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Academic training

Columbia University

Ph.D. Economics, with Distinction, 2001.

Thesis: “Essays on University Patenting.” Supervisor: Stephen Cameron

M.Phil. Economics, 2000.

M.A. Economics, 1998.

B.A. Economics–Political Science, 1996.

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

Academic appointments

Columbia University

August 2005–Present:

- Assistant Professor, Department of Health Policy and Management (HPM), Mailman School of Public Health.
- Affiliated Faculty, School of International and Public Affairs (SIPA).
- Affiliated Faculty, Columbia Law School.
- Affiliated Faculty, The Robert Wood Johnson Health and Society Scholars Program.
- Faculty Fellow, Institute for Social and Economic Policy Research and Policy (ISERP).

University of Michigan

August 2003–August 2005:

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

Georgia Institute of Technology

August 2001–August 2005

- Assistant Professor, School of Public Policy.

Honors

- Robert Wood Johnson Foundation Investigator Award In Health Policy Research, 2007.
- Faculty Member of the Year Teaching Award, School of Public Policy, Georgia Institute of Technology, 2002-2003.

- Faculty Member of the Year Teaching Award, School of Public Policy, Georgia Institute of Technology, 2001-2002.

Dissertation, “Essays on the Economics of University Patenting,” awarded Distinction, Columbia University, Graduate School of Arts and Sciences, 2001.

- Sanford Parker Award in Economics, Columbia College, Columbia University, 1996.
- B.A. awarded with honors, summa cum laude. Elected to Phi Beta Kappa. Columbia College, Columbia University, 1996.

Fellowship and Grant Support

Current

Robert Wood Johnson Foundation Public Health Law Research Program, 2010-2012, Co-PI, “Do Drug Patent Challenges Affect Public Health?”

Institute for Social and Economic Research and Policy (ISERP), 2010-2011, Co-PI, “Generic Challenges to Pharmaceutical Patents.”

Commonwealth Fund, 2009-2011, PI, “Contributing to Health Care Reform.”

Pending

Columbia/London School of Economics (LSE) Alliance Collaborative Research Fund, 2011-2012, Co-PI, “National Strategies for Addressing the Patenting of Incremental Innovations in Pharmaceuticals: Brazil, India, and Beyond.”

Past

Robert Wood Johnson Foundation Investigator Awards Program, 2007-2010, PI, “The Political Economy of the NIH.”

The Ford Foundation, 2006-2010, PI, “Implementation of New Patent Laws in Developing Countries.”

The Merck Foundation, 2005-2008, PI, “The Columbia-Stanford Consortium on Biomedical Innovation.”

Teaching Experience and Responsibilities

<i>Academic Year</i>	<i>Title</i>
2010-11	Health and International Development (HPM, SIPA) Policy Issues in the Pharmaceutical Industry (HPM Executive MPH)

2009-10	Health and International Development (HPM, SIPA) Science, Technology, and Sustainable Development Doctoral Seminar (SIPA/Earth Institute)
2007-8	Economic Evaluation of Health Technologies (HPM) Program Evaluation (HPM) Science, Technology, and Sustainable Development Doctoral Seminar (SIPA/Earth Institute)
2006-7	Program Evaluation (HPM) U.S. Science and Technology Policy (SIPA)
2005-6	U.S. Science and Technology Policy (SIPA)

Other Professional Activities

Consulting and Advising:

- Advisory Board, Initiative for Medicines, Access, and Knowledge, 2006-Present.
- Consultant, Duke Center the Study of Public Genomics, 2005-Present.

Recent Invited Academic Presentations (2010-2011 only):

"When Do Generics Challenge Drug Patents?"

- Yale Law and Economics Seminar
- University of Wisconsin Center for Demography and Aging Seminar
- Pfizer Pharmaceutical Economics and Policy Conference
- Mt. Sinai School of Medicine Grand Rounds
- Federal Trade Commission (FTC) Bureau of Economics Seminar Series

"Evergreening, Patent Challenges, and Public Health"

- Columbia Health Law and Society Colloquium

"Patent Thickets, Patent Listing Standards, and Generic Competition in Pharmaceuticals"

- National Bureau of Economic Research (NBER) Conference on Patents, Standards, and Innovation

"Hydrates and Solvates and Salts (oh my!): Secondary Patents in Pharmaceuticals"

- Fordham Law School Tri-State Intellectual Property Workshop

"Examiner Characteristics and Patent Office Outcomes"

- Stanford Law School Patent Reform Conference
- Japanese Institute for Intellectual Property

"Institutional Imitation or Institutional Innovation? The Impact of TRIPS in India"

