderson, Farabow, Garrett, and Dunner (Washington)
2003	MCRI (Arlington, Virginia)
2004	Johnson and Johnson, Inc. (New Jersey)
2004	Wilson, Sonsini, Goodrich, and Rosati (Palo Alto)
2004-07	Winston and Strawn (Chicago)
2005	Manatt, Phelps, and Phillips (New York)
2006	De Brauw, Blackstone, Westbroek (The Hague)
2007-present	Morrison and Forester (Sacramento)
2008-10	City of Los Angeles/Los Angeles World Airports
2009	Mintz, Levin, Cohn, Ferris, Glovsky, and Popeo (Washington)
2009	Howrey (Washington, DC)
2010-present	Grippio and Ellen (Chicago) and Butler, Rubin, Saletarelli, and Boyd (Chicago)
2011	City of New York
2011-12	Reed Smith (Chicago)
2011-12	Pepper Hamilton (Philadelphia)
2011-present	Goodwin Procter (Boston)
2012-present	Goldman Sachs
2012-present	Union Bank of Switzerland
2012-present	Royal Bank of Scotland
2012	Merck
2013	Cessna Aircraft

2015	Polar Air, Air China, Air India
2015-present	SharkNinja
2015-present	Manor Care
2016	C5 Medical Werks
2017	Tristar Products
2017	Sierra Health Services
2018	Apple

(Testimony in recent legal cases appears separately at the end of this document.)

MIT Administrative Activities:

(Institute) Committee on the Writing Requirement
 (1983-84) (Institute) Committee on Curriculum (1986)
 (Vice-Provost's) Committee to Review the Operations Research Center
 (1986) Sloan Master's Program Committee (1983-84, 1985-86, 1990-92)
 Sloan Core Coordination Committee (1985-86)
 Chair, Sloan Ph.D. Program Committee (1986-88)
 MIT Committee on Student Affairs (1987-88)
 Operations Research Center, Core Faculty (1975-present)
 Institute Committee on Minority Student Achievement (1999-2001)
 MIT Medical Board, (2000-2002)
 MIT Committee on Academic Performance (2005-present)

MIT Teaching Activities:

Courses Taught:

15.053	Introduction to Management Science
15.054	The Global Aviation Industry
15.060	Data, Models, and Decisions
15.061	Intermediate Statistics
15.063	Communicating with Data
15.064	Engineering Probability and Statistics
15.068	Advanced Statistics (until 2000)
15.068	Statistical Consulting
15.069	Applied Probability and Statistics (undergraduate)
15.071	Decision Technologies for Managers
15.073/18.445	Introduction to Stochastic Processes

15.075	Applied Statistics
15.078J	Urban Operations Research/Logistics and Transportation Planning
15.813	Management Science and Public Systems
15.074	Mathematical Models and Policy Analysis
18.075/18.706	Advanced Calculus for Applications
18.303	Probability and Random Variables
18.312	Introduction to Statistics

Teaching Honors:

- Selected fifteen times by the students as recipient of a MIT Sloan school, Engineering School, or institute-wide Excellence in Teaching Award.
- Recipient in May 2016 of the Jamieson Prize for Excellence in Teaching, which is endowed by an MIT alumnus.
- One of eight U. S. faculty discussed in the article “B-School Students' Favorite Professors” in *Fortune* magazine of January 25, 1982.
- Ranked the most “outstanding” faculty member at the Sloan School in a 1992 *Business Week* poll of recent graduates. (The Best B-Schools, McGraw Hill, 1993, p. 165.)
- Selected by *Poets and Quants* as one of the “50 top undergraduate business professors” in a worldwide assessment, November 2018

Research Activities:

Research Awards and Honors:

- 1996 President's Award from Institute for Operations Research and the Management Science (INFORMS) for outstanding contributions to the betterment of society.
- Selected as the 1999 honorary inductee into Omega Rho International Honor Society for scholarly contributions.
- Selected by the British Operational Research Society as the year 2000 Blackett Memorial Lecturer; lecture was delivered at the Royal Aeronautical Society.
- Recipient of the 2001 Expository Writing Award of the Institute for Operations

Research and the Management Sciences (INFORMS) because influence of research was “greatly enhanced by its expository excellence.”

