

References

- Alston, J.M., G.W. Norton, and P.G. Pardey. 1995. *Science Under Scarcity: Principles and Practice for Agricultural Research Evaluation and Priority Setting*. Ithaca, NY: Cornell University Press.
- The Association of University Technology Managers, Inc. (AUTM). 2002. *AUTM Licensing Survey: FY 2000*. Northbrook, IL: AUTM.
- Azoulay, P., W. Ding, and T. Stuart. 2005. "The Determinants of Faculty Patenting Behavior: Demographics or Opportunities?" Paper prepared for the NBER Conference on Academic Science and Entrepreneurship, Santa Fe, NM, April 1–2, 2005.
- Beggs, A.W. 1992. "The licensing of patents under asymmetric information," *International Journal of Industrial Organization* 10: 171–191.
- Blalock, D.J. 1997. Patent licensing coordinator, Office of Technology Transfer, Agricultural Research Service. Personal communication.
- Blalock, D.J. 2004. "Commercializing USDA innovations via public-private partnerships," presentation to the Agricultural Biotechnology Research Advisory Committee, Washington, DC, March 9, 2004.
- Bousquet, A., H. Cremer, M. Ivaldi, and M. Wolkowicz. 1998. "Risk sharing in licensing," *International Journal of Industrial Organization* 16: 535–554.
- Bozeman, B. 2000. "Technology transfer and public policy: a review of research and theory," *Research Policy* 29,4-5: 627–655.
- Cohen, L.R., and R.G. Noll. 1996. "The future of the national laboratories," *Proceedings of the National Academy of Sciences USA*. 93: 12678–12685.
- Cohen, W.M., R.R. Nelson, and J.P. Walsh. 2000. "Protecting their intellectual assets: appropriability conditions and why U.S. manufacturing firms patent (or not)," *NBER Working Paper 7552*. Cambridge, MA: National Bureau of Economic Research.
- Cohen, W.M., R.R. Nelson, and J.P. Walsh. 2002. "R&D spillovers, patents and the incentives to innovate in Japan and the United States," *Research Policy* 31: 1349–1367.
- Cohen, W.M., and S.A. Merrill (eds.). 2003. *Patents in the Knowledge-Based Economy*. Washington, DC: The National Academies Press.
- Congressional Research Service. 1991. *Transfer of Technology from Publicly Funded Research Institutions to the Private Sector: A Report Prepared by the Congressional Research Service for the Use of the Subcommittee on Oversight and Investigations of the Committee on Energy and Commerce, U.S. House of Representatives*. Washington, DC: U.S. Government Printing Office.
- Crow, M., and B. Bozeman. 1998. *Limited by Design: R&D Laboratories in the US National Innovation System*. New York: Columbia University Press.

- Day Rubenstein, K. 2003. "Transferring public research: the patent licensing mechanism in agriculture," *Journal of Technology Transfer* 28, 2: 111–130.
- Dupree, A.H. 1986. *Science in the Federal Government*. Baltimore: Johns Hopkins University Press.
- Fuglie, K., N. Ballenger, K. Day, C. Klotz, M. Ollinger, J. Reilly, U. Vasavada, and J. Yee. 1996. *Agricultural Research and Development: Public and Private Investments Under Alternative Markets and Institutions*. AER-735, Economic Research Service, USDA.
- Gallini, N.T. 2002. "The economics of patents: lessons from recent U.S. patent reform," *Journal of Economic Perspectives* 16, 2: 131–154.
- Gallini, N., and B. Wright. 1990. "Technology transfer under asymmetric information," *RAND Journal of Economics* 21, 1: 147–160.
- Gaskell, G., M.W. Bauer, J. Durant, and N.C. Allum. 1999. "Worlds apart? The reception of genetically modified foods in Europe and the U.S." *Science* 285 (16 July 1999): 384–387.
- Heller, M.A., and R.S. Eisenberg. 1998. "Can patents deter innovation? The anticommons in biomedical research," *Science* 280: 698–701.
- Hellmann, T. 2005. "The Role of Patents for Bridging the Science to Market Gap," paper prepared for the NBER Conference on Academic Science and Entrepreneurship, Santa Fe, NM, April 1–2, 2005.
- Helper, S. 2000. "Economists and field research: 'you can observe a lot just by watching,'" *American Economic Review* 90, 2: 228–232.
- Henderson, R., A.B. Jaffe, and M. Trajtenberg. 1998. "Universities as a source of commercial technology: a detailed analysis of university patenting, 1965–1988," *Review of Economics and Statistics* 80, 1: 119–127.
- Hounshell, D. 1984. *From the American System to Mass Production, 1800–1932*. Baltimore, MD: Johns Hopkins University Press.
- Huffman, W.E., and R.E. Evenson. 1993. *Science for Agriculture: A Long-Term Perspective*. Ames, IA: Iowa State University Press.
- Jaffe, A.B. 2000. "The U.S. patent system in transition: policy innovation and the innovation process," *Research Policy* 29, 4–5: 531–557.
- Jaffe, A.B., and J. Lerner. 2001. "Reinventing public R&D: patent policy and the commercialization of national laboratory technologies," *RAND Journal of Economics* 32, 1: 167–198.
- Jaffe, A.B., J. Lerner, and S. Stern (eds.) 2001–2005. *Innovation Policy and the Economy*. Vols. 1–5. Cambridge, MA, and London: MIT Press for the National Bureau of Economic Research.
- Jensen, R., and M. Thursby. 2001. "Proofs and prototypes for sale: the licensing of university inventions," *American Economic Review* 91, 1: 240–259.

