

JAMES E. SMITH

<https://www.tuck.dartmouth.edu/faculty/faculty-directory/james-smith>

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EDUCATION

- 1987-1990 **Stanford University**, Stanford, California.
Ph.D. in Engineering-Economic Systems, June 1990. Coursework emphasized decision analysis, probability theory, optimization, and microeconomic analysis.
Principal Advisor: Ronald A. Howard. Thesis: "Moment Methods for Decision Analysis."
Reading Committee: Howard, David G. Luenberger, James E. Matheson.
- 1980-1986 **Stanford University**, Stanford, California.
M.S. and B.S. (with distinction) in Electrical Engineering, June 1986 and June 1984.
Coursework emphasized artificial intelligence, computer systems, and control theory.
Member of Tau Beta Pi and Phi Beta Kappa honor societies.

WORK EXPERIENCE

- 2018- **Tuck School of Business, Dartmouth College**, Hanover, New Hampshire.
Jack Byrne Distinguished Professor in Decision Science (2018-).
Teaching courses in decision sciences and analytics.
- 1990-2018 **Fuqua School of Business, Duke University**, Durham, North Carolina.
Assistant Professor (1990-94). *Associate Professor without tenure* (1994-1997).
Associate Professor with tenure (1997-2004). *Associate Dean for Daytime MBA Program* (2000-03), *Professor* (2004-). *William and Sue Gross Distinguished Research Scholar* (2006-2008). *J.B. Fuqua Professor of Business Administration* (2009-2018).
Taught courses in probability and statistics, decision models, and decision analysis.
Winner of outstanding faculty awards given by MBA classes of 1993 and 2000; finalist for award in 1992, 1995, and 1998. Finalist for core course teaching award in 1997.
Winner of core course teaching award for WEMBA classes of 2010 and 2014. Winner of Bank of America Faculty Award in 2004.

Short visits to Dartmouth (2014), INSEAD Singapore (2014), UCLA (2018)
- 1998-1999 **Stanford University**, Stanford, California.
Visiting Scholar in the Department of Engineering-Economic Systems and Operations Research; sabbatical visit for the 1998-99 academic year.

WORK EXPERIENCE (continued)

1986-1989 **Strategic Decisions Group**, Menlo Park, California.
Participated in a number of projects with this management consulting firm, including work in the chemicals, aerospace, and financial services industries.

PUBLICATIONS

- David Brown and James E. Smith. 2022. Information Relaxations and Duality in Stochastic Dynamic Programs: A Review and Tutorial, *Foundations and Trends in Optimization* 5 (3), 246-339.
- Andrew Blake and James E. Smith. 2021. Modeling Hepatitis C Elimination Among People Who Inject Drugs in New Hampshire, *JAMA Network Open* 4 (8).
- James E. Smith and James S. Dyer. 2021. On (Measurable) Multiattribute Value Functions: An Expository Argument, *Decision Analysis* 18 (4), 247-256.
- James S. Dyer and James E. Smith. 2021. Innovations in the Science and Practice of Decision Analysis: The Role of *Management Science*, *Management Science* 67 (9), 5364-5378.
- David B. Brown and James E. Smith. 2019. "Index Policies and Performance Bounds for Dynamic Selection Problems." *Management Science* 66(7) 3029-3050.
- James E. Smith and Canan Ulu. 2017. "Risk Aversion, Information Acquisition, and Technology Adoption." *Operations Research* 65 (4): 1011-1028.
- David B. Brown and James E. Smith. 2014. "Information Relaxations, Duality, and Convex Stochastic Dynamic Programs." *Operations Research* 62(6): 1394-1415.
- David B. Brown and James E. Smith. 2012. "Optimal Sequential Exploration: Bandits, Clairvoyants, and Wildcats." *Operations Research* 61(3): 644-665.
- James E. Smith and Canan Ulu. 2012. "Technology Adoption with Uncertain Future Costs and Quality." *Operations Research* 67 (2): 262-274.
- David B. Brown and James E. Smith. 2011. "Dynamic Portfolio Optimization with Transaction Costs: Heuristics and Dual Bounds." *Management Science* 57 (10): 1752-1770.
- David B. Brown, James E. Smith, and Peng Sun. 2010. "Information Relaxations and Duality in Stochastic Dynamic Programs." *Operations Research* 58 (4): 785-801.
- Robert T. Clemen and James E. Smith. 2009. "On the Choice of Baselines in Multiattribute Portfolio Analysis: A Cautionary Note." *Decision Analysis* 6 (4): 256-262.
- Canan Ulu and James E. Smith. 2009. "Uncertainty, Information Acquisition, and Technology Adoption," *Operations Research*, 57 (3): 740-752.