- Recipient of 2002 President’s Citation from the world-wide Flight Safety Foundation for “truly outstanding service on behalf of safety, whether it be valor, professionalism or other service above and beyond expectations.”
- Selected in 2003 as a Fellow of the Institute of Management Sciences and Operations Research.
- The paper ““Why Did US Urban Homicide Spike in 2020? A Cross-Sectional Data Analysis for the Largest American Cities” (with M. Fazel-Zarandi) received the Best Paper award for articles published in 2024 in the journal *Risk Analysis*.

Sponsored Research:

Principal Investigator of eleven research projects:

- (1) “On Additional Approaches to Criminal Justice Data Analysis,” awarded 4/78-4/80, Law Enforcement Assistance Administration; U. S. Dept. of Justice.
- (2) “Mathematical Models and the Use of Prison Space,” awarded 6/81 by National Institute of Justice, U. S. Dept. of Justice.
- (3) “Selective Incapacitation and the Philadelphia Cohort Data,” awarded 9/83 by National Institute of Justice, U. S. Dept. of Justice.
- (4) “A Paradoxical Aspect of the Recent Decline in Crime Rates,” awarded 10/86, National Institute of Justice, U. S. Dept. of Justice.
- (5) “Assessing and Expanding the Set of Air Safety Risk Indicators,” awarded 9/90, Federal Aviation Administration. (Renewed, 1/92.)
- (6) “World Airline Safety,” awarded 1/97, Federal Aviation Administration.
- (7) Co-Director, National Center of Excellence in Aviation Operations Research, (NEXTOR) founded 10/96.
- (8) Chair, FAA Technical Committee on Positive Passenger Bag Match, which was established to deal with security issues raised by Gore Commission, 1996-98.

- (9) Co-Director, Sloan Foundation Project on the Global Aviation Industry, 1999- present.
- (10) Chair, Academic Panel, North Runway Safety Study, Los Angeles International Airport, 2008-10.
- (11) Chair, MIT Conference on the Electoral College, sponsored by the Carnegie Corporation of New York, 2008.
- (12) Member of National Academy of Sciences/Engineering Committee to investigate "Airport Passenger Screening: Backscatter X-Ray Machines", 2013.

Editorships:

Departmental Editor for Public Sector Applications, *Management Science*.

Contributing Editor, *Interfaces*.

Associate Editor, *Operations Research*.

Associate Editor, *Transportation Research*, part E

Editorial Board, *Journal of Quantitative Criminology*.

Editorial Board Member, *Journal of Managerial Issues*.

Co-Editor, Operations Research in the Public Sector, Elsevier-North Holland.

Chair, *OR/MS TODAY* Committee.

Publications: (chronological; *textbooks at end*)

"Optimal Scheduling Policies for Some Simple Transportation Systems," (with D. J. Kleitman), *Transportation Science*, February 1973, pp. 85-99, Volume 7.

"On Scheduling Some Transport Systems with Discrete-Time Passenger Arrivals," *Studies in Applied Mathematics*, March 1973, pp. 75-86.

"Urban Violence and Risk to the Individual," (with D. J. Kleitman), *Journal of Research in Crime and Delinquency*, July 1973, pp. 110-116.

“On Operating a Shuttle Service,” *Networks*, September 1973, pp. 305-313.

“On Controlling Randomness in Transit Operations,” *Transportation Science*, May 1974, pp. 85-102, Volume 8.

“On Urban Homicide: A Statistical Analysis,” (with D. J. Kleitman and R. C. Larson), *Journal of Criminal Justice*, Summer 1975, pp. 85-110. (A qualitative version of the above paper was published in *Ekistics*, February 1975. The paper's findings were the subject of the column “Grisly Prospects” in *The Wall Street Journal*, September 12, 1974.)