- New York University Colloquium on Innovation Policy
- National Bureau of Economic Research (NBER) Summer Institute, 2010
- World Intellectual Property Organization, Seminar Series on the Economics of IP

"TRIPS and the Globalization of Patent Laws"

- Columbia Law School Forum on Globalizing Property Rights

"The Diffusion of Scientific Knowledge Across Time and Space: Evidence from Professional Transitions for the Superstars of Medicine"

- National Bureau of Economic Research (NBER) Conference on the 50th Anniversary of *The Rate and Direction of Inventive Activity*

"Disease Categorization and Priority Setting at the NIH"

- Hastings Center for Bioethics
- Columbia HIV Center Grand Rounds

"The Political Economy of Publicly-Funded Biomedical Research: Evidence from NIH Funding for Rare Diseases"

- National Bureau of Economic Research (NBER) Summer Institute 2011
- RAND Health Economics Seminar

Public Service and Presentations to Government Agencies and NGOs:

Committee Member, Technology, Media, Telecom Committee, *Obama for America*, 2007-2008.

Lead author of background report on "The Impact of Public Spending on Biomedical and Health Research," *National Academy of Sciences Committee on Measuring Economic and Other Returns on Federal Investments in Research*, April 2011.

Presentation, "Patent Quality and Patent Data," for conference "Launching the USPTO Economics Research Agenda," *U.S. Patent and Trademark Office (USPTO)*, December 2010.

Prepared report, "The Bayh-Dole Model in Developing Countries: Reflections on the Indian Bill on Publicly Funded Intellectual Property," *UNCTAD-ICTSD Project on Intellectual Property Rights and Sustainable Development*, October 2009.

Presentation, "From Concept to Application: Managing the Transfer of Academic Research Results," for panel: Using Research to Advance the Greater Social Good, *National Academy of Sciences Conference*, November 2008.

Prepared report and presentation, "What Developing Countries Should Learn from U.S. Science and Technology Policy, and What They Shouldn't," *United Nations Economic Commission for Latin America and the Caribbean*, December 2007.

Prepared report and presentation, "The Roles of the NIH in Drug Development," (with Frank Lichtenberg) for *National Institutes of Health (NIH) Office of Science Policy Competitiveness Meeting*, November 2007.

Presentation, "The Dragon and the Elephant: Understanding the Development of Innovation Capacity in China and India," for panel: Patents and Intellectual Property, *National Academy of Sciences Conference*, November 2007.

Presentation, "International Gene Patenting and Public Health," *Department of Health and Human Services Secretary's Advisory Committee on Genetics, Health, and Society*, July 2007.

Prepared report and presentation, "How Can the Social Sciences Inform Science Policy?," *National Science Foundation (NSF) Workshop on The Social Organization of Science and Science Policy*, July 2006.

Presentation, "Are Intellectual Property Rights Affecting Research?," *National Academy of Sciences/American Association for the Advancement of Sciences Roundtable*, February 2006.

Presentation, "Evidence, Politics, and Technology," *Department of Health and Human Services Secretary's Advisory Committee on Heritable Disorders and Genetic Diseases in Newborns and Children*, July 2005.

Presentations to Student Groups:

• Universities Allied for Essential Medicines Annual Meetings • Wharton India Economic Forum • Columbia India Economic Forum • Mt. Sinai School of Medicine Panel on Patent Policy • UMDM/J/RWJ Medical School Global Health Week • South Asian Public Health Forum • Cornell Weill Technology Transfer Panel • Columbia Business School Healthcare Conference • New York Law School Dialogue on Human Rights, Intellectual Property, and Health • Columbia University Partnership for International Development Conference on Access to Health in the Developing World

Reviewing and Refereeing:

Associate Editor:

• *Information Economics and Policy*, July 2005-July 2007.

Referee:

• *RAND Journal of Economics* • *Journal of Economic Behavior and Organization* • *Journal of Policy Analysis and Management* • *Journal of Economics and Management Strategy* • *Research Policy, Science and Public Policy* • *Economics of Innovation and New Technology* • *American Journal of Managed Care* • *Health Services Research* • *Milbank Quarterly* • *Journal of Health Politics, Policy, and Law* • *Management Science* • *Review of Economics and Statistics, Health Affairs* • *Journal of Health Economics*

Grant Reviewer:

• National Science Foundation, "Science of Science Policy" Program • National Science Foundation, "Science, Technology, and Society" Program

Other Service:

- Principal organizer of the TRIPS@10 Conference, which brought together nearly 100 leading academic scholars, policy makers, industry representatives, and other stakeholders to present and discuss current research on the World Trade Organizations Trade Related Intellectual Property (TRIPs) agreement; Co-sponsored by the Mailman School of Public Health and The Earth Institute, Columbia University, Fall 2010.

www.earth.columbia.edu/tripsat10

- Designed first searchable database of Indian pharmaceutical patents and applications www.india.bigpatents.org

- Co-developed and co-taught a semester-long course on "Economics, Ethics and New Technologies," Science & Economics Program, Rockefeller University (pro bono), 2009.

