NBER Innovation Research Boot Camp — Summer 2025

Friday, July 11, 2025 Session 1: Introduction / Human Capital and Innovation Benjamin Jones

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- Jones, Benjamin F., and Summers, Lawrence H. "A Calculation of the Social Returns to Innovation." In Innovation and Public Policy, University of Chicago Press, 2022. <u>Link</u>

- Jones, Benjamin F. "The Burden of Knowledge and the 'Death of the Renaissance Man': Is Innovation Getting Harder?" Review of Economic Studies 76, no. 1 (2009): 283–317. Link

- Wuchty, Stefan, Jones, Benjamin, and Uzzi, Brian. "The Increasing Dominance of Teams in Production of Knowledge." Science 316, no. 5827 (2007): 1036–1039. <u>Link</u>

- Jones, Benjamin F., and Xiaojie Liu. "A Framework for Economic Growth with Capital-Embodied Technical Change." American Economic Review, May 2024. Link

Session 2: Contracting and Control Rights for Innovation Pierre Azoulay

- Aghion, Philippe, Dewatripont, Mathias, and Stein, Jeremy C. "Academic Freedom, Private Sector Focus, and the Process of Innovation." RAND Journal of Economics 39, no. 3 (2008): 617–635. <u>Link</u>

- Azoulay, Pierre, Fons-Rosen, Christian, and Graff Zivin, Joshua S. "Does Science Advance One Funeral at a Time?" American Economic Review 109, no. 8 (2019): 2889–2920. Link

- Azoulay, Pierre, Graff Zivin, Joshua, and Manso, Gustavo. "Incentives and Creativity: Evidence from the Academic Life Sciences." RAND Journal of Economics 42, no. 3 (2011): 527–554. <u>Link</u>

- Furman, Jeffrey, and Stern, Scott. "Climbing Atop the Shoulders of Giants: The Impact of Institutions on Cumulative Knowledge Production." American Economic Review 101, no. 5 (2011): 1933–1963. <u>Link</u>

- Hill, Ryan, and Stein, Carolyn. "Race to the Bottom: Competition and Quality in Science." Working Paper, MIT, 2021. Link

Saturday, July 12, 2025 Session 1: The Supply of Innovators Ina Ganguli

- Agarwal, Ruchir and Gaule, Patrick. "Invisible Geniuses: Could the Knowledge Frontier Advance Faster?" American Economic Review: Insights 2, no. 4 (2020): 409–424. <u>Link</u>

- Doran, Kirk, Gelber, Alexander, and Isen, Adam. "The Effects of High-Skilled Immigration Policy on Firms: Evidence from Visa Lotteries." *Journal of Political Economy* 130, no. 10 (2022). <u>Link</u>

-Freeman, Richard B., 1975. Supply and salary adjustments to the changing science manpower market: Physics, 1948-1973. *The American Economic Review*, 65(1), pp.27-39. Link

- Ganguli, Ina, Gaulé, Patrick, and Čugalj, Danijela Vuletić. "Chasing the Academic Dream: Biased Beliefs and Scientific Labor Markets." *Journal of Economic Behavior & Organization* 202 (2022): 17– 33. <u>Link</u>

- Waldinger, Fabian. "Bombs, Brains, and Science: The Role of Human and Physical Capital for the Production of Scientific Knowledge." *Review of Economics and Statistics* 98, no. 5 (2016): 811–831. Link

Session 2: The Economics of Science Kyle Myers

- Acemoglu, Daron. "Diversity and Technological Progress." In The Rate and Direction of Inventive Activity Revisited, University of Chicago Press, 2011: 319–356. Link

- Azoulay, Pierre, Li, Danielle, Graff Zivin, Joshua S., and Sampat, Bhaven N. "Public R&D Investment and Private Sector Patenting: Evidence from NIH Funding Rules." Review of Economic Studies 86, no. 1 (2019): 117–152. <u>Link</u>

- Myers, Kyle. "The Elasticity of Science." American Economic Journal: Applied Economics 12, no. 4 (2020): 103–134. <u>Link</u>

- Myers, Kyle, and Lanahan, Lauren. "Estimating Spillovers from Publicly-Funded R&D: Evidence from the US Department of Energy." American Economic Review 112, no. 7 (2022): 2393–2423. Link

- Stern, Scott. "Do Scientists Pay to Be Scientists?" Management Science 50, no. 6 (2004): 835–853. Link