“More on a Market Share Theorem,” *Journal of Marketing Research*, February 1976, pp. 104-109.

“On Searching for Events of Limited Duration,” *Operations Research*, May-June 1976, pp. 438-451, Volume 24.

“Improved Interpretation and Analysis of Criminal Justice Statistics” (with R. D. Larson and A. Odoni) in Performance Measures and the Criminal Justice System: Four Conceptual Approaches, U. S. Dept. of Justice, Law Enforcement Assistance Administration, October 1976. (I wrote Chapter 8 of Part II of the book.)

“Control Strategies for Transport Systems with Nonlinear Waiting Costs,” *Transportation Science*, May 1978, pp. 119-136, Volume 12.

“A Statistical Procedure for Testing Nuclear-Powered Cardiac Pacemakers,” (with D. J. Kleitman, D. Rosenbaum, and B. Singer), *Technometrics*, August 1978, pp. 221-226.

“Optimal Control of the B/B/C Queue,” (satirical) *Interfaces*, August 1978, pp. 49-52, Volume 8. “On Two-Terminal Control of a Shuttle Service,” (with D. J. Kleitman), *SIAM Journal on Applied Mathematics*, September 1978, pp. 229-234.

“Some Optimization Problems with Bulk-Service Queues,” (with D. J. Kleitman), *Studies in Applied Mathematics*, Fall 1978, pp. 277-290.

“Crime and Capital Punishment: Some Recent Studies,” *Journal of Criminal Justice*, Winter 1978, pp. 291-303.

“National Evaluation Program: Streetlighting Projects” (with J. Tien, V. S. O'Donnell, and P. B. Mirchandani), U. S. Government Printing Office #281-380-1551, Washington, D. C., 1979.

“Airline Safety: Some Empirical Findings,” (with M. Abraham and V. Schimmel) *Management Science*, November 1979, pp. 1045-1056, Volume 25. (This paper was summarized under the title “Risk Assessment” in the *Scientific American* of August 1980.)

“The Decision to Perform Staging Laparotomy in Symptomatic Hodgkin's Disease,” (with C. J. Rutherford, J. DesForges, and B. Davies), *British Journal of Hematology*, 44, pp. 347-358, 1980.

“On the Sequential Search for Spatially-Distributed Events,” (with J. Mazzarino), *SIAM Journal on Algebraic and Discrete Methods*, Volume 1, #1, March 1980, pp. 82-91.

“Urban Homicide: Some Recent Developments,” (with E. Essensfeld and D. J. Kleitman), *Journal of Criminal Justice*, 8, pp. 379-85, 1980. (This paper was the subject of “The State of Murder in America,” *Boston Sunday Globe*, October 21, 1979, Focus Section.)

“The Dose-Response Relationship: What is Its Form at Low Levels?” and “Latency Period: Estimating the Time from the Induction to the Appearance of Cancer,” Chapters 11 and 12 in Problems in Assessing the Cancer Risks of Low-Level Ionizing Radiation Exposure, Report EMD-81-1 to the Congress of the United States, U. S. General Accounting Office, 1981, pp. 11-1 to 11-34 and 12-1 to 12-18.

“The Deterrent Effect of Capital Punishment: A Test of Some Recent Studies,” *Operations Research*, March-April 1981, pp. 346-370, Volume 28. (This article was summarized in the Op-Ed column “Capital Punishment: The Uncertainty Remains”, *The Boston Sunday Globe*, September 3, 1979.)

“Further Standards of Accountability for Deterrence Research,” Chapter 7 of Methods in Quantitative Criminology, J. Fox, Editor, Academic Press (1981), pp. 127-145.

“Evaluating the Validity of a Bayesian Model of Predicting Stage in Hodgkin's Disease,” (with C. J. Rutherford, J. DesForges, N. Gutensohn, and B. Davies), *Methods of Information in Medicine*, 20, pp. 174-178, 1981.

