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Scott Stern

David Sarnoff Professor of Management
Technological Innovation, Entrepreneurship, and Strategic Management Group
MIT Sloan School
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EDUCATION

PhD in Economics, Department of Economics, Stanford University, 1996
BA, Economics, New York University, 1990, Graduated with Honors
London School of Economics, International Summer Program, 1989

PRIMARY FIELDS

Economics of Innovation
Strategy

Economics of Entrepreneurship
Industrial Organization

PRIMARY UNIVERSITY APPOINTMENTS

David Sarnoff Professor of Management, 2013 – present.
Chair, Technological Innovation, Entrepreneurship, and Strategic
Management Group, 2010-2016.

School of Management Distinguished Professor, MIT Sloan School, 2010 – 2013.

Joseph and Carole Levy Professor of Management and Strategy,
Kellogg School of Management, Northwestern University, 2009-2010

Associate Professor (with Tenure), Department of Management and Strategy,
Kellogg School of Management, Northwestern University, 2004-2009.

Associate Professor, Department of Management of Strategy,
Kellogg School of Management, Northwestern University, 2001-2004

Mitsubishi Career Development Assistant Professor, MIT Sloan School, 1999 –2001.

NTU Career Development Assistant Professor,
MIT Sloan School of Management, 1998 – 1999.

Assistant Professor, MIT Sloan School of Management, 1995 – 1998.

VISITING APPOINTMENTS

Visiting Professor, Entrepreneurial Management Unit, Harvard Business School, Spring, 2017.

Visiting Professor, Innovation and Organizational Economics Department,
Copenhagen Business School, Fall 2017.

Visiting Professor, MIT Sloan School, 2009-2010.

PROFESSIONAL AWARDS

Innovation in Entrepreneurship Pedagogy Award, Academy of Management, 2021

Best Paper Award, “Of Mice and Academics: Examining the Effect of Openness on Innovation,”
(with F. Murray, P. Aghion, M. Dewatripont, and J. Kolev), *American Economic Journal: Policy*,
2017

Ewing Marion Kauffman Prize Medal for Distinguish Research in
Entrepreneurship, ASSA Meetings, 2005.

EXTERNAL PROFESIONAL ACTIVITIES AND APPOINTMENTS (EXC EDITORIAL)

Director, NBER Innovation Group, 1999 - 2021.

Research Associate, National Bureau of Economic Research, 2004 – present.

Faculty Research Fellow, National Bureau of Economic Research, 1996 – 2004.

Appointed within Productivity, Industrial Organization, and Health & Aging Programs.

Member, Board on Science Technology and Economic Policy (STEP) Board, National Academies of Science, Engineering and Medicine, 2018-present.

Fellow, Strategy Research Initiative, 2011-present.

Advisory Board, Social Progress Imperative, 2012 – present.

Advisory Board, College Board Advanced Placement Business Principles Course, 2023-present.

Advisory Board, National Network for Critical Technology Assessment, 2022-2023.

External Reviewer, Garwood Center for Corporate Innovation, UC-Berkeley, 2019.

External Reviewer, Northwestern University Kellogg School Strategy Department, 2016.

Board of Advisors, CCC Doctoral Consortium, 2013 – 2019.

Consulting Researcher, Microsoft Research, 2012-2014.

Scientific Board, IMT Lucca School for Advanced Studies, 2005 – 2018.

Member, Committee on Copyright in the Digital Era, Science, Technology and Economic Policy Board, National Academy of Sciences, 2011 – 2013.

International Board of Assessors, Intellectual Property Research Institute of Australia, University of Melbourne, 2004 – 2011.

Board of Management, International Schumpeter Society, 2004 – 2009.

Member, Committee on the Future of Supercomputing, Computer Science and Telecommunications Board, National Academy of Sciences, 2003 – 2005.

Non-Resident Senior Fellow, Economic Studies, Brookings Institution, 2001- 2003.

Visiting Fellow, Economic Studies, Brookings Institution, 2001.

Health & Aging Fellow, National Bureau of Economic Research, 1999 –2000.

MIT PROFESIONAL ACTIVITIES AND APPOINTMENTS

Co-Director, Entrepreneurship and Innovation Certificate, 2020 – present.

Faculty Director, Trust Center for MIT Entrepreneurship, 2017 – present.

Faculty Director, MIT Regional Entrepreneurship Acceleration Program, 2012 – present.

Member, MIT Committee on Intellectual Property, 2017-present.

