

## Christopher M. Snyder

### Curriculum Vitae

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**Home Address:**

39 E. Wheelock Street  
Hanover, NH 03755

**Email Address:** [chris.snyder@dartmouth.edu](mailto:chris.snyder@dartmouth.edu)

**Website:** <https://sites.dartmouth.edu/csnyder>

**Work Address:**

Department of Economics  
301 Rockefeller Hall  
Dartmouth College  
Hanover, NH 03755  
Phone: (603) 646-0642  
Fax: (603) 646-2122  
Office: 312A Silsby Hall

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### Faculty Positions

Department of Economics, Dartmouth College. Joel Z. and Susan Hyatt Professor, 2011 to present. Full Professor (with tenure), 2005 to present. Department Chair, 2016–2018. Undergraduate courses: competition and strategy, game theory, law and economics, intermediate microeconomics, advanced microeconomic theory.

Department of Economics, George Washington University. Full Professor, 2003–2005. Associate Professor (with tenure), 1999–2003. Assistant Professor, 1994–1999. Graduate courses: two-course industrial organization sequence, two-course microeconomic theory sequence, contract theory. Undergraduate courses: industrial organization, intermediate microeconomics, honors intermediate microeconomics, law and economics.

### Current Additional Affiliations

Faculty Director, Market Shaping Accelerator, University of Chicago, 2023 to present.

Research Associate, National Bureau of Economic Research (NBER), Law and Economics and Health Care programs, 2011 to present.

Senior Fellow, Institute for Progress, 2023 to present.

### Education

Ph.D., Economics, Massachusetts Institute of Technology, 1994. Fields: Industrial Organization, Econometrics, Microeconomic Theory, Public Finance. Thesis committee: Jean Tirole (advisor), Oliver Hart, Richard Schmalensee. Thesis title: “Buyers, Suppliers, Competitors: The Interaction Between a Firm’s Horizontal and Vertical Relationships.”

B.A., Fordham University, 1989. Majors: Economics and Mathematics. Summa cum laude, with honors. Thesis advisor: Robert Lewis. Thesis title: “The Search for Three-Dimensional Nilpotent Complexes of Finite Abelian Fundamental Group: An Algorithm.”

## Journal Articles

- “Can Operation Warp Speed Serve as a Model for Accelerating Innovations Beyond COVID Vaccines?” (with Arielle D’Souza, Kendall Hoyt, and Alec Stapp), *Entrepreneurship and Innovation Policy and the Economy*, forthcoming.
- “Quantifying the Social Value of a Universal COVID-19 Vaccine and Incentivizing Its Development” (with Rachel Glennerster, Thomas Kelly, and Claire McMahon), *Review of Economic Design*, forthcoming.
- “Examining Selection Pressures in the Publication Process Through the Lens of Sniff Tests” (with Ran Zhuo), *Review of Economics and Statistics*, forthcoming.
- “Optimal Vaccine Subsidies for Epidemic Diseases” (with Matthew Goodkin-Gold, Michael Kremer, and Heidi Williams), *Review of Economics and Statistics*, July 2024, 106 (4): 895–909.
- “Calculating the Costs and Benefits of Advance Preparations for Future Pandemics” (with Rachel Glennerster and Brandon Tan), *IMF Economic Review*, September 2023, 71 (3): 611–648.
- “An Optimal Mechanism to Fund the Development of Vaccines Against Emerging Epidemics” (with Kendall Hoyt and Dimitrios Gouglas), *Journal of Health Economics*, September 2023, 91 (102795): 1–22.
- “Expanding Capacity for Vaccines Against Covid-19 and Future Pandemics: A Review of Economic Issues” (with Susan Athey, Juan Camilo Castillo, Esha Chaudhuri, Michael Kremer, and Alexandre Simoes Gomes), *Oxford Review of Economics and Policy*, Winter 2022, 34 (4): 742–770. Lead article in special issue on Economics of Pandemic Vaccination.
- “Optimal Vaccine Subsidies for Endemic Diseases” (with Matthew Goodkin-Gold, Michael Kremer, and Heidi Williams), *International Journal of Industrial Organization*, September 2022, 84 (102840): 1–25.
- “Designing Advance Market Commitments for New Vaccines” (with Michael Kremer and Jonathan Levin), *Management Science*, July 2022, 68 (7): 4786–4814. Featured article.
- “Testing Fractional Doses of COVID-19 Vaccines,” (with Witold Wiecek, Amrita Ahuja, Esha Chaudhuri, Michael Kremer, Alexandre Simoes Gomes, Alex Tabarrok, and Brandon Joel Tan), *Proceedings of the National Academy of Sciences*, February 2022, 119 (8): 1–8 (e2116932119).
- “Cite Unseen: Theory and Evidence on the Effect of Open Access on Cites to Academic Articles Across the Quality Spectrum” (with Mark McCabe), *Managerial and Decision Economics*, December 2021, 42 (8): 1960–1979.
- “A Simple Method for Bounding the Elasticity of Growing Demand with Applications to the Analysis of Historic Antitrust Cases” (with Wallace Mullin), *American Economic Journal: Microeconomics*, November 2021, 13 (4): 172–217.
- “Preparing for a Pandemic: Accelerating Vaccine Availability” (with Amrita Ahuja, Susan Athey, Arthur Baker, Eric Budish, Juan Camilo Castillo, Rachel Glennerster, Scott Duke Kominers, Michael Kremer, Jean Lee, Canice Prendergast, Alex Tabarrok, Brandon Joel Tan, and Witold Wiecek), *American Economic Association Papers and Proceedings*, May 2021, 111: 331–335.