“Learning to Live with Homicide,” *Journal of Criminal Justice*, 10, pp. 69-72, 1982.

“An Underestimated Threat to Multiple-Regression Analyses Used in Job Discrimination Cases,” *Industrial Relations Law Journal* (Berkeley [Boalt Hall] Law School) 5, #1, pp. 156-173, 1982.

“The Decision Between Single and Combined Modality Therapy in Hodgkin's Disease,” (with C. J. Rutherford, J. DesForges, C. Safran, and B. Davies), *American Journal of Medicine*, February 1982.

“A Quartile Test for Differences in Distribution,” (with E. Eisen), *Journal of the American Statistical Association*, 77, pp. 44-51, 1982.

1983 *Interfaces* columns:

“The Linear Model and Some of Its Friends,” 13, pp. 61-65, February, Volume 13. “The Capital Punishment Controversy: Part I,” pp. 24-28, June, Volume 13.

“The Capital Punishment Controversy: Part II,” pp. 35-39, November, Volume 13.

“After the Crash: The Passenger Response to the DC-10 Disaster,” (with A. J. Lofaso), *Management Science*, 24, pp. 1125-36, November.

1984 *Interfaces* columns:

“Mea Culpa,” 14, pp. 24-28, March-April, Volume 14.

“Hinckley and the Chemical Bath,” (with I. Greenberg and R. Machol), pp. 48-52, July-August, Volume 14.

“Newswatch,” pp. 39-43, November-December.

“Selective Incapacitation and the Philadelphia Cohort Data,” (with A. J. Lofaso), *Journal of Quantitative Criminology*, Vol. 1, #1, March 1985, pp. 3-36.

“Some Distribution Patterns for the Georgia Death Sentence,” *U. C. Davis Law Review* (Death Penalty Symposium), Summer 1985, pp. 1327-74.

“Model-Based U. S. Prison Population Projections,” (with T. Rich) *Public Administration Review*, November 1985, pp. 780-9.

1985 *Interfaces* columns:

“The Parable of the Red Line,” (with A. Sapanaro), 15, pp. 33-39, March-April. “Birth and Death Processes,” pp. 34-38, July-August, Volume 15.

“Before the Fall,” pp. 60-65, November-December, Volume 15.

“On the Optimal Allocation of Prison Space,” (with A. J. Lofaso), Chapter 12 of Delivery of Urban Services, (TIMS series in the Management Sciences #22; A. J. Swersey, Editor), Elsevier North Holland Press, pp. 245-268, 1986.

1986 *Interfaces* columns:

“Speed Kills?” pp. 63-68, March-April, Volume 16.

(This column was reviewed in *Mathematics* magazine (6/86) and was the basis of my op-ed piece “See Lightning? Shut Airports”, *The New York Times*, June 26, 1986.)

“Ice Follies,” pp. 91-95, July-August, Volume 16.

“Prison Populations: A Projection Model,” *Operations Research*, 35, pp. 18-34, 1987. “Probabilistic Models of Youthful Criminal Careers,” (with A. Blumstein and D. Farrington), *Criminology*, 25, pp. 83-107, 1987.

1987 *Interfaces* columns:

“Lightning Strikes Twice,” pp. 21-26, March-April,

Volume 17. “High Road to Glory,” November-December,

Volume 17. “Review of Prediction and Criminology”, (ed. by Farrington and Tarling), *International Journal of Forecasting*, June 1988.

“Thunderstorms and Aviation Safety: A Dialogue,” (with R. E. Machol), *Interfaces*, 26, March- April 1988.

“Crime News,” *Interfaces*, May-June 1988.

“Wind Shear: Down but not Out,” *MIT Management*, Summer 1988, Volume 18.

“Heroin Crackdowns and Crime Rates: A Comment on the Kleiman Report and Two Massachusetts Experiments,” Chapter 3 in Street-Level Drug Enforcement: Examining the Issues, National Institute of Justice, August 1988, pp. 37-46.

“Airline Safety: The Last Decade,” (with M. K. Higgins), *Management Science*, January 1989, pp. 1-21, Volume 35.