Chair, Trust Center for MIT Entrepreneurship Advisory Committee, 2018-present.

Trust Center for MIT Entrepreneurship, Faculty Affiliate, 2010 – present.

Faculty Advisory Committee, MIT Innovation Initiative, 2013 – present.

Undergraduate Advisor, MIT Sloan School, 1996-2001; 2017-present.

MIT Sloan MBA Policy Committee, various years.

MIT Sloan Fellows and Executive MBA Committee, various years.

MIT Committee on Educational Technology (MITCET), 2010 – 2012.

PhD Recruitment, Management of Technology & Innovation, MIT Sloan School, 1996– 2001.

EDITORIAL ACTIVITIES

Co-Editor, *Innovation Policy and the Economy*, 2001 – 2021.

Associate Editor, *Journal of Industrial Economics*, 2007 – present.

Associate Editor, *International Journal of Industrial Organization*, 2005 – present.

Associate Editor, *Industrial and Corporate Change*, 2009 – present.

Associate Editor, *Journal of Economic Perspectives*, 2015-2019.

Associate Editor, *Management Science*,
Technological Innovation and Entrepreneurship Section, 2004 – 2010.
Business Strategy Section, 2001 – 2008.

Guest Editor, *Journal of Economics and Management Strategy*, Special Issue on *Entrepreneurship: Strategy and Structure* (with Thomas Hellman), 2009.

Scientific Committee, FTC Microeconomics Conference, 2008 – 2009.

Guest Editor, *Journal of Economic Behavior and Organization*, Special Issue on *Academic Entrepreneurship: Dual Engines of Growth*, (with Marie Thursby, Josh Lerner, and Adam Jaffe), 2007.

Associate Editor, *Journal of Business and Economic Statistics*, 2005 – 2008.

Program Committee, International Industrial Organization Conference of the Industrial Organization Society, 2004 – 2006.

Contributing Editor, *Antitrust Law Journal*, 2005 – 2008.

Co-Organizer (with Shane Greenstein), NBER Universities Research Conference, Competition and Organization in Technology-Intensive Industries, December, 1997.

NORTHWESTERN AFFILIATIONS, COMMITTEES AND SERVICE

Senior Fellow, Searle Center on Law, Regulation and Economic Growth, 2007 – 2010.

Affiliate, Center for the Study of Industrial Organization, January 2002 – 2010

Research Director, Kellogg Biotechnology Center, 2004 – 2008.

Affiliated Kellogg Program Faculty:

Entrepreneurship, Biotechnology, and Health Industry Management (HIM)

Co-Convenor (with Yael Hochberg), Entrepreneurship and Innovation Seminar, 2005 – 2010.

Kellogg Student Affairs and Activities Committee, 2004 – 2006.

RESEARCH FUNDING

- 2023-present NSF EAGER Award, Choosing a Regional Innovation Engine: The Impact of Ecosystem Mapping and Stakeholder Engagement on Regional Innovation Engine Choice
- 2022-present NSF EAGER Award, Place-Based Innovation Study Group, (with Jorge Guzman and Heidi Williams)
- 2016-present Roberts, Hammond and Krasner Fund, *Entrepreneurial Strategy*
- 2016-2020 Kauffman Foundation, Start-Up Cartography Project, MIT Laboratory for Innovation Science and Policy.
- 2014-2017 Roberts, Hammond and Krasner Fund, *Nowcasting and Placecasting Growth Entrepreneurship*, (with Jorge Guzman)
- 2010-current NBER Economics of Digitization and Copyright, Sloan Foundation, (with Shane Greenstein and Josh Lerner), \$980,000.
- 2004-current Kauffmann Grants for NBER Innovation Policy and the Economy Program, including partial sponsorship of annual DC conference, summer meetings, postdoctoral program, research grants and occasional specialized conferences (with J. Lerner), Current 5 year grant of \$2,000,000+.
- 2010-2015 Department of Commerce EDA Grant, *Mapping Regional Clusters* (with Michael E. Porter, Mercedes Delgado, Christian Ketels, Fiona Murray, and collaborators).
- 2011-2017 NSF R01 Science for Science Policy Grant, *The Industrial Organization of the Biologics Industry: Theory, Empirics and Policy*,” (with Fiona Scott Morton)
- 2010 Center for Biomedical Innovation, MIT, Sloan Foundation Grant on *Globalization of Biopharmaceutical Manufacturing*, ~ \$250,000 (with Jeff Macher, Stacy Springs, Anthony Sinskey, and other researchers).
- 2007 NSF R01 Science for Science Policy Grant, *The Impact of Science Policy on the Rate & Direction of Scientific Discovery* (with J. Furman and F. Murray), \$398,655.
- 2007 Searle Center Research Grant, *The Impact of Patents on Scientific Research*, \$70,000.
- 2000 National Academy of Sciences Research Grant, Initiative on Intellectual Property in the Knowledge-Based Economy, *Patent Examiner Productivity and Quality* (joint with I. Cockburn and S. Kortum), \$7500.
- 1999 NBER Health and Aging Fellowship, \$50,000.