Publications

A. Original, Peer Reviewed Articles

1. Peter Muennig, Bhaven N. Sampat, Nicholas Tilipman, Lawrence Brown, and Sherry Glied. 2011. "We All Want It But Don't Know What It Is: Toward A Standard of Affordability for Health Insurance Premiums." Forthcoming, *Journal of Health Politics, Policy and Law*.
2. Mark Lemley and Bhaven N. Sampat. 2011. "Examiner Characteristics and Patent Office Outcomes." Forthcoming, *Review of Economics and Statistics*.
3. Bhaven N. Sampat and Michael Drummond. 2011. "Yet Another Special Relationship? Health Technology Policies and Healthcare Systems in the U.S. and U.K." Forthcoming *Journal of Health Politics, Policy and Law*.
4. Bhaven N. Sampat and Frank Lichtenberg. 2011. "What Are The Respective Roles Of The Public And Private Sectors In Pharmaceutical Innovation?" *Health Affairs*. 30(2): 332-339.
5. Bhaven N. Sampat. 2010. "When Do Patent Applicants Search for Prior Art?" *Journal of Law and Economics*. 53: 399-416.
6. Swathi Padmanabhan, Tahir Amin, Bhaven Sampat, Robert Cook-Deegan, and Subhashini Chandrasekharan. 2010. "Intellectual Property, Technology Transfer and Developing Country Manufacture of Low-Cost HPV Vaccines - A Case Study of India." *Nature Biotechnology*. 28: 671-678.
7. Julia Carbone, Richard Gold, Bhaven N. Sampat, Subhashini Chandrasekharan, Lori Knowles, Misha Angrist, and Robert Cook-Deegan. 2010. "DNA Patents and Diagnostics: Not a Pretty Picture." *Nature Biotechnology*. 28: 784-791.

8. Deepak Hegde and Bhaven N. Sampat. 2009. "Applicant Citations, Examiner Citations, and the Private Value of Patents." *Economics Letters*. 5(3): 287-289.
9. Bhaven N. Sampat. 2009. "Academic Patents and Access to Medicines in Developing Countries." *American Journal of Public Health*. 99: 9-17.
10. Juan Alcacer, Michelle Gittleman, and Bhaven N. Sampat. 2009. "Applicant and Examiner Citations in U.S. Patents: An Overview and Analysis." *Research Policy*. 38(2): 415-27.
11. Anthony So, Bhaven N. Sampat, Arti K. Rai, Robert Cook-Deegan, Jerome Reichman, Robert Weissman, and Amy Kapczynski. 2008. "Is Bayh–Dole Good for Developing Countries? Lessons From the U.S. Experience." *PLoS Biology*. 6(10): 2078-2084.
12. Mark J. Russo, Annetine C. Gelijns, Lynne W. Stevenson, Bhaven Sampat, Keith D. Aaronson, Dale G. Renlund, Deborah D. Ascheim, Kimberly N. Hong, Mehmet C. Oz, Alan J. Moskowitz, Eric A. Rose, Leslie W. Miller, and the REMATCH Investigators. 2008. "The Cost of Medical Management in Advanced Heart Failure During the Final Two Years of Life." 2008. *Journal of Cardiac Failure*. 14(8): 651-8.
13. Pierre Azoulay, Ryan Michigan, and Bhaven N. Sampat. 2007. "The Anatomy of Medical School Patenting." *The New England Journal of Medicine*. 20(357): 2049-2056.
14. Bhaven N. Sampat. 2006. "Patenting and Academic Research in the Twentieth Century: The World Before and After Bayh–Dole." *Research Policy*. 35(6): 772-789.
15. David Mowery and Bhaven N. Sampat. 2005. "The Bayh–Dole Act of 1980 and University–Industry Technology Transfer: A Model for Other OECD Governments?" *Journal of Technology Transfer*. 30(1): 115–127.
16. Bhaven N. Sampat, David. C. Mowery, and Arvids Ziedonis. 2003. "Changes in University Patent Quality After Bayh–Dole: A Re–Examination." *International Journal of Industrial Organization*. 21(9): 1371–1390.
17. Richard R. Nelson, Alex Peterhansl, and Bhaven N. Sampat. 2003. "Why and How Innovations Get Adopted: A Tale of Four Models." *Industrial and Corporate Change*. 13(5): 679–699.
18. David Mowery, Bhaven Sampat, and Arvids Ziedons. 2002. "Learning to Patent? Institutional Experience and the Quality of University Patents." *Management Science*. 48(1): 73–89.
19. Jeannette Colyvas, Michael Crow, Annetine Gelijns, Roberto Mazzoleni, Richard Nelson, Nathan Rosenberg, and Bhaven N. Sampat. 2002. "How Do University Inventions Get Into Practice?" *Management Science*. 48(1): 61–72.

