

Date of preparation of CV

September 2021

Personal data

Bhaven N. Sampat
Department of Health Policy and Management
Mailman School of Public Health
Columbia University
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Academic appointments

Columbia University

- Professor, Department of Health Policy and Management (HPM), Mailman School of Public Health, 2021-
- Associate Professor, Department of Health Policy and Management (HPM), Mailman School of Public Health, 2012-2021.
- Assistant Professor, Department of Health Policy and Management (HPM), Mailman School of Public Health, 2005 - June 2012.

New York University

- Distinguished Scholar in Residence, Engelberg Center on Law and Innovation Policy, NYU School of Law, 2015-2016.
- Visiting Professor, Robert F. Wagner School of Public Service, 2015-2016.

University of Michigan

- Robert Wood Johnson Foundation Scholar in Health Policy Research, Department of Health Management and Policy, School of Public Health, 2003-2005.

Georgia Institute of Technology,

- Assistant Professor, School of Public Policy, 2001-2003.

Other short term visiting positions: Hastings Center for Bioethics (Summer 2011); Arizona State University, School of the Future of Innovation in Society (Spring 2018)

Education

Graduate School of Arts and Sciences, Columbia University

Ph.D. Economics, with Distinction, 2001.

Thesis: "Essays on University Patenting." Supervisor: Stephen Cameron

M.Phil. Economics, 2000.

M.A. Economics, 1998.

Columbia College, Columbia University

B.A. Economics–Political Science, 1996.

Training

Post-Doctoral: Robert Wood Johnson Foundation Scholars in Health Policy Research Program, Department of Health Management and Policy, University of Michigan School of Public Health

Honors and awards

- Columbia Yusuf Hamied Faculty Fellowship, 2019
- Robert Wood Johnson Foundation Investigator Award In Health Policy Research, 2007

Grant Support

Current

- 2020-2023 : National Science Foundation – The Effects of the World War II Research Effort on Postwar U.S. Science, Technology, and Innovation Role: co-PI. (PI: Daniel Gross)
- 2018-2023 : European Research Council – Serendipity in Research and Innovation Role: Subward PI.

Past

- 2019: Sloan Foundation – Developing and Validating New Measures of Connections Between Science and Patented Technology Role: PI.
- 2019: Yusuf Hamied Fellowship, Columbia Mailman – Trade Related Intellectual Property Rights: Patents and Drug Prices in India Role: PI.
- 2017-2019 : National Science Foundation – The Effects of Federal Indirect Cost Recovery on Academic Institutions Role: PI.
- 2017-2018 : National Science Foundation – The Effects of Patents on Innovation, Diffusion, and Access Role: PI.
- 2013-2015 : UK Economic and Social Research Council – TRIPS Implementation and Secondary Pharmaceutical Patenting: An Empirical Analysis Role: Subward PI.
- 2011-2013 : National Science Foundation – Idea and Economic Spillovers from Publicly-funded Biomedical Research Role: Subward PI. (PI: Pierre Azoulay)
- 2011-2012 : Commonwealth Fund – Analysis of National Datasets on Health Reform Issues Role: PI.
- 2010-2012 : Robert Wood Johnson Foundation – Drug Patent Challenges and Public Health Role: PI.

- 2009-2010 : Commonwealth Fund – Contributing to Health Care Reform: Analysis of National Data Sets Role: PI.
- 2008-2010 : Ford Foundation – TRIPS and Development: The Political Economy of the Patent System Role: PI.
- 2007-2010 : Robert Wood Johnson Foundation – Investigator Award: The Political Economy of the NIH Role: PI.
- 2005-2007 : Merck Foundation – Columbia-Stanford Consortium on Medical Innovation Role: PI.

Administrative Leadership and Academic Service

Academic Service

- Steering Committee, NBER Innovation Information Initiative
- Committee Member, Congressionally-Mandated NASEM Committee to Evaluate Economic and Healthcare Benefits of the NIH Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs

Administrative Leadership

- Senator, Columbia University Senate (2019-2021)
- Steering Committee, Columbia University Precision Medicine and Society Initiative
- Research Director, Department of Health Policy and Management, Columbia University (2016-present)
- Mailman School Steering Committee (2010-2015)

Professional Organizations and Societies

Editorial Board

- Editorial Advisory Board, *Milbank Quarterly*
- Advisory Editor, *Research Policy*

Memberships and Positions

National Bureau of Economic Research (NBER), Research Associate, 2013-present

Consulting

Numerous government agencies and NGOs including the Rand Corporation, NIH Office of Science Policy, Rockefeller Foundation, National Academy of Sciences Board on Science, Technology, and Economic Policy