- 1998-2000 MIT Center for Innovation and Product Development, *Contracting versus Competition: The Two Faces of Appropriability* (with J. Gans).
- 1996-8 MIT Program on the Pharmaceutical Industry, *Assessing the Patient Welfare Gains from Pharmaceutical Innovation* (with M. Trajtenberg).
- 1996 MIT Sloan School Dean's Creative Research Award, *An Empirical Framework for Testing Theories About Complementarity in Organizational Design* (with S. Athey).
- 1996 Pfizer Pharmaceuticals, *Assessing the Patient Welfare Gains from Pharmaceutical Innovation*, (with M. Trajtenberg)
- 1996 MIT ICRMOT Research Grant, *Competition, Product Differentiation, and the Incentives for Innovation in the Personal Computer Industry* (with T. Bresnahan and M. Trajtenberg).
- 1993-1994 Lynde and Harry Bradley Foundation Fellowship, Stanford University.
- 1992 Research Fellow, Stanford Center on Conflict and Negotiation
- 1990 Mary Louise Bailey Award in Economics, 1990, New York University

DISSERTATION

Title: Product Competition in High-Technology Industries
Primary Advisor: Timothy F. Bresnahan
Other Advisors: Nathan Rosenberg, Manuel Trajtenberg, Frank Wolak
University: Department of Economics, Stanford University, 1996.

PUBLICATIONS

Articles in Refereed Journals

1. “The Startup Cartography Project: Measuring and Mapping Entrepreneurial Ecosystems,” (with R.J. Andrews, C. Fazio, J. Guzman, and Y. Liu), *Research Policy*, 2022.
2. “Choosing a Technology Strategy,” (with J. Gans, M. Kearney, and E. Scott), *Strategy Science*, 2021.
3. “Enabling Entrepreneurial Choice,” (with A. Agarwal and J. Gans), *Management Science*, 2021.
4. “The State of American Entrepreneurship: New Evidence on the Quantity and Quality of Entrepreneurship for 34 US States, 1988-2014” (with J. Guzman), *American Economic Journal: Policy*, 2020.
5. “The Economics of Maps,” (with A. Nagaraj), *Journal of Economic Perspectives*, 2020.
6. “The Impact of State-Level R&D Tax Credits on the Quantity and Quality of Entrepreneurship,” (with C. Fazio and J. Guzman), *Economic Development Quarterly*, 2020.
7. “Lean Startup and the Business Model: Experimentation Revisited,” (with T. Felin, A. Gambardella, and T. Zenger), *Long Range Planning*, 2020.
8. “Foundations of Entrepreneurial Strategy,” (with J. Gans and J. Wu), *Strategic Management Journal*, 2019.
9. “Control Versus Execution: Endogenous Appropriability and Entrepreneurial Strategy,” (with K. Ching and J. Gans), *Industrial and Corporate Change*, 2018.
10. “The Impact of the Entry of Biosimilars: Evidence from Europe,” (with F. Scott Morton and A. Stern), *Review of Industrial Organization*, 2018.
11. “Patents, Papers, and Secrecy: Contracting over the Disclosure of Scientific and Commercial Knowledge,” (with J. Gans and F. Murray), *Research Policy*, 2017.
12. “Of Mice and Academics: Examining the Effect of Openness on Innovation,” (with P. Agihon, M. Dewatripont, F. Murray and J. Kolev), *American Economic Journal: Policy*, 2016.
13. “Defining Clusters of Related Industries,” (with M. Delgado and M.E. Porter), *Journal of Economic Geography*, 2015.