“Urban Homicide: Still the Same,” (with E. Schwartz), *Journal of Quantitative Criminology*, March 1989, pp. 83-100.

“The Mystery of the Two-Faced Regression,” (with P. Brownell), *Interfaces*, March-April 1989, pp. 56-60, Volume 19.

“A Prospective Test of a Criminal Careers Model,” (with A. Blumstein and D. Farrington), *Criminology*, May 1989, pp. 373-388.

“Dealing with Autism,” *Interfaces*, May-June 1989, pp. 27-32, Volume 19.

“Selecting the Nation's CEO: A Risk Assessment of the Electoral College,” *Journal of Managerial Issues*, 2(4), 1990. (Invited paper; aspects of this analysis were widely cited in the press during the 1988 Presidential campaign.)

“Air Safety: End of the Golden Age?” *Chance: New Directions for Statistics and Computing*, 3 (2), 1990, pp. 8-13.

“Take the Bargain and Fly,” *Advancing the Consumer Interest*, April 1990. (The negative side in a debate on whether the pernicious aspects of U.S. airline deregulation outweighs the economic benefit has brought to travelers.)

“Rain Men,” (with H. Tress), *Interfaces*, March-April 1990.

“It's Safer to Fly,” *Risk Analysis*, 11(1), March 1991, Volume 13.

“Smoke Signals,” (with I. Greenberg), *Interfaces*, 21(6), Nov.-Dec. 1991, (Misapplications Reviews), Volume 21.

“Review of Equal Justice and the Death Penalty,” *Ethics*, 102(1), October 1991.

“An Unfortunate Pattern in U.S. Domestic Jet Crashes,” (with T. Curtis), *Flight Safety Digest*, 10(10), October 1991. (This paper was the subject of the article “Fatalities Likelier on Crowded Jets”, *The New York Times*, November 1, 1991.)

“Better than Ever: Nonstop Jet Service in an Era of Hubs and Spokes,” (with T. Curtis, J. Goranson, and A. Patrick), *Sloan Management Review*, 33(2), Winter 1992. (This paper was the subject of the article “Why Airline Hubs Can Be Nice”, *The Economist*, February 1, 1992..)

“Not All Criminal Career Models Are Equally Valid,” (with A. Blumstein, J. Cohen, and D. Farrington), *Criminology*, February 1992.

“The Market Response to the Sioux City DC-10 Crash,” (with J. Menhigetti and M. Prete), *Risk Analysis*, March 1992.

“America's Vietnam Casualties: Victims of a Class War?” (with T. Stanley and M. Shore), *Operations Research*, September-October 1992. Volume 40. (This paper was the subject of William F. Buckley's column “Vietnam: The Poor Man's War?” written on October 28, 1992.)

“Experience-Outcome Relationships in Heart Transplantation,” (with G. Laffel, S. Finkelstein, and M. Kaye), *New England Journal of Medicine*, October 1992.

“Landings at Logan Airport: Describing and Increasing Airport Capacity,” (with C. S. Venkatakrishnan and A. Odoni), *Transportation Science*, July-August 1993.

“The On-Time Machines: Some Analyses of Airline Punctuality,” (with J. Caulkins, J. Goranson, P. Larkey, and Y. Yuan), *Operations Research*, July-August 1993, Volume 41.

“Something Specious in the Air? Some Statistical Misconceptions in Aviation Safety Research,” *Transportation Research Record*, #1423, 1994.

“Models Fail,” Chapter 3 in *Operations Research in the Public Sector* (ed. by S. Pollock, A. Barnett, and M. Rothkopf), Elsevier-North Holland, 1994.

“Business Schools: Failing Fast?” *Interfaces*, March - April 1994, Volume 24 (Short Piece).

“How Numbers Can Trick You: The Six Deadly Sins of Statistical Misrepresentation,” *Technology Review*, October 1994 (Cover Story).