Journal Review

American Economic Journal: Economic Policy; American Economic Review; American Economic Review: Insights; American Journal of Health Economics; American Journal of Managed Care; British Medical Journal; Econ Journal Watch; Economics of Innovation and New Technology; Expert Opinion on Pharmaceutical Patents; Frontiers in Research Metrics and Analytics; Globalization and Health; Health Affairs; Health Services Research; Industrial and Corporate Change; International Journal of Intellectual Property Management; Journal of Development Studies; Journal of Economic Behavior and Organization; Journal of Health Economics; Journal of Health Politics, Policy, and Law; Journal of Industrial Economics; Journal of Law and Biosciences; Journal of Law and Economics; Journal of Medical Economics; Journal of Policy Analysis and Management; Journal of Public Economics; Journal of Technology Transfer; Journal of the American Medical Association; Management Science; Medical Care and Research Review; Milbank Quarterly; New England Journal of Medicine; PNAS; Rand Journal of Economics; Research Policy; Review of Economic Studies; Review of Economics and Statistics; Science; Science and Public Policy; Scientometrics; Strategic Management Journal; Value in Health; World Development

Teaching

Economics of Biomedical Innovation (Fall 2021; Spring 2021; Fall 2019; Spring 2019)
Innovation in Health Policy (Spring 2020)
Economics of Precision Medicine (Spring 2020)
Vaccine Innovation and Public Policy (Fall 2020)
Evidence, Politics, Health Policy (with Ron Bayer) (Spring 2018)
Economics of Innovation (ASU Doctoral Seminar) (Spring 2018)
Economics of Medical Technology (Fall 2017; Fall 2016; Spring 2015; Fall 2013)
Program Evaluation (Spring 2017; Spring 2008; Spring 2007)
Integration of Science and Practice (Fall 2016; Spring 2014; Fall 2013; Spring 2013; Fall 2011)
Research Methods 1 (Spring 2015; Spring 2014; Spring 2013)
Health and Development (Spring 2012; Spring 2011; Spring 2010)
Economic Evaluation of Health Technologies (Spring 2012; Spring 2008)
Analytic Methods for Health Service Management (Spring 2009)
Economics and Ethics of New Technologies (Rockefeller University Doctoral Seminar) (Fall 2009)
Science, Technology and Sustainable Development (Sustainable Development PhD seminar) (Spring 2008)
U.S. Science and Technology Policy (SIPA) (Spring 2007; Spring 2006)

Publications

Book

1. David C. Mowery, Richard R. Nelson, **Bhaven N. Sampat**, and Arvids A. Ziedonis. *Ivory Tower and Industrial Innovation: University-Industry Technology Transfer Before and After the Bayh-Dole Act*. Stanford University Press, 2004

Peer reviewed research publications

1. **Sampat, Bhaven N** and Kenneth C Shadlen. The COVID-19 innovation system. *Health Affairs*,

40(3):400–409, 2021

2. Kevin A. Bryan, Yasin Ozcan, and **Bhaven N. Sampat**. In-text patent citations: A user's guide. *Research Policy*, 49(4):103946, May 2020
3. Kenneth C. Shadlen, **Bhaven N. Sampat**, and Amy Kapczynski. Patents, trade and medicines: Past, present and future. *Review of International Political Economy*, 27(1):75–97, January 2020
4. **Bhaven N. Sampat** and Heidi L. Williams. How Do Patents Affect Follow-On Innovation? Evidence from the Human Genome. *American Economic Review*, 109(1):203–236, January 2019
5. Pierre Azoulay, Joshua S Graff Zivin, Danielle Li, and **Bhaven N. Sampat**. Public R&D Investments and Private-sector Patenting: Evidence from NIH Funding Rules. *The Review of Economic Studies*, 86(1):117–152, January 2019
6. **Bhaven N. Sampat** and Kenneth C. Shadlen. Indian pharmaceutical patent prosecution: The changing role of Section 3(d). *PLOS ONE*, 13(4):e0194714, April 2018
7. **Bhaven N. Sampat** and Kenneth C. Shadlen. Secondary pharmaceutical patenting: A global perspective. *Research Policy*, 46(3):693–707, April 2017
8. Danielle Li, Pierre Azoulay, and **Bhaven N. Sampat**. The applied value of public investments in biomedical research. *Science*, 356(6333):78–81, April 2017
9. **Bhaven N. Sampat** and Kenneth C. Shadlen. Drug patenting in India: looking back and looking forward. *Nature Reviews Drug Discovery*, 14(8):519–520, August 2015
10. Deepak Hegde and **Bhaven N. Sampat**. Can Private Money Buy Public Science? Disease Group Lobbying and Federal Funding for Biomedical Research. *Management Science*, 61(10):2281–2298, October 2015
11. **Bhaven N. Sampat** and Kenneth C. Shadlen. TRIPS Implementation and Secondary Pharmaceutical Patenting in Brazil and India. *Studies in Comparative International Development*, 50(2):228–257, June 2015
12. **Bhaven N. Sampat** and Harold Alan Pincus. Citations in Life Science Patents to Publicly Funded Research at Academic Medical Centers. *Clinical and Translational Science*, 8(6):759–763, December 2015
13. C. Scott Hemphill and **Bhaven N. Sampat**. Drug Patents at the Supreme Court. *Science*, 339(6126):1386–1387, March 2013
14. **Bhaven N. Sampat**, Kristin Buterbaugh, and Marcel Perl. New evidence on the allocation of NIH funds across diseases. *The Milbank Quarterly*, 91(1):163–185, 2013
15. Christopher A. Cotropia, Mark A. Lemley, and **Bhaven N. Sampat**. Do applicant patent citations matter? *Research Policy*, 42(4):844–854, May 2013
16. **Bhaven N. Sampat** and Tahir Amin. How Do Public Health Safeguards in Indian Patent Law Affect Pharmaceutical Patenting in Practice? *Journal of Health Politics, Policy and Law*, 38(4):735–755, January 2013
17. Arti K Rai and **Bhaven N. Sampat**. Accountability in patenting of federally funded research. *Nature Biotechnology*, 30(10):953–956, October 2012