14. "Where is Silicon Valley?" (with J. Guzman), *Science*, 2015.
15. "Intellectual Property and the Evolution of Scientific Journals as Knowledge Platforms," (with F. Murray and D. Fehder), *International Journal of Industrial Organization*, 2014.
16. "Clusters, Convergence, and Economic Performance" (with M.E. Porter and M. Delgado), *Research Policy*, 2014.
17. "Grand Innovation Prizes: A Theoretical, Normative, and Empirical Evaluation," (with F. Murray, G. Campbell, and A. McCormack), *Research Policy*, 2012..
18. "Growing Stem Cells: The Impact of the Bush Stem Cell Policy on the Geography of Scientific Discovery," (with J. Furman and F. Murray), *Journal of Policy Analysis and Management*, 2012.
19. "Climbing Atop the Shoulders of Giants: The Impact of Institutions on Cumulative Knowledge Production," (with J. Furman), *American Economic Review*, 2011.
20. "The Public and Private Sectors in the Process of Innovation: Theory and Evidence from the Mouse Genetics Revolution," (with P. Aghion, M. Dewatripont, J. Kolev, and F. Murray), *American Economic Review Papers and Proceedings*, 2010.
21. "Clusters and Entrepreneurship," (with M. Delgado and M.E. Porter), *Journal of Economic Geography*, 2010.
22. "Is There a Market for Ideas?" (with J. Gans), *Industrial and Corporate Change*, 2010.
23. "Disclosure or Secrecy?: The Dynamics of Open Science," (with A. Mukherjee), *International Journal of Industrial Organization*, 2009.
24. "Complementarity Among Vertical Integration Decisions: Evidence from Automobile Product Development," (with S. Novak), *Management Science*, 2009.
25. "How Does Outsourcing Affect Performance Dynamics? Evidence from the Auto Industry," (with S. Novak), *Management Science*, 2008.
26. "The Impact of Uncertain IP Rights on the Market for Ideas: Evidence from Patent Grant Delays," (with J. Gans and D. Hsu), *Management Science*. 2008.
27. "Do Formal Intellectual Property Rights Hinder the Free Flow of Scientific Knowledge?: An Empirical Test of the Anti-Commons Hypothesis," (with F. Murray), *Journal of Economic Behavior and Organization*, 2007.
28. "Do Scientists Pay to Be Scientists?" *Management Science*, 2004.
29. "When Does Funding Research by Smaller Firms Bear Fruit?: Evidence from the SBIR," (with J. Gans), *Economics of Innovation and New Technology*, 2003.

30. "The Product Market and the Market for Ideas: Commercialization Strategies for Technology Entrepreneurs," (with J. Gans), *Research Policy*, 2003.
31. "When Does Start-up Innovation Spur the Gale of Creative Destruction?," (with J. Gans and D. Hsu), *RAND Journal of Economics*, 2002.
32. "The Impact of Information Technology on Emergency Health Care Outcomes," (with S. Athey), *RAND Journal of Economics*, 2002.
33. "The Determinants of National Innovative Capacity," (with J. Furman and M.E. Porter), *Research Policy*, 2002.
34. "Innovation: Location Matters," (with M.E. Porter), *Sloan Management Review*, Summer 2001. Reprinted in *Innovation: Driving Product, Process, and Market Change* ed. Edward B. Roberts, Jossey-Bass.
35. "Untangling the Origins of Competitive Advantage," (with I. Cockburn and R. Henderson), *Strategic Management Journal*, 2000. Reprinted in *The Strategic Management Society Blackwell Handbook of Organizational Capabilities: Emergence, Development and Change* ed. Constance E. Helfat, Blackwell Publishers.
36. "Innovation Incentives, Compatibility, and Expropriation as an Antitrust Remedy: The Legacy of the Borland/Ashton-Tate Consent Decree," (with C. Fazio) *Antitrust Law Journal*, 2000.
37. "Incumbency and R&D Incentives: Licensing the Gale of Creative Destruction," (with J. Gans), *Journal of Economics and Management Strategy*, 2000.
38. "Market Segmentation and the Sources of Rents from Innovation: Personal Computers in the Late 1980s," (with T. Bresnahan and M. Trajtenberg), *RAND Journal of Economics*, 1997.
39. "Urban Productivity and Factor Growth in the Late Nineteenth Century," (with R. Bostic and J. Gans), *Journal of Urban Economics*, 1996.

Refereed Books

40. *The Role of Innovation and Entrepreneurship in Economic Growth*, (Edited with Michael Andrews, Aaron Chatterji, and Josh Lerner,), University of Chicago Press, 2022.
41. *The Rate and Direction of Inventive Activity Revisited*, (Edited with Josh Lerner), University of Chicago Press, 2012.
42. *Biological Resource Centers: Knowledge Hubs for the Life Sciences*, Brookings Institution, 2004.