“Crime and Justice Research,” (with M. Maltz), a section of *Encyclopedia of Operations Research and the Management Sciences*, Elsevier-North Holland, 1996. “Race, IQ, Genetics and The Bell Curve,” *OR/MS Today*, February 1995.

“Jail Terms,” *Interfaces*, March - April 1995, Volume 25 (Misapplications Reviews).

“How Safe is This Flight?” *Newsweek*, April 24, 1995. (I prepared the statistical tables that appeared in the article.)

“Good News is No News?” (with J. Goranson), *Interfaces*, May-June 1996, Volume 26.

Review of the book *A Mathematician Reads the Newspaper*, *Technology Review*,

February-March 1996.

“Valujet and Travel Safety,” report contained within written testimony of Valujet President Lewis Jordan to Transportation and Infrastructure Committee, U.S. House of Representatives, June 1996. (This report was also presented to the U.S. Senate, to the U.S. Department of Transportation, and to the Circuit Court of Appeals for the District of Columbia.)

“The Affirmative Action Debate,” *OR/MS Today*, August 1996.

“Beauty and the Beast: A Visit to South Africa,” *ROI*, October 1996.

“Safety in Numbers: Some Statistics about Plane Crashes and Their Consequences,” Proceedings of the International Conference on Aviation Safety and Security in the 21st Century, sponsored by the White House Commission on Aviation Safety and Security, January 1997.

Review of Efficiency of Racetrack Betting Markets, *Interfaces*, Jan-Feb 1997, Volume 27.

Review of Cartographies of Danger, *Technology Review*, October 1997.

“The Feline Great Mystery,” (electronic presentation for high-school math students) at: <http://morning-star.mit.edu/felinegreat>.

“Some Ultimate Risks,” (electronic presentation for college students under the CHANCE project of the National Science Foundation), at: [http://www.dartmouth.edu/~chance/Chance Lecture/RIEL](http://www.dartmouth.edu/~chance/ChanceLecture/RIEL).

“The Patron Saint of Operations Research,” (testimonial), *OR/MS TODAY*, June 1998.

“A Hero is Nothing but Bob Machol,” (testimonial), *OR/MS TODAY*, February 1999.

“A Parallel Approach Path for Estimating Collision Risk during Simultaneous Landings”, *Management Science*, March 1999, Volume 45.

Review of Misused Statistics, *Chance*, March 2000, Volume 14.

“Airline Safety: The Recent Record,” (with A. Wang), *Flight Safety Digest*, April 2000. (This paper was the subject of my op-ed piece: “Flying? No Point in Trying to Beat the Odds,” *The Wall Street Journal*, September 9, 1998.)

Review of Capital Punishment: A Reader, *Ethics*, July 2000.

Foreword to Understanding Aviation Safety Data, SAE, 2000.

“It’s a Crime What Some People Do with Statistics,” *The Wall Street Journal* (op-ed), August 30, 2000.

“Free-Flight and En Route Air Safety: A First-Order Analysis,” *Operations Research*, November-December 2000, Volume 48.

“Fatal US Runway Collisions Over the Next Two Decades,” (with G. Paull and J. Iaodeluca), *Air Traffic Control Quarterly*, 8(4), 2000.

“The Cost of Cancer to a Major Employer,” (with P. Cremieux and M. Slavin), *American Journal of Managed Care*, November 2000.

“Safe at Home? An Experiment in Domestic Airline Security.” (with R. Shumsky, M. Hansen, A. Odoni, and G. Gosling, *Operations Research*, March-April 2001, Volume 49.

“Air Safety: End of the Golden Age?” *Journal of the Operational Research Society*, August 2001, Volume 52. (This paper is based on the year 2000 Blackett Memorial Lecture, which I presented in November 2000 at the Royal Aeronautical Society in London.)

“The Worst Day Ever: September 11 and Commercial Aviation,” *OR/MS TODAY*, December 2001.

“Anemia-Related Costs for Cancer Patients,” (with P. Cremieux, A.M. Fendrick, M. George, and M. Slavin), *Journal of Managed Care Medicine*, 2001, 5 (12).