18. Amy Kapczynski, Chan Park, and **Bhaven N. Sampat**. Polymorphs and Prodrugs and Salts (Oh My!): An Empirical Analysis of “Secondary” Pharmaceutical Patents. *PLOS ONE*, 7(12):e49470, December 2012
19. **Bhaven N. Sampat**. Mission-oriented biomedical research at the NIH. *Research Policy*, 41(10):1729–1741, December 2012
20. **Bhaven N. Sampat**, Ken Shadlen, and Tahir Amin. Challenges to India’s Pharmaceutical Patent Laws. *Science*, 337(6093):414–415, July 2012
21. C. Scott Hemphill and **Bhaven N. Sampat**. Evergreening, patent challenges, and effective market life in pharmaceuticals. *Journal of Health Economics*, 31(2):327–339, March 2012
22. Mark A. Lemley and **Bhaven N. Sampat**. Examiner Characteristics and Patent Office Outcomes. *Review of Economics and Statistics*, 94(3):817–827, August 2012
23. Swathi Padmanabhan, Tahir Amin, **Bhaven N. Sampat**, Robert Cook-Deegan, and Subhashini Chandrasekharan. Intellectual property, technology transfer and manufacture of low-cost HPV vaccines in India. *Nature Biotechnology*, 30(2):193–193, February 2012
24. C. Scott Hemphill and **Bhaven N. Sampat**. When Do Generics Challenge Drug Patents?: When Do Generics Challenge Drug Patents? *Journal of Empirical Legal Studies*, 8(4):613–649, December 2011
25. Peter Muennig, **Bhaven N. Sampat**, Nicholas Tilipman, Lawrence D. Brown, and Sherry A. Glied. We All Want It, but We Don’t Know What It Is: Toward a Standard of Affordability for Health Insurance Premiums. *Journal of Health Politics, Policy and Law*, 36(5):829–853, October 2011
26. **Bhaven N. Sampat** and Michael Drummond. Another special relationship? Interactions between health technology policies and health care systems in the United States and the United Kingdom. *Journal of Health Politics, Policy and Law*, 36(1):119–139, February 2011
27. **Bhaven N. Sampat** and Frank R. Lichtenberg. What are the respective roles of the public and private sectors in pharmaceutical innovation? *Health Affairs (Project Hope)*, 30(2):332–339, February 2011
28. **Bhaven N. Sampat**. When Do Applicants Search for Prior Art? *The Journal of Law and Economics*, 53(2):399–416, May 2010
29. Julia Carbone, E Richard Gold, **Bhaven N. Sampat**, Subhashini Chandrasekharan, Lori Knowles, Misha Angrist, and Robert Cook-Deegan. DNA patents and diagnostics: not a pretty picture. *Nature Biotechnology*, 28(8):784–791, August 2010
30. Deepak Hegde and **Bhaven N. Sampat**. Examiner citations, applicant citations, and the private value of patents. *Economics Letters*, 105(3):287–289, December 2009
31. **Bhaven N. Sampat**. Academic Patents and Access to Medicines in Developing Countries. *American Journal of Public Health*, 99(1):9–17, January 2009
32. Juan Alcácer, Michelle Gittelman, and **Bhaven N. Sampat**. Applicant and examiner citations in U.S. patents: An overview and analysis. *Research Policy*, 38(2):415–427, March 2009