Book Reviews

43. *The Invention of Enterprise*, edited by W. Baumol, D. Landes and J. Mokyr. Review co-authored with M. Bikard. *Journal of Economic Literature*, 2011.

Refereed Committee Reports

1. *Assessment of the SBIR and STTR Programs at the NSF*, (Co-Chair with Maryann Feldman), National Academy of Sciences, 2023.
2. *Assessment of the SBIR and STTR Programs at the NIH*, (Co-Chair with Maryann Feldman), National Academy of Sciences, 2022.
3. *An Assessment of the DOE SBIR-STTR Program* (Co-Chair with Maryann Feldman), National Academy of Sciences, 2020.
4. *An Assessment of ARPA-E* (Committee Member), National Academy of Sciences, 2017.
5. *Copyright in the Digital Era* (Committee Member), National Academy of Sciences, 2013.
6. *Getting Up to Speed: The Future of Supercomputing* (Committee Member), National Academy of Sciences, 2004.
7. *The Future of Supercomputing: An Interim Report*, (Committee Member), National Academy of Sciences, 2003.

Articles in Non-Refereed Publications

8. “Accelerating Innovation Ecosystems: The Promise and Challenges of Regional Innovation Engines,” (with J. Guzman, F. Murray, and H. Williams), *NBER Innovation and Entrepreneurship Policy and the Economy*, forthcoming.
9. “Of Academics and Creative Destruction: The Role of Startups in the Process of Innovation,” (with J. Kolev, A. D’Alessandro, and Fiona Murray), *Economics of Creative Destruction*, 2023.
10. “Entrepreneurial Strategy: A Choice-Based Approach to Entrepreneurial Education,” *Annals of Entrepreneurship Education and Pedagogy*, 2023.
11. “Beyond 140 Characters: The Role of Innovation and Entrepreneurship in Economic Growth,” (with A. Chatterji and M. Andrews), *The Role of Innovation and Entrepreneurship in Economic Growth*, 2022.
12. “Economic Institutions and Social Progress,” (with D. Fehder and M.E. Porter) *American Economic Review Papers and Proceedings*, 2019.
13. “The Principle of Relatedness,” (with C. Hildago, et al), Proceedings of the International Conference on Complex Systems, 2018.
14. “The Impact of Artificial Intelligence on Innovation,” (with I. Cockburn and R. Henderson), NBER Economics of Artificial Intelligence volume, 2018.
15. “Strategy for the Start-Up,” (with Joshua Gans and Erin Scott), *Harvard Business Review*, Anchor Spotlight, 2018.

16. "The Empirics of Social Progress: The Interplay Between Subjective Well-Being and Societal Performance," (with D. Fehder and M.E. Porter) *American Economic Review Papers and Proceedings*, 2018.
17. "Social Progress Index" (with Michael E. Porter and Michael Green), *Social Progress Imperative*, Annually, 2014-present.
18. "Standing on the Shoulders of Scotchmer: The Empirical Economics of Cumulative Innovation," (with J.L. Furman, F.E. Murray, and H. Williams), *On the Shoulders of Giants: Colleagues Remember Suzanne Scotchmer's Contributions to Economics*, 2017.
19. "Endogenous Appropriability," (with J. Gans), *American Economic Review Papers and Proceedings*, 2017.
20. "Multiple Paths to Value: Test Two, Choose One," (with J. Gans) *IESE Insight*, 2017.
21. "A New View of the Skew: A Quantitative Assessment of the Quality of American Entrepreneurship," (with C. Fazio, J. Guzman, and F. Murray), *Kauffman Foundation New Entrepreneurial Growth* volume, 2016.
22. "Nowcasting and Placecasting Growth Entrepreneurship," (with J. Guzman), in *Measuring Entrepreneurial Businesses*, NBER Volume, 2017.
23. "The Nature and Incidence of Software Piracy," (with S. Athey), in *Economics of Digitization*, edited by A. Goldfarb, S. Greenstein and C. Tucker, NBER Volume, 2015.
24. "Digitization, Innovation and Copyright: What is the Agenda?" *Strategic Organization*, Editorial Essay, (with S. Greenstein and J. Lerner), 2013.
25. "Why was *Rate and Direction* so Important? Reflections for the NBER 50th Anniversary Conference in Honor of *The Rate and Direction of Inventive Activity*," (with N. Rosenberg), 2012.
26. "More for the Research Dollar," (with J. Furman and F. Murray), *Nature*, 2010.
27. "Finding the Endless Frontier: Lessons from Life Sciences for the Energy Innovation System," (with I. Cockburn and J. Zausner), *Accelerating Energy Innovation: Lessons from Multiple Sectors*, edited by R. Henderson, NBER volume, 2010.
28. "Moving to a New Global Competitiveness Index," (with M.E., Porter, C. Ketels and M. Delgado), *Global Competitiveness Report 2008*, World Economic Forum, 2008.
29. "The Globalization of Biotechnology: Science-Driven Clusters in a Flat World," (with A. Loffler and R. Hermans), *National Academies STEP Project on Globalization*, 2008.
30. "When Ideas are Not Free: The Impact of Patents on Scientific Research," (with F. Murray), *Innovation Policy and the Economy*, 2007.
31. "Economic Experiments: The Role of Entrepreneurship in Economic Prosperity," Kauffman Foundation Thoughtbook, 2005.