“Bag Match: At Last,” *Congressional Record*, January 23, 2002. (Testimony to House Aviation Subcommittee, U.S. House of Representatives.)

“A New Approach to Estimating the Probability of Winning the Presidency,” (with E. Kaplan), *Operations Research*, January-February 2003, Volume 51.

“Trust No One at the Airport,” *OR/MS TODAY*, February 2003. (“Last Word” column.)

“Dose Conversion from Epoetin alfa to Darbepoetin alfa for Patients with Chronic Kidney Disease Receiving Hemodialysis” (with P. Cremieux), *Pharmacotherapy*, Spring 2003.

“Aviation Security’s False Hope?” *MIT Technology Insider*, May 2003 (and

TechnologyReview.com, August 2003).

“Terror is In the Air,” (with S. Martonosi), *Chance*, American Statistical Association, Spring 2004, Volume 18.

“CAPPS II: The Foundation of Aviation Security?” *Risk Analysis*, August 2004, Volume 24.

“Assessing the Effectiveness of Aviation Safety Measures in the Absence of Actual Data,” (with G. Paull), *Air Traffic Control Quarterly*, Fall 2004, Volume 12.

“World Airline Safety: The Century So Far,” *Flight Safety Digest*, January-February 2006, Volume 33.

“O.R. Heroes on Flight 93,” *OR/MS TODAY*, August 2006.

Applied Statistics for Clinical Researchers, Web course for medical doctors, funded by Pfizer and Merck for worldwide distribution. Final version released in August 2006. (The link is <http://hstlearning.mit.edu/appstats/>; anyone can register and get access.)

“Airlines as Baseball Players: Another Approach to Evaluating Air Carrier Safety Records,” (with D. Czerwinski), *Management Science*, September 2006, Volume 52.

“How Effective is Security Screening for Airline Passengers?” (with S. Martonosi), *Interfaces* (Special Issue on Homeland Security), November-December 2006, Volume 36.

“A Cure for the Electoral College?” (with E. Kaplan), *Chance* (American Statistical Association), Spring 2007, Volume 20. (This paper was excerpted in the op-ed piece of the same name in the *San Diego Union Tribune* of May 17, 2009, as part of a web-page debate.)

“Match the Bags Again,” *Airport Innovation* (Inaugural Issue), April 2007.

“Measure for Measure: An Analysis of Aviation-Safety Metrics,” *AeroSafety World* (Flight Safety Foundation), November 2007.

“Is It Really Safe to Fly?” Chapter 2 in Tutorials in Operations Research, Institute for Operations Research and the Management Sciences, 2008.

Aviation Safety and Security,” Chapter 11 in The Global Airline Industry, (ed. by P.

Belobaba, A. Odoni, and C. Barnhard), John Wiley & Sons, 2009, pp. 313-342.

“Selecting the Nation’s CEO: A Risk Assessment of the Electoral College,” *Journal of Managerial Issues*, pp. 447-460, 21(4), Winter 2009. (This article was reprinted as part of a tribute to the Founding Editor on his retirement. He selected his seven favorite articles from those published by the journal in the last twenty years.)

“Use Body Scan Machines,” invited contribution to “What’s Missing in Aviation Security?” Room for Debate Blog, *The New York Times*, December 28, 2009.

“Cross-National Differences in Aviation Safety Records,” *Transportation Science*, 44(3), pp. 322-332, August 2010. (This paper was summarized in more than 30 newspapers around the world.)

“Resist the Complainers,” invited contribution to “Do Body Scanners Make Us Safer?” Room for Debate Blog, *The New York Times*, November 23, 2010.

“Aviation Safety and Security,” *Wiley Encyclopedia of Operations Research and the Management Sciences*, March 2011. (This article is not the same as the one with the same title above.)

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As of late 2025, I am writing a book titled “Aviation Safety: A Brief History,” which will build upon my half century of research on the topic and be aimed at both specialists and general readers.

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