20. Roberto Mazzoleni and Bhaven N. Sampat. 2002. "University Patenting: An Assessment of the Causes and Consequences of Recent Changes in Strategies and Practices" *Revue D'Economie Industrielle*. 99: 233–248.
21. Richard R. Nelson and Bhaven N. Sampat. 2001. "Making Sense of Institutions as a Factor Shaping Economic Performance." *Journal of Economic Behavior and Organization*. 44(1): 31–54.
22. David C. Mowery, Richard R. Nelson, Bhaven N. Sampat, and Arvids Ziedonis. 2001. "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.
23. David C. Mowery and Bhaven N. Sampat. 2001. "Patenting and Licensing University Inventions: Lessons from the History of Research Corporation." *Industrial and Corporate Change*. 10(2): 317–355.
24. David C. Mowery and Bhaven N. Sampat. 2001. "University Patents, Patent Policies, and Patent Policy Debates: 1925–1980." *Industrial and Corporate Change*. 10(3): 781–814.

C. Books

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

D. Reviews, Chapters, and Editorials

Solicited (Non-Peer Reviewed) Articles

1. Bhaven N. Sampat. 2010. "Lessons from Bayh-Dole." *Nature*. 468: 755-756.
2. Bhaven N. Sampat. 2010. "Research Locally, Diffuse Globally? American Research Universities, Patents, and Global Public Health." *Columbia Journal of International Affairs*. 64(1): 69-82.
3. Douglas Lichtman, Mark Lemley, and Bhaven N. Sampat. 2005. "Bad Patents, and What To Do About Them." *Regulation*. 28(4): 10–13. Reprinted in *IP Law and Business* (January 2006).

Book Chapters

4. Pierre Azoulay, Joshua Graff Zivin, and Bhaven N. Sampat. 2011. "The Diffusion of Scientific Knowledge Across Time and Space: Evidence from Professional Transitions for the Superstars of Medicine." National Bureau of Economic Research (NBER),

Working Paper 16683. Also forthcoming in *NBER Rate & Direction of Inventive Activity*, conference volume, ed. Joshua Lerner and Scott Stern.

5. Arti Rai, John Allison, and Bhaven N. Sampat. 2011. University Software: Patents, Open Source, and Commercialization. Forthcoming in *Perspectives on Commercializing Innovation*, eds. F. Scott Kieff and Troy A. Paredes. Cambridge: Cambridge University Press.
6. Mario Cimoli, Giovanni Dosi, Roberto Mazzoleni, and Bhaven N. Sampat. 2011. Innovation, Technical Change, and Patents in the Development Process: A Long Term View. Forthcoming in *Intellectual Property Rights: Legal and Economic Challenges for Development*, eds. Giovanni Dosi, Mario Cimoli, and Joseph Stiglitz. Oxford, New York: Oxford University Press.
7. Bhaven N. Sampat. 2010. Catching Up in Indian Pharmaceuticals and Software: The Roles That Patents Did and Did Not Play.” In *Intellectual Property Rights, Development, and Catch Up: An International Comparative Study*, eds. Richard R. Nelson, Hiroyuki Odagiri, Akira Goto, and Atsushi Sunami. Oxford, New York: Oxford University Press.
8. Bhaven N. Sampat. 2009. The Dismal Science, The Crown Jewel and the Endless Frontier: An Economist’s Perspective on the NIH. In *The New Economics of Technology Policy*, ed. D. Foray. Cheltenham UK, Northampton, MA: Edward Elgar.
9. Bhaven N. Sampat. 2007. University Patenting: Shaping A New Government Patent Policy. In *Science, Technology, and Public Policy: The Next Generation of Research*, eds. D. H. Guston and D. Sarewitz. Madison, WI: University of Wisconsin Press.
10. Bhaven N. Sampat, David C. Mowery, and Arvids Ziedonis. 2007. Changes in University Patent Quality After Bayh–Dole: A Re–Examination. In *Technological Entrepreneurship: Institutions and Agents Involved in University Technology Transfer*, ed. Donald Siegel. Cheltenham UK, Northampton, MA: Edward Elgar.
11. David Mowery and Bhaven N. Sampat. 2005. Universities and National Innovation Systems. In *The Oxford Handbook of Innovation*, eds. Jan Fagerberg, David C. Mowery, Richard R. Nelson. Oxford, New York: Oxford University Press.
12. Bhaven N. Sampat and Arvids Ziedonis. 2004. Patent Citations and the Economic Value of Patents. In *The Handbook of Quantitative Science and Technology*, eds. Henk F. Moed, Wolfgang Glänzel, and Ulrich Schmoch. New York, NY: Springer.
13. Richard R. Nelson and Bhaven N. Sampat. 2003. Making Sense of Institutions as a Factor Shaping Economic Performance. In *Recent Developments in Institutional Economics: International Library of Critical Writings in Economics*, ed. Geoffrey Hodgson. Cheltenham UK, Northampton, MA: Edward Elgar.
14. Bhaven N. Sampat and Richard R. Nelson. 2002. The Evolution of University Patenting and Licensing Procedures: An Empirical Study of Institutional Change. In *Advances In Strategic Management: The New Institutionalism in Strategic Management*, Volume 19, ed. Paul