32. "All Are Patent Examiners Equal?: Examiners, Patent Characteristics and Litigation Outcomes," (joint with I. Cockburn and S. Kortum), *Intellectual Property in the Knowledge-Based Economy*, National Academy of Sciences, 2003.
33. "Managing Ideas: Commercialization Strategies for Biotechnology," (with J. Gans), *ICFAI Journal of Intellectual Property Rights*, 2003.
34. "Ranking National Innovative Capacity: Findings from the National Innovative Capacity Index," (with M. Porter), *Global Competitiveness Report 2003*.
35. "Biological Resource Centers: An Economic Perspective," *Biological Resource Centers: From Concept to Reality*, American Type Culture Collection, 2003.
36. "The Impact of Location on Innovation: Findings from the National Innovative Capacity Index," (with M. Porter), *Global Competitiveness Report 2002*.
37. "National Innovative Capacity," (with M. Porter), *Global Competitiveness Report 2001*.
38. "Patient Welfare and Patient Compliance: An Empirical Framework for Measuring the Benefits of Pharmaceutical Innovation," (with P. Ellickson and M. Trajtenberg), *Medical Care Output & Productivity*, NBER/CRIW Conference volume, 2001.
39. "The Adoption and Impact of Advanced Emergency Response Services," (with S. Athey), *The Economics of Non-Profit Hospitals*, NBER Volume, 2000.
40. "The Drivers of National Innovative Capacity: Implications for Spain and Latin America," (with M. Porter and J. Furman), *Keys to the World Economy*, 2000.
41. "Understanding the Determinants of National Innovative Capacity: Implications for Central European Economies" *Wirtschaftspolitische Blaetter*, 2000.
42. "Understanding the Drivers of National Innovative Capacity," (with M. Porter and J. Furman), *Academy of Management Best Papers in Proceedings*, 2000.
43. "Information Technology and Training in Emergency Call Centers," *Industrial Relations Research Association Papers and Proceedings*, June 1999.
44. "Incentives and Focus In University and Industrial Research: The Case of Synthetic Insulin," *The University-Industry Interface and Medical Innovation*, edited by Annetine Gelijns and Nathan Rosenberg, Institute of Medicine, National Academy Press, 1995.

Non-Refereed Monographs

45. *Assessing Australia's Innovative Capacity in the 21st Century*, (with J. Gans), Australian Institute for Commercialization, 2003.
46. *The New Challenge to America's Prosperity: Findings from the Innovation Index*, (with Michael E. Porter), Council on Competitiveness, 1999.

Edited Volumes

47. *The Role of Innovation and Entrepreneurship in Economic Growth*, NBER Conference volume, 2022.
48. *Innovation Policy and the Economy*, Vol. 1-19, National Bureau of Economic Research, 2001-2020.
49. *The Rate and Direction of Inventive Activity Revisited*, NBER Conference volume, 2012.

Textbook Manuscript Under Preparation

1. *Entrepreneurship: Choice and Strategy* (with Erin Scott and Joshua Gans), Norton, forthcoming. See entrepreneurial-strategy.net.