33. Anthony D. So, **Bhaven N. Sampat**, Arti K Rai, Robert Cook-Deegan, Jerome H Reichman, Robert Weissman, and Amy Kapczynski. Is Bayh-Dole Good for Developing Countries? Lessons from the US Experience. *PLoS Biology*, 6(10):e262, October 2008
34. Mark J. Russo, Annetine C. Gelijns, Lynne W. Stevenson, **Bhaven N. Sampat**, Keith D. Aaronson, Dale G. Renlund, Deborah D. Ascheim, Kimberly N. Hong, Mehmet C. Oz, Alan J. Moskowitz, Eric A. Rose, and Leslie W. Miller. The Cost of Medical Management in Advanced Heart Failure During the Final Two Years of Life. *Journal of Cardiac Failure*, 14(8):651–658, October 2008
35. Pierre Azoulay, Ryan Michigan, and **Bhaven N. Sampat**. The Anatomy of Medical School Patenting. *New England Journal of Medicine*, 357(20):2049–2056, November 2007
36. **Bhaven N. Sampat**. Patenting and US academic research in the 20th century: The world before and after Bayh-Dole. *Research Policy*, 35(6):772–789, July 2006
37. David C. Mowery and **Bhaven N. Sampat**. The Bayh-Dole Act of 1980 and University–Industry Technology Transfer: A Model for Other OECD Governments? *The Journal of Technology Transfer*, 30(1):115–127, December 2004
38. R. R Nelson, A. Peterhansl, and **Bhaven N. Sampat**. Why and how innovations get adopted: A tale of four models. *Industrial and Corporate Change*, 13(5):679–699, October 2004
39. **Bhaven N. Sampat**, David C. Mowery, and Arvids A. Ziedonis. Changes in university patent quality after the Bayh–Dole act: A re-examination. *International Journal of Industrial Organization*, 21(9):1371–1390, November 2003
40. Roberto Mazzoleni and **Bhaven N. Sampat**. University patenting : an assessment of the causes and consequences of recent changes in strategies and practices. *Revue d'économie industrielle*, 99(1):233–248, 2002
41. David C. Mowery, **Bhaven N. Sampat**, and Arvids A. Ziedonis. Learning to Patent: Institutional Experience, Learning, and the Characteristics of U.S. University Patents After the Bayh-Dole Act, 1981-1992. *Management Science*, 48(1):73–89, January 2002
42. Jeannette Colyvas, Michael Crow, Annetine Gelijns, Roberto Mazzoleni, Richard R. Nelson, Nathan Rosenberg, and **Bhaven N. Sampat**. How Do University Inventions Get Into Practice? *Management Science*, 48(1):61–72, January 2002
43. David C. Mowery and **Bhaven N. Sampat**. University Patents and Patent Policy Debates in the USA, 1925-1980. *Industrial and Corporate Change*, 10(3):781–814, August 2001
44. David C Mowery, Richard R Nelson, **Bhaven N. Sampat**, and Arvids A Ziedonis. The growth of patenting and licensing by U.S. universities: An assessment of the effects of the Bayh–Dole act of 1980. *Research Policy*, 30(1):99–119, January 2001
45. Richard R. Nelson and **Bhaven N. Sampat**. Making sense of institutions as a factor shaping economic performance. *Journal of Economic Behavior & Organization*, 44(1):31–54, January 2001
46. David C. Mowery and **Bhaven N. Sampat**. Patenting and Licensing University Inventions: Lessons from the History of the Research Corporation. *Industrial and Corporate Change*, 10(2):317–355, June 2001