Monday, July 14, 2025 Session 1: Idea-Based Models of Economic Growth Chad Jones

- Bloom, Nicholas, Jones, Charles I., Van Reenen, John, and Webb, Michael. "Are Ideas Getting Harder to Find?" American Economic Review 110, no. 4 (2020): 1104–1144. Link

- Jones, Charles I. "Growth and Ideas." Handbook of Economic Growth 1B (2005): 1063–1111. Link

- Jones, Charles I. "Recipes and Economic Growth: A Combinatorial March Down an Exponential Tail." NBER Working Paper #28340, 2021. <u>Link</u>

- Jones, Charles I. "The Past and Future of Economic Growth: A Semi-Endogenous Perspective." Annual Review of Economics 14 (2022): 125–152. <u>Link</u>

- Romer, Paul M. "Endogenous Technological Change." Journal of Political Economy 98, no. 5 (1990): S71–S102. Link

Session 2: Budget Analysis of Productivity Policies Heidi Williams

-Congressional Budget Office Staff. "How Economists Could Help Inform Economic and Budget Analysis Used by the US Congress." Journal of Economic Perspectives 2024, 38(2): 3–24. Link

-Gullo, Theresa, Benjamin Page, David Weiner, and Heidi Williams. "Estimating the Economic and Budgetary Effects of Research Investments" NBER Tax Policy and the Economy, forthcoming. Link

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Congressional Budget Office. "Effects of Physical Infrastructure Spending on the Economy and the Budget Under Two Illustrative Scenarios" 2021.

Congressional Budget Office. "Effects of the Immigration Surge on the Federal Budget and the Economy" 2024.

Elmendorf, Douglas. "`Dynamic Scoring': Why and How to Include Macroeconomic Effects in Budget Estimates for Legislative Proposals." Brookings Papers on Economic Activity 2015, no. 2: 91-149.

Elmendorf, Douglas, Glenn Hubbard, and Zachary Liscow. "Policies to Reduce Federal Budget Deficits by Increasing Economic Growth," NBER Entrepreneurship, Innovation Policy, and the Economy, forthcoming.

Elmendorf, Doug, Glenn Hubbard, and Heidi Williams. "Dynamic Scoring: A Progress Report on Why, When, and How," Brookings Papers on Economic Activity, forthcoming.

Elmendorf, Doug, and Heidi Williams. "How Does Accounting for Population Change Affect Estimates of the Effect of Immigration Policies on the Federal Budget?" Penn Wharton Budget Model Policy Brief, 2024.

Fieldhouse, Andrew and Karel Mertens. "The Returns to Government R&D: Evidence from U.S. Appropriations Shocks" 2024 working paper.

Hubbard, Glenn. "Comment on 'Dynamic Scoring': Why and How to Include Macroeconomic Effects in Budget Estimates for Legislative Proposals." Brookings Papers on Economic Activity, 2015, no. 2: 91-149.

Liscow, Zachary. "Getting Infrastructure Built: The Law and Economics of Permitting." Journal of Economic Perspectives 2025, 39(1): 151-180.

Thursday, July 17, 2025 Session 1: Diffusion Kevin Bryan - Comin, Diego, and Hobijn, Bart. "An Exploration of Technology Diffusion." American Economic Review 100, no. 5 (2010): 2031–2059. <u>Link</u>

- David, Paul A. "The Dynamo and the Computer: An Historical Perspective on the Modern Productivity Paradox." American Economic Review 80, no. 2 (1990): 355–361. Link

- Giorcelli, Michela. "The Long-Term Effects of Management and Technology Transfers." American Economic Review 109, no. 1 (2019): 121–152. Link

- Griliches, Zvi. "Hybrid Corn: An Exploration in the Economics of Technological Change." Econometrica 25, no. 4 (1957): 501–522. <u>Link</u>

- Moscona, Jacob, and Sastry, Karthik A. "Inappropriate Technology: Evidence from Global Agriculture." Working Paper, Harvard and MIT, 2022. <u>Link</u>

- Dell'Aqcua, Fabrizio et al. "The Cybernetic Teammate". NBER Working Paper. Link

Session 2: Advice on research and careers Matt Clancy, Dylan Matthews, Caleb Watney, and Heidi Williams

- Clancy, Matt, Correa, Dan, Dworkin, Jordan, Niehaus, Paul, and Watney, Caleb. "To Speed Scientific Progress, Understand How Science Policy Works." Nature 620 (24 August 2023): 724–726. <u>Link</u>