Working Papers Under Revision or Preparation for Submission

1. "More than an Ivory Tower: The Impact of Research Institutions on the Quantity and Quality of Entrepreneurship," (with V. Tartari), NBER WP 28846, 2021.
2. "How is COVID Changing the Geography of Entrepreneurship? Evidence from the Startup Cartography Project," (with C. Fazio, J. Guzman and Y. Liu), NBER WP 28787.
3. "A Theory-Based Approach to Entrepreneurial Search," (with A. Chavda and J. Gans), mimeo, 2024.
4. "The Endogeneity of Science," (with M. Andrews and E. Sohn), mimeo, 2024.
5. "Predicting Patent Impact: A Machine Learning Approach," (with L. Raymond), mimeo, 2020.
6. "Passive versus Active Growth: Evidence from Founder Choices and Venture Capital Investment," (with C. Catalini and J. Guzman), NBER Working Paper 26073, 2019.
7. "Hidden in Plain Sight: Venture Growth with and without Venture Capital," (with C. Catalini and J. Guzman), NBER Working Paper 26521, 2019.

White Papers and Older Working Papers Available on Request

1. "The Determinants of National Competitiveness," (with M.E. Porter, M. Delgado and C. Ketels), mimeo, 2014.
2. "The Economics of Digitization and Copyright: Theoretical and Measurement Challenges," (with M. Zhang), White Paper for Sloan Foundation, 2010.
3. "When Do Patents Encourage Disclosure?" (with J. Gans), mimeo, 2010.
4. "Learning to Live with Patents: A Dynamic Model of a Knowledge Community's Response to Legal Institutional Change," (with F. Murray), 2008.

5. "The Biotechnology Industry: A Framework for the Evaluation of Occupational Categories and Industry Structure," NORC Report for the Bureau of Labor Statistics, 2005.
6. "An Empirical Framework for Testing Theories about Complementarity in Organizational Design," (with S. Athey), NBER WP 6600.
7. "Balancing Incentives in Pharmaceutical Research," (with R. Henderson and I. Cockburn), NBER WP 6882.
8. "The Diffusion of Science-Driven Drug Discovery: Organizational Change in Pharmaceutical Research," (with R. Henderson and I. Cockburn), NBER WP 7359.
9. "Measuring the Ideas Production Function: Evidence from International Patent Output," (with M.E. Porter) NBER WP 7891.
10. "Empirical Implications of Physician Authority in Pharmaceutical Decisionmaking," (with M. Trajtenberg), NBER WP 6851.
11. "Market Definition and the Returns to Innovation: Substitution Patterns in Pharmaceutical Markets," MIT POPI Working Paper, December, 1996.
12. "Incentives and Knowledge in Organizational and Technological Change: The Case of Drug Discovery in the 1980s," MIT POPI Working Paper, December, 1996.
13. "Assessing America's Research Intensive Sector," (with G. Wright), mimeo, Stanford University, July, 1994.

SUBJECTS TAUGHT AT MIT

- 15.715 Entrepreneurial Strategy Elective (EMBA)
- 15.360 E&I Track Pro-Seminar (MBA)
- 15.911 Entrepreneurial Strategy
- 15.373 Venture Engineering (Undergraduate)
- 15.900 Competitive Strategy (MBA)
- 15.714 Competitive Strategy (EMBA)
- 15.399 Entrepreneurship Lab
- 15.390 New Enterprises
- 15.964 Economics of Ideas, Innovation, and Entrepreneurship (Doctoral)
- 15.351 Introduction to Technological Innovation Management
- 15.932 Technology Strategy
- 15.949 The Use of Economics and Econometrics in BPS Research (Doctoral)
- 15.968 Explaining Heterogeneity in Firm Performance (Doctoral)
- 15.971 Economic and Strategic Analysis of High-Technology Industries (Doctoral)

SUBJECTS TAUGHT AT KELLOGG

- MGMT 463 Management of Innovation
- MECS 477 Applied Econometrics II (Doctoral)

AD HOC DOCTORAL TEACHING

Entrepreneurial Strategy, NBER Entrepreneurship Boot Camp, 2008-present.

Applied Econometrics for Research in the Economics of Innovation, European Science Days, Steyr, Austria, July 2006.

Introduction to Applied Econometrics, IMT Lucca, July, 2005.