Reviews, chapters, law reviews, editorials

1. **Sampat, Bhaven N.** The government and pharmaceutical innovation: Looking back and looking ahead. *Journal of Law, Medicine amp; Ethics*, 49(1):10–18, 2021
2. Daniel P Gross and **Sampat, Bhaven N.** Crisis Innovation Policy from World War II to COVID-19. *NBER Entrepreneurship and Innovation Policy and the Economy*, 2021
3. Robert Cook-Deegan and **Bhaven N. Sampat.** An ARPA for health research? *Milbank Quarterly (Opinion)*, 2021
4. Daniel Gross and **Sampat, Bhaven N.** The Economics of Crisis Innovation Policy: A Historical Perspective. *American Economic Review Papers and Proceedings*, 2021
5. **Bhaven N. Sampat.** Whose Drugs Are These? *Issues in Science and Technology*, 2020
6. **Bhaven N. Sampat.** Comment on “Leveraging public research for innovation and growth – a conceptual framework and common metrics”. In Suma Athreye Anthony Arundel and Sacha Wunch-Vincent, editors, *Harnessing Public Research for Innovation in the 21st Century: An International Assessment of Knowledge Transfer Policies*. Cambridge University Press, 2020
7. **Bhaven N. Sampat.** Comment on “Local effects of land grant colleges on agricultural innovation and output”. In *Economics of Research and Innovation in Agriculture*. University of Chicago Press, 2020
8. Amy Kapczynski, **Bhaven N. Sampat,** and Kenneth C Shadlen. The TPP and drug prices. *Foreign Affairs*, 2016
9. Arti Rai and **Bhaven N. Sampat.** Accountability, Government Rights, and the Public Interest: A Thirty-Year Retrospective. In Donald Siegel Albert Link and Mike Wright, editors, *The Chicago Handbook of University Technology Transfer and Academic Entrepreneurship*. University of Chicago Press, 2014
10. Arti K. Rai, John R. Allison, and **Bhaven N. Sampat.** University Software Ownership and Litigation. In Michael Abramowicz, James E. Daily, and F. Scott Kieff, editors, *Perspectives on Patentable Subject Matter*, pages 336–375. Cambridge University Press, New York, 2014
11. **Bhaven N. Sampat.** Prevention vs. treatment: What’s the right balance? *Global Public Health*, 8(2):236–239, February 2013
12. Pierre Azoulay, Joshua S. Graff Zivin, and **Bhaven N. Sampat.** The Diffusion of Scientific Knowledge across Time and Space: Evidence from Professional Transitions for the Superstars of Medicine. In Josh Lerner and Scott Stern, editors, *The Rate and Direction of Inventive Activity Revisited*. University of Chicago Press, 2012
13. **Bhaven N. Sampat.** Lessons from Bayh–Dole. *Nature*, 468(7325):755–756, December 2010
14. **Bhaven N. Sampat.** Research Locally, Diffuse Globally? American Universities, Patents and Global Public Health. *Columbia Journal of International Affairs*, November 2010
15. **Bhaven N. Sampat.** Catching Up In Indian Pharmaceuticals and Software: The Roles That Patents Did and Did Not Play. In H. Odagiri, A. Goto, A. Sunami, and R.R. Nelson, editors, *Intellectual Property Rights, Development, and Catch-Up*. Oxford University Press, April 2010

16. **Bhaven N. Sampat.** The Dismal Science, the Crown Jewel and the Endless Frontier. In D. Foray, editor, *The New Economics of Technology Policy*. Edward Elgar Publishing, 2009
17. Arti Rai, John Allison, **Bhaven N. Sampat**, and Colin Crossman. University Software Ownership and Litigation: A First Examination. *North Carolina Law Review*, 87:1519–1570, January 2009
18. Mark A. Lemley and **Bhaven N. Sampat.** Is the Patent Office a Rubber Stamp? *Emory Law Journal*, 58:181, 2008
19. **Bhaven N. Sampat.** “University Patenting: Shaping A New Government Patent Policy. In D. Guston and D. Sarewitz, editors, *Shaping Science and Technology Policy: The Next Generation of Research*. University of Wisconsin Press, Madison, 2007
20. **Bhaven N. Sampat**, David Mowery, and Arvids Ziedonis. Changes in University Patent Quality After Bayh–Dole: A Re–Examination. In Donald S. Siegel, editor, *Technological Entrepreneurship: The International Library of Entrepreneurship Series*. Edward Elgar, Northampton, 2007
21. David C. Mowery and **Bhaven N. Sampat.** The Bayh-Dole Act of 1980 and University-Industry Technology Transfer. In Dominique Foray and Brian Kahin, editors, *Advancing Knowledge and The Knowledge Economy*. MIT Press, Cambridge, 2006
22. David C. Mowery and **Bhaven N. Sampat.** Universities in National Innovation Systems. In Jan Fagerberg and David C. Mowery, editors, *The Oxford Handbook of Innovation*. Oxford University Press, 2006. 10.1093/oxfordhb/9780199286805.003.0008
23. Mark Lemley, Doug Lichtman, and **Bhaven N. Sampat.** What to do about bad patents? *Regulation*, 2005
24. **Bhaven N. Sampat** and Arvids A. Ziedonis. Patent Citations and the Economic Value of Patents. In Henk F. Moed, Wolfgang Glänzel, and Ulrich Schmoch, editors, *Handbook of Quantitative Science and Technology Research: The Use of Publication and Patent Statistics in Studies of S&T Systems*, pages 277–298. Springer Netherlands, Dordrecht, 2005
25. Richard Nelson and **Bhaven N. Sampat.** Making Sense of Institutions as a Factor Shaping Economic Performance. In Geoffrey Hodgson, editor, *Recent Developments in Institutional Economics*, Critical Studies in Economic Institutions. Edward Elgar, 2003
26. **Bhaven N. Sampat** and Richard R. Nelson. The evolution of university patenting and licensing procedures: An empirical study of institutional change. In Paul Ingram and Brian S. Silverman, editors, *The New Institutionalism in Strategic Management*, volume 19 of *Advances in Strategic Management*, pages 135–164. Emerald Group Publishing Limited, January 2000
27. David Mowery, Richard Nelson, **Bhaven N. Sampat**, and Arvids Ziedonis. The effects of the Bayh-Dole Act on US university research and technology transfer. In Fumio Kodama Lewis Branscomb and Richard Florida, editors, *Industrializing Knowledge*. MIT Press, 1999