- Jorgenson, D.W., and K.J. Stiroh. 2000. "Raising the speed limit: U.S. economic growth in the information age," *Brookings Papers on Economic Activity* 1: 125–211.
- Just, R.E., and W.E. Huffman. 2004. "The role of patents, royalties, and public-private partnering in university funding," College Park, MD, and Ames, IA: University of Maryland and Iowa State University. Mimeo.
- Kamien, M. 1992. "Patent licensing," In R.J. Aumann and S. Hart, (eds.), *Handbook of Game Theory* Vol. 1. Amsterdam/New York: Elsevier Science Ltd.
- Kamien, M., and Y. Tauman. 1986. "Fees versus royalties and the private value of a patent," *Quarterly Journal of Economics* 101, 3: 471–91.
- Kamien, M., and Y. Tauman. 2002. "Patent licensing: the inside story," *Manchester School* 70: 7–15.
- King, J.L. 2001. *Concentration and Technology in Agricultural Input Industries*, AIB-763. Economic Research Service, USDA. Available at <http://www.ers.usda.gov/publications/aib763/aib763.pdf>
- King, J., and P. Heisey. 2003. "Ag biotech patents: who's doing what?" *Amber Waves* 1, 5: 12–13.
- King, J.L., and P.W. Heisey. 2004. "Public provision of knowledge for policy research: the agricultural biotechnology intellectual property database." Presentation at the workshop *Seeds of Change: Intellectual Property for Agricultural Biotechnology*, University of Illinois, April 8–10, 2004.
- Larsen, J., and R. Wigand. 1987. "Industry-university technology transfer in microelectronics," *Policy Studies Review* 6: 584–595.
- Levin, R.C., A.K. Klevorick, R.R. Nelson, and S.G. Winter. 1987. "Appropriating the returns from industrial research and development," *Brookings Papers on Economic Activity* 3: 783–820.
- Link, A.N., and G. Tassej. 1987. *Strategies for Technology-Based Competition: Meeting the New Global Challenge*. Lexington, MA: D.C. Heath.
- Macho-Stadler, I., X. Martinez-Giralt, and J.D. Pérez-Castrillo 1996. "The role of information in licensing contract design," *Research Policy* 25, 1: 25–41.
- Mansfield, E. 1977. "Social and private rates of return from industrial innovations," *Quarterly Journal of Economics* 91, 2: 221–240.
- Mansfield, E. 1986. "Patents and innovation: an empirical study," *Management Science* 32: 173–181.
- Mansfield, E. 1991. "Academic research and industrial innovation," *Research Policy* 20: 1–12.
- Mazzoleni, R., and R.R. Nelson. 1998. "The benefits and costs of strong patent protection: a contribution to the current debate," *Research Policy* 27: 273–284.

- Mowery, D.C., and B.N. Sampat. 2001. "University patents and patent policy debates in the USA, 1925-1980," *Industrial and Corporate Change* 10, 3: 781–814.
- Mowery, D.C., R.R. Nelson, B.N. Sampat, and A.A. 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.
- Murray, F., and S. Stern. 2005. "Do formal intellectual property rights hinder the free flow of scientific knowledge? An empirical test of the anti-commons hypothesis," paper prepared for the NBER Conference on Academic Science and Entrepreneurship, Santa Fe, NM, April 1–2, 2005.
- National Academy of Sciences (NAS). 1972. *Report of the Committee on Research Advisory to the U.S. Department of Agriculture*. Washington, DC: National Academy Press.
- Phelps, W. 1997. Formerly Technology Transfer Specialist, Office of Technology Transfer, Agricultural Research Service. Personal communication.
- Reinganum, J.F. 1983. "Uncertain innovation and the persistence of monopoly," *The American Economic Review* 73, 4: 741–748.
- Rockefeller Foundation. *Science for Agriculture*. New York: The Rockefeller Foundation, 1982.
- Rockett, K. 1990. "Choosing the competition and patent licensing," *RAND Journal of Economics* 21: 160–171.
- Rosenberg, N., and R.R. Nelson. 1994. "American universities and technical advance in industry," *Research Policy* 23: 323–348.
- Rostoker, M.D. 1983. "A survey of corporate licensing," *The Journal of Law and Technology* 24: 59–92.
- Scherer, F.M. et al. 1959. *Patents and the Corporation: A Report on Industrial Technology Under Changing Public Policy*, second edition. Privately published.
- Schultz, T.W. 1971. "The allocation of resources to research," in W.L. Fishel, ed., *Resource Allocation in Agricultural Research*. Minneapolis: University of Minnesota Press, pp. 90–120.
- Shapiro, C. 2001. "Navigating the patent thicket: cross licenses, patent pools, and standard setting," in A.B. Jaffe, J. Lerner, and S. Stern (eds.), *Innovation Policy and the Economy*, Vol. 1. Cambridge, MA, and London: MIT Press for the National Bureau of Economic Research, pp. 119–150.
- Taylor, C.T., and Z.A. Silberston. 1973. *The Economic Impact of the Patent System. A Study of the British Experience*. Cambridge, UK: Cambridge University Press.
- Thursby, J., R. Jensen, and M. Thursby. 2001. "Objectives, characteristics and outcomes of university licensing: a survey of major U.S. universities," *Journal of Technology Transfer* 26: 59–72.

Toole, A.A., and D. Czarnitzki. 2005. *Biomedical Academic Entrepreneurship through the SBIR Program*. NBER Working Paper Series 11450. Cambridge, MA: National Bureau of Economic Research (NBER).

U.S. Department of Commerce. 2002. *Summary Report on Federal Laboratory Technology Transfer: 2002 Report to the President and the Congress Under the Technology Transfer and Commercialization Act*. Washington, DC: Office of the Secretary, U.S. Department of Commerce.

Wigand, R., and G. Frankwick. 1989. "Interorganizational communication and technology transfer: industry-government-university linkages," *International Journal of Technology Management* 4, 1: 63–76.