Ingram and Brian S. Silverman. Amsterdam, Netherlands: JAI Press, An Imprint of Elsevier.

15. David Mowery, Richard R. Nelson, Bhaven N. Sampat, and Arvids Ziedonis. 1999. The Effects of the Bayh–Dole Act on U.S. University Research and Technology Transfer: An Analysis of Data from Columbia University, the University of California, and Stanford University. In *The Industrialization of Knowledge*, eds. Lewis M. Branscomb, Fumio Kodama, and Richard Florida. Cambridge, MA: MIT Press.
16. Bhaven N. Sampat and Christopher Tucker. 1998. Laboratory Based Innovation in the American National Innovation System. In *Limited By Design: R&D Laboratories in the U.S. National Innovation System*, eds. Michael M. Crow and Barry Bozeman. New York: Columbia University Press.

Law Review Articles

17. Mark Lemley and Bhaven N. Sampat. 2010. "Examining Patent Examination." *Stanford Technology Law Review*. 2.
18. Arti K. Rai, John R. Allison, Bhaven N. Sampat, Colin Crossman. 2009. "University Software Ownership and Litigation: A First Examination." *North Carolina Law Review*. 87: 1519-1570.
19. Mark Lemley and Bhaven N. Sampat. 2008. "Is the Patent Office a Rubber Stamp?" *Emory Law Journal*. 58(1): 415-427.

Other

20. Bhaven N. Sampat. October 2009. "The Bayh-Dole Model in Developing Countries: Reflections on the Indian Bill on Publicly Financed IP." Policy Brief 5 UNCTAD-ICTSD Program on IPRs and Sustainable Development.
21. Bhaven N. Sampat. 2005. Book Review of A.N. Link and D.S. Siegel, *Technological Change and Economic Performance*. In *Research Policy* 2(34), 253–254.
22. Robert Cook-Deegan, Subhashini Chandrasekharan, Misha Angrist, Bhaven Sampat, E Richard Gold, Julia Carbone, and Lori Knowles. 2010. "Reply to Wrong Fixes for Gene Patents," *Nature Biotechnology*. 28: 1243.

E. Working Papers (available on request)

1. Chris Cotropia, Mark Lemley, and Bhaven Sampat. 2010. Do Applicant Citations Matter? Implications for the Presumption of Validity.
2. C. Scott Hemphill and Bhaven Sampat. 2010. When Do Generics Challenge Drug Patents? Under review.

3. Scott Hemphill and Bhaven Sampat. 2011. Evergreening, Patent Challenges, and Market Exclusivity Periods in Pharmaceuticals. Under review.
4. Bhaven Sampat and Tahir Amin. 2011. Institutional Innovation or Institutional Imitation: The Impact of TRIPS in India. Working paper.
5. Bhaven N. Sampat. 2011. Disease Categorization and Priority Setting at the NIH: A Window on the Political Economy of Mission Oriented Biomedical Research (Prepared for a *Research Policy* special issue on mission-oriented R&D).
6. Deepak Hegde and Bhaven Sampat. 2011. The Political Economy of Publicly Funded Biomedical Research: Evidence From NIH Allocations for Rare Diseases. Working paper.