PUBLICATIONS (continued)

- J. Eric Bickel, James E. Smith, and Jennifer L. Meyer. 2008. "Modeling Dependence among Geologic Risks in Sequential Exploration Decisions," *SPE Reservoir Evaluation and Engineering*, **3**(4) 233-251. An earlier version of this paper appeared in the proceedings of the 2006 SPE Annual Technical Conference and Exhibition, San Antonio, Texas.
- Maxine Savitz et al. 2007. *Prospective Evaluation of Applied Energy Research and Applied Research and Development at DOE (Phase Two)*, National Research Council, National Academies Press, Washington DC.
- J. Eric Bickel and James E. Smith. 2006. "Optimal Sequential Exploration: A Binary Learning Model," *Decision Analysis* **3** (1): 16-32.
- James E. Smith and Robert L. Winkler. 2006. "The Optimizer's Curse: Skepticism and Postdecision Surprise in Decision Analysis," *Management Science* **52** (3): 311-322.
- James E. Smith. 2005. "Alternative Approaches for Solving Real Options Problems," *Decision Analysis* **2** (2): 89-102.
- James E. Smith and Ralph L. Keeney. 2005. "Your Money or Your Life: A Prescriptive Model for Health, Safety and Consumption Decisions," *Management Science* **51** (9): 1309-1325.
- Robert W. Fri et al. *Prospective Evaluation of Applied Energy Research and Development at DOE (Phase One): A First Look Forward*, National Research Council, National Academies Press, Washington DC, 2005.
- Robert L. Winkler and James E. Smith. 2004. "On Uncertainty in Medical Testing," *Medical Decision Making* **24** (6): 654-658.
- James E. Smith. 2004. "Risk Sharing, Fiduciary Duty, and Corporate Risk Attitudes," *Decision Analysis* **1** (2): 114-127.
- James E. Smith. 2004. "Comments on Howard's Precise Decision Language," *Decision Analysis* **1** (2): 79-81.
- James E. Smith and Detlof von Winterfeldt. 2004. "Decision Analysis in Management Science," *Management Science* **50** (5): 561-574.
- Robert L. Winkler, James E. Smith, and Dennis G. Fryback. 2002. "The Role of Informative Priors in Zero-Numerator Problems: Being Conservative Versus Being Candid," *The American Statistician* **56** (1): 1-4.
- James E. Smith and Kevin F. McCardle. 2002. "Structural Properties of Stochastic Dynamic Programs," *Operations Research* **50** (5): 796-809.
- Eduardo Schwartz and James E. Smith. 2000. "Short-term Variations and Long-term Dynamics in Commodity Prices," *Management Science* **46** (7): 893-911.

PUBLICATIONS (continued)

- James E. Smith, Robert L. Winkler, and Dennis G. Fryback. 2000. "The First Positive: Positive Predictive Values in the Extreme," *Annals of Internal Medicine* 132 (10): 804-809.
- James E. Smith. 1999. "Much Ado About Options?," *Decision Analysis Society Newsletter* 18 (2): 4-8.
- James E. Smith and Robert L. Winkler. 1999. "Casey's Problem: Interpreting and Evaluating a New Test," *Interfaces* 29 (3): 63-76.
- James E. Smith and Kevin F. McCardle. 1999. "Options in the Real World: Some Lessons Learned in Evaluating Oil and Gas Investments," *Operations Research* 47 (1): 1-15.
- James E. Smith. 1998. "Evaluating Income Streams: A Decision Analysis Approach," *Management Science* 44 (12): 1690-1708.
- James E. Smith and Kevin F. McCardle. 1998. "Valuing Oil Properties: Integrating Option Pricing and Decision Analysis Approaches," *Operations Research* 46 (2): 198-217.
- Patrick L. Brockett, Samuel H. Cox, and James E. Smith. 1998. "Bounds on the Price of Catastrophe Insurance Options on Futures Contracts," *Securitization of Insurance Risks*, Society of Actuaries Monograph Series, Schaumburg, Ill.
- James E. Smith. 1995. "Generalized Chebychev Inequalities: Theory and Applications in Decision Analysis," *Operations Research* 43 (5): 807-825.
- James E. Smith and Robert F. Nau. 1995. "Valuing Risky Projects: Option Pricing Theory and Decision Analysis," *Management Science* 41 (5): 795-816.
- James E. Smith. 1993. "Moment Methods for Decision Analysis" *Management Science* 39 (3): 340-358.
- James E. Smith, Samuel Holtzman, and James E. Matheson. 1993. "Structuring Conditional Relationships in Influence Diagrams," *Operations Research* 41 (2): 280-297.
- James E. Smith. 1990. "Discussion of 'Towards Efficient Probabilistic Diagnosis in Multiply Connected Belief Networks,' by Max Henrion," in R. M. Oliver and J. Q. Smith, editors, *Influence Diagrams, Belief Nets and Decision Analysis* (Wiley, 1990), 403-406.