Other: Government and other reports

1. **Bhaven N. Sampat.** *Global Innovation Report*, chapter The Economics of Health Innovation: Looking Back and Looking Forward. World Intellectual Property Organization, 2019

2. **Bhaven N. Sampat.** Science policy research report: The effects of patents on innovation (reprinted as NBER working paper 2018). Technical report, National Science Foundation, 2018
3. **Bhaven N. Sampat.** Intellectual property rights and pharmaceuticals: The case of antibiotics. Technical report, World Intellectual Property Organization Economic Research Working Paper 26, 2015
4. **Bhaven N. Sampat.** The impact of publicly funded biomedical and health research: A review. Technical report, Appendix D of "Measuring the Impact of Federal Investments in Research: A Workshop Summary" (National Academies Press), 2011
5. **Bhaven N. Sampat.** The Bayh-Dole model in developing countries: Reflections on the Indian bill on publicly funded intellectual property. Technical report, UNCTAD-ICTSD Project on Intellectual Property Rights and Sustainable Development, 2009

Invited presentations, discussions, panels (since 2015)

1. Invited presenter. "Advances in Patent Research" Professional Development Workshop
Academy of Management Annual Meetings
August 2021
2. Panelist. "Ways to Fund Scientists"
NBER Summer Institute, Science of Science Funding
July 2021
3. Panelist. "COVID Vaccines: Policies to end this pandemic and avoid another one"
Richman Center, Columbia University
June 2021
4. Keynote speaker. "Crisis Innovation Policy." *Taiwan Symposium on Innovation Economics and Entrepreneurship*
National Taiwan University.
June 2021.
5. Invited presenter. "Crisis Innovation from World War II to Warp Speed" *Entrepreneurship and Innovation Policy and the Economy Conference*
National Bureau of Economic Research
April 2021.
6. Invited speaker. "Crisis Innovation from World War II to Warp Speed" *Science, Technology, and Innovation Policy Seminar*
University of Manchester (U.K.)
February 2021.
7. Presenter. "The Economics of Crisis Innovation"
Allied Social Science Association (ASSA) Annual Meeting
January 2021.
8. Invited discussant. "The Rise of American Corporate Science"
Allied Social Science Association (ASSA) Annual Meeting
January 2021.

9. Presenter. *Global Virtual Symposium on Trade and Investment Treaties and Access to Medicines in a COVID-19 Era*
Boston University Global Development Policy Center
December 2020.
10. Invited presenter. "Inventing the Endless Frontier: The Effects of the World War II Research Effort on Postwar Innovation"
Association for Public Policy Analysis and Management (APPAM) Annual Conference
November 2020.
11. Invited presenter. "The Race for the Covid Vaccine: New Challenges for Innovation Policy"
Columbia/SIPA Seminar: Covid-19: Policymaking in the Throes of a Global Crisis
Columbia University
November 2020.
12. Invited presenter. "Linking drugs to government funding" *Knowledge Ecology International (KEI) Panel on Government Funding of COVID Drugs and Vaccines*
Congress on Intellectual Property and the Public Interest
November 2020.
13. Invited presenter. "How Covid-19 is Changing the Biomedical Innovation System" *Implications of the Pandemic for Science and Innovation Policy: Insight from Economists*
National Academies of Sciences, Engineering, and Medicine (NASEM) Board on Science, Technology, and Economic Policy (STEP)
October 2020.
14. Invited presenter. "Should We Patent a COVID-19 Vaccine?"
Consortium for Science, Technology, and Outcomes (CSPO)
September 2020.
15. Invited discussant. *Intellectual Property Day*
Boston University School of Law
July 2020.
16. Invited panelist. *Innovation Policy for a Pandemic Panel, Summer Institute 2020.*
National Bureau of Economic Research
July 2020.
17. Invited panelist. *Vagts Roundtable: Conceptualizing Intellectual Property as a Social Determinant of Health.*
American Society of International Law Annual Meeting
June 2020.
18. Moderator. *Panel on "International Ethical, Regulatory and Economic Issues in Precision Medicine"*
Precision Medicine and Society Conference
Columbia University
May 2020.
19. Presenter. "TRIPS, Patents, and Drug Prices in India" *Tenth Annual Tri-State Region Intellectual Property Workshop*
NYU Law School.
January 2020.