- “Market Design to Accelerate COVID-19 Vaccine Supply” (with Juan Camilo Castillo, Amrita Ahuja, Susan Athey, Arthur Baker, Eric Budish, Tasneem Chipty, Rachel Glennerster, Scott Duke Kominers, Michael Kremer, Greg Larson, Jean Lee, Canice Prendergast, Alex Tabarrok, Brandon Joel Tan, and Witold Włóček), *Science*, March 2021, 371 (6534): 1107–1019.
- “Estimates of ACO Savings in the Presence of Provider and Beneficiary Selection” (with Marietou Ouayogode, Ellen Meara, Katherine Ho, and Carrie Colla), *Healthcare*, March 2021, 9 (1): 1–9 (article 100460).
- “Designing Pull Funding for a COVID-19 Vaccine” (with Kendall Hoyt, Dimitrios Gouglas, Thomas Johnston, and James Robinson), *Health Affairs*, September 2020, 39 (9): 1633–1642.
- “Advance Market Commitments: Insights from Theory and Experience” (with Michael Kremer and Jonathan Levin), *American Economic Association Papers and Proceedings*, May 2020, 110: 269–273.
- “Preventives versus Treatments Redux: Tighter Bounds on Distortions in Innovation Incentives with an Application to the Global Demand for HIV Pharmaceuticals” (with Michael Kremer), *Review of Industrial Organization*, August 2018, 53 (1): 235–273.
- “Open Access as a Crude Solution to a Hold-up Problem in the Two-Sided Market for Academic Journals” (with Mark McCabe), *Journal of Industrial Economics*, June 2018, 66 (2): 301–349.
- “What Is Economics?” chapter 10 in *What Are the Arts and Sciences? A Guide for the Curious*, Dan Rockmore, ed., University Press of New England, 2017, pp. 120–135.
- “Communication in a Vertical Market Structure: Experimental Evidence” (with Claudia Moellers and Hans-Theo Normann), *International Journal of Industrial Organization*, January 2017, 50 (1): 214–258.
- “Preventives Versus Treatments” (with Michael Kremer), *Quarterly Journal of Economics*, August 2015, 130 (3): 1167–1239.
- “Does Online Availability Increase Citations? Theory and Evidence from a Panel of Economics and Business Journals” (with Mark McCabe), *Review of Economics and Statistics*, March 2015, 97 (1): 144–165.
- “Identifying the Effect of Open Access on Citations Using a Panel of Science Journals” (with Mark McCabe), *Economic Inquiry*, October 2014, 53 (4): 1284–1300.
- “Open Access Versus Traditional Journal Pricing: Using a Simple ‘Platform Market’ Model to Understand Which Will Win (and Which Should)” (with Mark McCabe and Anna Fagin), *Journal of Academic Librarianship*, January 2013, 39 (1): 11–19.
- “Spending Differences Associated with the Medicare Physician Group Practice Demonstration” (with Carrie Colla, et al.), *Journal of the American Medical Association*, September 12, 2012, 308 (10): 1015–1023.
- “Economic Perspectives on the Advance Market Commitment for Pneumococcal Vaccines” (with Wills Begor and Ernst R. Berndt), *Health Affairs*, August 2011, 30 (8): 1508–1517.
- “Should Firms Be Allowed to Indemnify Their Employees for Sanctions?” (with Wallace Mullin), *Journal of Law, Economics, & Organization*, April 2010, 26 (1): 30–53.