WORKING PAPERS

- Robert A. Shumsky, James E. Smith, Anne G. Hoen, and Michael Gilbert. 2021. Allocating COVID-19 Vaccines: Save One for the Second Dose?,
- James E. Smith, "Fisher Separation and Project Valuation in Partially Complete Markets," most recent version, August 1996.

RESEARCH GRANTS AND AWARDS

- 2015 Winner of INFORMS' Decision Analysis Publication Award for best publication in decision analysis in 2013 for "Bandits, Clairvoyants and Wildcats" paper with David Brown
- 2008 Winner of INFORMS' Frank P. Ramsey Medal for distinguished contributions to Decision Analysis
- 2007 Elected Fellow of The Institute for Operations Research and Management Science (INFORMS)
- 2006-2008 William and Sue Gross Distinguished Research Scholar
- 2004 Winner of Bank of America Faculty Award, given annually to a Fuqua faculty member for outstanding research, teaching, and service
- 2001-2003 Eli Lilly Foundation Support for Developing Decision Analysis Teaching Materials (\$100,000)
- 2000 Winner of INFORMS' Decision Analysis Publication Award for best publication in decision analysis in 1998 for "Evaluating Income Streams" paper
- 1998 "Valuing Learning and Flexibility" (with Kevin F. McCardle). Joint NSF/Private Sector Grant Proposal, funded by Chevron and the National Science Foundation. Grant for a total of approximately \$230,000 (\$90,000 from the NSF, \$140,000 from Chevron).
- 1997 Winner of INFORMS' Decision Analysis Publication Award for best publication in decision analysis in 1995 for "Valuing Risky Projects" paper with Robert F Nau.
- 1995 Winner of INFORMS' Decision Analysis Publication Award for best publication in decision analysis in 1993 for "Moment Methods" paper
- 1995-1996 "Valuation Methods Improvement" (with Kevin F. McCardle). Supported by Chevron. Grant for \$38,000 in 1995 and \$38,000 in 1996.
- 1995-1997 "Valuing Risky Projects: Integrating Option Pricing Theory and Decision Analysis" (with Kevin F. McCardle). Supported by the National Science Foundation's Decision, Risk, and Management Science program. Grant for approximately \$155,000.
- 1990 Strategic Decisions Group, Outstanding Technical Contribution award for work described in my "Structuring Conditional Relationships" paper

EXTERNAL SERVICE

2018-	Area Editor for Decision Analysis at <i>Operations Research</i>
2014-	Associate Editor for the Decision Analysis Department of <i>Management Science</i>
2013-2014	Departmental Editor for Decision Analysis Department of <i>Management Science</i>
2012-2017	Associate Editor, <i>Operations Research</i>
2010-2012	Past President of INFORMS' Decision Analysis Society
2011-2012	Decision Analysis Society's Ramsey Award Committee (also 2016)
2008-2010	President of INFORMS' Decision Analysis Society
2006-2008	Vice-President/President-Elect of INFORMS' Decision Analysis Society
2006-2008	Member of INFORMS Subdivisions Council
2006-2007	Review Committee for INFORMS' Frederick W. Lanchester Prize which recognizes the best contribution to the operations research/management science discipline
2005-2006	National Research Council Committee on Prospective Benefits of DOE's Energy Efficiency and Fossil Energy R&D Programs--Phase 2
2005-2006	National Research Council Panel on DOE's Carbon Sequestration Program
2004-2005	National Research Council Committee on Prospective Benefits of DOE's Energy Efficiency and Fossil Energy R&D Programs--Phase 1
2003-2005	Advisory Panel, National Science Foundation's Decision, Risk and Management Science Program
2001-	Editorial Board, <i>Decision Analysis</i>
1999-2004	Departmental Editor for Decision Analysis department of <i>Management Science</i>
1996-1998	Associate Editor for Decision Analysis department of <i>Management Science</i>
1995-2010	Developed and maintained the e-mail list for INFORMS' Decision Analysis Society
1993-2006	Three times elected to Council of INFORMS' Decision Analysis Society (1993-1996; 1996-1999; 2003-2006). Secretary/Treasurer (1998-2000).
1993-1995	Organized and chaired 1993, 1994, and 1995 Student Paper Competitions for INFORMS' Section on Decision Analysis