20. Invited speaker. "TRIPS, Patents, and Drug Prices in India"
Columbia Global Center (Mumbai, India)
November 2019.
21. Invited speaker. "TRIPS, Patents, and Drug Prices in India"
Center for Development Studies (Trivandrum, India)
November 2019.
22. Invited speaker. "TRIPS, Patents, and Drug Prices in India"
Indian Institute of Management (Ahmedabad, India)
November 2019.
23. Invited presenter. *Empirical Patent Law Conference*
Georgetown Law School
October 2019.
24. Invited speaker. "TRIPS, Patents, and Drug Prices in India" *Innovation, Justice, and Globalization: A Celebration of J.H. Reichman*
Harvard Law School.
September 2019.
25. Invited presenter. "The Roles of the Government in Pharmaceutical Innovation" *Workshop on Role of NIH in Drug Development Innovation and its Impact on Patient Access*
National Academies of Sciences, Engineering, and Medicine
July 2019.
26. Invited discussant. "Science Quality and the Value of Inventions" and "Standing on the Shoulders of Giants" *Summer Institute 2019 "Science of Science Funding" Session.*
National Bureau of Economic Research
July 2019.
27. Invited discussant. "Local Effects of Land Grant Colleges on Agricultural Innovation and Output" *Conference on Agricultural Science, Innovation, and R&D*
National Bureau of Economic Research
May 2019.
28. Invited speaker. *The Complex World of Drug Pricing*
Columbia Business School
April 2019.
29. Invited speaker. *Radcliffe Seminar: The U.S. Government's Contribution to Transformative Drug Development.*
Harvard University
December 2018.
30. Presenter. "Federal Indirect Cost Recovery Policies and Academic Research"
Association for Public Policy Analysis and Management (APPAM) Fall Research Conference
November 2018.
31. Invited speaker. "Measuring the Economic Impact of Science" *IP, Science, and Technology Workshop*
University of Texas at Austin
October 2018.

32. Invited speaker. "Beyond Patents: Assessing the Value and Impact of Research Investments"
Government-University-Industry Research Roundtable
The National Academies of Sciences, Engineering, and Medicine
October 2018.
33. Invited speaker. *The Cost of a Cure: Creating Sustainable Solutions for Gene and Cell Therapies*
Leonard Davis Institute of Health Economics, University of Pennsylvania
September 2018.
34. Invited presenter. "Using Patent Citations to Assess Science-Innovation Linkages and the Value of Medical Research"
NIA-ESRC International Network on the Value of Health Research.
National Bureau of Economic Research
September 2018.
35. Invited speaker. *Research on Research Workshop*
The Wellcome Trust (London, UK)
April 2018.
36. Invited presenter. "Measuring the Links Between Science and Innovation: Advances from Economics"
American Association for the Advancement of Science Annual Meetings (Austin, TX)
February 2018.
37. Invited speaker. *NIH Health Economics Research meeting.*
National Institutes of Health
January 2018.
38. Invited presenter. "The Effects of Patents on Innovation"
Workshop on Results from NSF Science Policy Research Reports
National Academic of Sciences, Engineering, and Medicine
January 2018.
39. Invited speaker. "Pharmaceutical Patent Citations and Real Value"
Leonard Davis Institute of Health Economics, University of Pennsylvania
November 2017.
40. Invited speaker. *NIH-NSF Workshop on the Value of Data Sharing*
National Institutes of Health
October 2017.
41. Invited panelist. "Public Health as a Public Good?" *Mailman School Grand Rounds*
Columbia University
September 2017.
42. Invited presenter. "Secondary Pharmaceutical Patenting: A Global Perspective"
Competition Issues in Pharmaceuticals: The Challenges Ahead
Centre for Competition Policy, University of East Anglia School of Economics (Norwich, UK)
June 2017.
43. Invited discussant. "Personalized Medicine and Patient Selection: Discretion vs. Guidelines"
10th annual Economics of Entrepreneurship and Innovation Conference
Queen's School of Business (Kingston, ON)
June 2017.