EXECUTIVE EDUCATION (OFFERED AT VARIOUS TIMES)

Strategy for Start-Ups

Entrepreneurial Strategy

Commercialization Strategy

Commercialization Strategy for IP Managers

Managing Science-Based Organizations

Intrapreneurship

Competitive Strategy

DOCTORAL THESIS SUPERVISION (COMPLETED)

Name	Program	Supervisory Role
Wes Greenblatt	MIT Sloan	Advisor
Jane Wu	MIT Sloan	Thesis Advisor
Caroline Fry	MIT Sloan	Thesis Advisor
Ankur Chavda	MIT Sloan	Thesis Advisor
Samantha Zyontz	MIT Sloan	Thesis Advisor
Michael Kearney	MIT Sloan	Thesis Advisor
Jorge Guzman	MIT Sloan	Thesis Advisor
Abhishek Nagaraj	MIT Sloan	Thesis Advisor
Eunhee Sohn	MIT Sloan	Thesis Advisor
Kenny Ching	MIT Sloan	Thesis Advisor
Michael Bikard	MIT Sloan	Thesis Advisor
Jason O'Connor	Northwestern Econ	Thesis Advisor
Priscillia Madeira	Kellogg MECS	Thesis Advisor
Seongwuk Moon	Kellogg MECS	Thesis Advisor
Eugene Orlov	Northwestern Econ	Thesis Advisor
Jeff Prince	Northwestern Econ	Thesis Advisor
Joshua Nixt	Northwestern Econ	Thesis Advisor
Kwanghui Lim	MIT Sloan	Thesis Advisor
David Hsu	MIT Sloan	Thesis Advisor
Paul Ellickson	MIT Economics	Thesis Advisor
Margaret Kyle	MIT Economics	Thesis Advisor
Mara Berman	MIT Economics	Thesis Advisor
Soomi Kim	MIT Sloan	Committee Member
Cristian Figueroa	MIT Media Lab	Committee Member
Danny Kim	MIT Sloan	Committee Member
Joshua Krieger	MIT Sloan	Committee Member
Daniel Fehder	MIT Sloan	Committee Member
Anil Doshi	HBS TOM	Committee Member
Ariel Stern	Harvard Kennedy School	Committee Member
Pian Shu	MIT Economics	Committee Member
Hellen Kim	MIT Sloan	Committee Member
Philip Anderson	MIT Sloan	Committee Member
Kristina McElheran	Kellogg MECS	Committee Member
Min Chen	Kellogg MECS	Committee Member
Joao Macieria	Northwestern Econ	Committee Member
Mercedes Delgado	Universidad Madrid	Committee Member
Douglas Frank	Kellogg MECS	Committee Member
Jeff Furman	MIT Sloan	Committee Member
Pierre Azoulay	MIT Sloan	Committee Member
Annabelle Gawer	MIT Sloan	Committee Member
Michael Chiu	MIT Mech. Eng. Doctoral	Committee Member
Alvaro Cuervo	MIT Sloan	Committee Member
Steven White	MIT Sloan	Committee Member
Pek-Hooi Soh	MIT Sloan	Committee Member
Luis Lopez	MIT Sloan	Committee Member

DOCTORAL THESIS SUPERVISION (ANTICIPATED)

Name	Program	Supervisory Role
Lindsey Raymond	MIT Sloan	Committee Member
Luca Gius	MIT Sloan	Advisor
Christina Nguyen	MIT Sloan	Advisor
Alexis D'Alessandro	MIT Sloan	Advisor

PROFESSIONAL MEMBERSHIPS

Research Associate, National Bureau of Economic Research
Fellow, Strategy Research Initiative
Member, American Economic Association
Member, Academy of Management

REFEREEING

American Economic Review
Quarterly Journal of Economics
Journal of Political Economy
Review of Economic Studies
Rand Journal of Economics
Management Science
Journal of Economics and Management Strategy
Journal of Industrial Economics
Review of Economics and Statistics
Journal of Health Economics
Research Policy
European Economic Review
Economics of Innovation and New Technology
Journal of Econometrics
Journal of Business and Economic Statistics (Guest Associate Editor)
Journal of Legal Studies
LABOUR
Financial Management
National Science Foundation
National Science Foundation (SBIR Proposal Review)

ACTIVE WORKSHOP PARTICIPATION

MIT TIES Seminar
NBER Productivity Lunch
MIT Applied Microeconomics Workshop

ADVISORY BOARDS

RapidSOS
twoXar
unpluggd

CONSULTING ACTIVITIES (COMPLETED)

Brattle Group Engagement	9/13 – 9/15
Federal Trade Commission	1/10 – 7/10
Bureau of Labor Statistics	11/04 – 3/05
Brookings Institution	9/00– 6/03
Economist’s Advocate	1/00
Council on Competitiveness	1/98 - 3/99
AG Economics, Cambridge, MA	12/95 - 3/96
Institute for the Future, Menlo Park, CA	4/94 - 8/94