EXTERNAL SERVICE (continued)

- 1990-Present Frequent reviewer for *Management Science* and *Operations Research*; occasional reviewer for other journals. Cited as outstanding referee for *Management Science* and *Operations Research*.
- 1990-Present Frequent contributor and presenter at INFORMS meetings; Cluster Chair for Decision Analysis Society sponsored talks for Montreal Meeting in spring of 1998

SERVICE AT DARTMOUTH

- 2020 Tuck Ad-Hoc Committee on the Coronavirus Pandemic and Academic Year 2020-2021
- 2019-Present Tuck Strategy Committee
- 2018-Present Tuck Promotion and Tenure Committee
- 2018-2019 Curriculum Implementation Committee

SERVICE AT DUKE

- 2016-2018 Duke's Advisory Committee on Investment Responsibility
- 2016-2017 Fuqua Faculty Secretary
- 2015-2017 Elected member of Duke University's Academic Council
- 2014-2016 Senior Faculty Review Committee
- 2012-2013 Fuqua Dean Search Committee
- 2012-2013 Fuqua Distinguished Professor Committee
- 2011-2012 Fuqua Faculty Secretary
- 2011 Design committee for Duke-Kunshan Masters of Management Studies program
- 2011 Dean's Transition Strategy Committee
- 2010-2011 Former Associate Dean Committee
- 2010-2011 Fuqua's Appointments Advisory Committee
- 2009 Design committee for MMS: Foundations of Business program
- 2008-2013 Area Coordinator for Decision Sciences

SERVICE AT DUKE (continued)

2005-2007	Area Coordinator for Decision Sciences
2006-2007	Dean Search Committee
2005-2006	Curriculum Review Taskforce
2005-2007	Dean's Executive Committee
2004-2010	Fuqua Faculty Secretary (elected six times)
2001-2003	Dean's Executive Committee
2000-2003	Associate Dean for Daytime MBA Program
1999-2000	Chair of Curriculum Committee
1997-1998	Member of Curriculum Committee
1997-1998	Elected member of University Academic Council
1995-1998	Coordinator of Decision Analysis Seminar Series
1994-1998	Coordinator of Ph.D. program in Decision Sciences
1993-1997	Three times elected by Fuqua faculty to Dean's Advisory Committee
1991-1993	Member of Admissions Committee

PH.D. STUDENTS

Kai Wang (Duke, Fuqua 2014)

Alvaro Mendoza (Duke, Fuqua, 2013, Placed at Deloitte)

Dinah Vernik (Duke, Fuqua, 2009, Placed at Rice University)

Canan Ulu, Chair of Committee (Duke, Fuqua, 2007, Placed at University of Texas, Now at Georgetown)

Casey Lichtendahl (Duke, Fuqua, 2006, Placed at University of Virginia)

Viridiana Lourdes (Duke, ISDS, 2000, Placed at Instituto Tecnológico Autónomo de México)

Michel A. Del Buono (Stanford, 2000, Placed at McKinsey and Company)

Kian Esteghamat (Stanford, 1999, Placed at Princeton University)

Eric Bickel (Stanford, 1999, Now at University of Texas Austin)

Graydon Barz (Stanford, 1999, Placed at McKinsey and Company)

Gregg Talbert (Duke, Fuqua, 1994, Placed at Eli Lilly and Company)

PERSONAL INFORMATION

Scholarship athlete and four-year letter winner on Stanford Track and Cross Country teams (1980-84). Captain Cross Country (1982 and 1983) and Track (1984). Competitor in 1984 U.S. Olympic Track and Field Trials; former Stanford school record holder in the 1500 meters. Member of South Jersey Track and Field Hall of Fame.

Assistant Cross Country Coach at the North Carolina School of Science and Math (2011-2012). Boys won the 2011 North Carolina 1A State Championship; Boys and girls were both twice regional champions during my term as an assistant coach.

Married with two daughters.