44. Invited speaker. "Private Investment vs. Public Funding in Therapeutic Development" *Health Policy and Bioethics Consortium*
Dana-Farber/Harvard Cancer Center
May 2017.
45. Invited speaker. "The Government and Pharmaceutical Innovation" *Technology and Operations Management Seminar*
Harvard Business School
May 2017.
46. Invited discussant. *World Intellectual Property Organization (WIPO) Workshop on "International Comparison of Knowledge Transfer Policies"*
Maastricht, the Netherlands
March 2017.
47. Invited presenter. *Webinar: Pharmaceutical Drug Pricing: Where Should We Go From Here?*
Columbia University Bioethics
January 2017.
48. Invited discussant. "Does Winning a Patent Race lead to more follow-on Innovation?" *Roundtable on Engineering Entrepreneurship Research*
Georgia Institute of Technology
November 2016.
49. Invited lecturer. "Secondary Pharmaceutical Patenting in the U.S." and "The Globalization of Pharmaceutical Patenting" *Lecture Series on the Law Economics of Innovation*
ETH Zurich
October 2016.
50. Presenter. "The links between publicly funded medical research and innovation" *Roundtable on Empirical Methods in Intellectual Property*
U.S. Patent and Trademark Office
April 2016.
51. Invited presenter. *NIH and the Science of Science Policy*
National Institutes of Health
April 2016.
52. Invited panelist. *Workshop on the Politics of Science and Innovation Policy*
The Brookings Institution
March 2016.
53. Invited speaker. "The Effects of Restrictions on Secondary Pharmaceutical Patents: Brazil and India in Comparative Perspective" *The Economics of Science and Engineering Workshop*
Harvard University, Department of Economics
February 2016.
54. Invited presenter. "How do Patents Affect Follow-on Innovation? Evidence from the Human Genome"
NYU Wagner
February 2016.

55. Invited presenter. "Linking Public Sector R&D to Health Outcomes" *NIA-ESRC International Network on the Value of Health Research*.
Institute for Fiscal Studies (London, UK)
December 2015.
56. Invited presenter. "The Effects of Restrictions on Secondary Pharmaceutical Patents" *IP Statistics for Decisionmakers*
European Patent Office/Organization of Economic Cooperation and Development
November 2015.
57. Invited speaker. *Seminar on Drug Pricing*
Knowledge Ecology International
November 2015.
58. Invited presenter. *Workshop on "Rethinking the Economics of Pharmaceutical Innovation"*
Open Society Foundation
October 2015.
59. Invited presenter. "The Effects of Restrictions on Secondary Pharmaceutical Patents: Brazil and India in Comparative Perspective" *Empirical Patent Law Conference*
University of Illinois School of Law
October 2015.
60. Moderator. *Pharmaceuticals Panel, Antitrust in Emerging and Developing Economies: Africa, Brazil, China, India, Mexico*
NYU Law School
October 2015.
61. Invited discussant. "Innovation Under Regulatory Uncertainty: Evidence from Medical Technology" *8th Annual Conference on the Economics of Entrepreneurship and Innovation*
Queen's School of Business (Kingston, ON)
June 2015.
62. Invited presenter. "TRIPS Implementation and Secondary Pharmaceutical Patenting"
Institute of Applied Economic Research (Rio de Janeiro, Brazil)
May 2015.
63. Invited presenter. "TRIPS Implementation and Secondary Pharmaceutical Patenting"
Universidade Federal do Rio de Janeiro
May 2015.
64. Invited presenter. "'How do Patents Affect Follow-on Innovation? Evidence from the Human Genome" *Creativity and Innovation Research Initiative*
NYU Stern
April 2015.
65. Invited presenter. "Breakthrough Historical Innovation: The Case of Antibiotics"
World Intellectual Property Organization *Workshop on the World Intellectual Property Report 2015*
February 2015.
66. Invited speaker. *Intellectual Property Teaching Workshop*
National Law School (Delhi, India)
February 2015.

67. Invited speaker. "How Do Patents Affect Follow-On Innovation? Evidence From the Human Genome" *Chief Economist Speaker Series*
U.S. Patent and Trademark Office
February 2015.

Major conferences and panels organized

1. "TRIPS@10" conference on the impact of the Trade Related Intellectual Property Rights Agreement, Columbia Earth Institute, November 2005
2. "Secondary Pharmaceutical Patents" conference, NYU Law School, February 2016
3. "The Past and Future of Innovation Policy: The Bush Report at 75 Years" Super-session panel at Association for Public Policy Analysis and Management (APPAM) Annual Conference, November 2020