- “Countervailing Power in Wholesale Pharmaceuticals” (with Sara Fisher Ellison), *Journal of Industrial Economics*, March 2010, 58 (1): 32–53.
- “Corporate Crime” (with Wallace Mullin), chapter 9 in *Encyclopedia of Law and Economics (Second Edition)*, Volume III: *Criminal Law and Economics*, Nuno Garoupa (ed.), Edward Elgar, 2009.
- “Countervailing Power,” in *The New Palgrave Dictionary of Economics*, second edition, Steven N. Durlauf and Lawrence E. Blume, eds., Palgrave Macmillan, 2008. *The New Palgrave Dictionary of Economics Online*, Palgrave Macmillan, 2008.
- “Do Buyer-Size Discounts Depend on the Curvature of the Surplus Function? Experimental Tests of Bargaining Models” (with Bradley Ruffle and Hans-Theo Normann), *Rand Journal of Economics*, Autumn 2007, 38 (3): 747–767.
- “The Generator in the Problem of Social Cost,” (with Rohan Pitchford), *Journal of Environmental Economics and Management*, July 2007, 54 (1): 49–67.
- “Academic Journal Pricing in a Digital Age: A Two-Sided-Market Model” (with Mark McCabe), *The B.E. Journal of Economic Analysis & Policy (Contributions)*, January 2007, 7 (1): article 2.
- “Bounding the Relative Profitability of Price Discrimination” (with David Malueg), *International Journal of Industrial Organization*, September 2006, 24 (2): 995–1011.
- “Bundling Negotiations: An Efficiency Rationale for Multiproject Contact in Research Joint Ventures” (with Nicholas Vonortas), *Journal of Economic Behavior and Organization*, December 2005, 58 (4): 459–486.
- “A Model of Academic Journal Quality, with Applications to Open-Access Journals” (with Mark McCabe), *American Economic Review Papers and Proceedings*, May 2005, 95 (2): 453–458.
- “The Influence of Expert Reviews on Consumer Demand for Experience Goods: A Case Study of Movie Critics” (with David Reinstein), *Journal of Industrial Economics*, March 2005, 53 (1): 27–51.
- “Dynamic Adjustment in the U.S. Higher Education Industry, 1955–1997” (with John Kwoka), *Review of Industrial Organization*, June 2004, 24 (4): 355–378.
- “A Solution to the Hold-Up Problem Involving Gradual Investment” (with Rohan Pitchford), *Journal of Economic Theory*, January 2004, 114 (1): 88–103.
- “Coming to the Nuisance: An Economic Analysis from an Incomplete Contracts Perspective” (with Rohan Pitchford), *Journal of Law, Economics, & Organization*, October 2003, 19 (2): 491–516.
- “Collusion with Secret Price Cuts: An Experimental Investigation” (with Robert Feinberg), *Economic Bulletin*, March 2002, 3 (6): 1–11.
- “Vertical Foreclosure in Experimental Markets” (with Stephen Martin and Hans-Theo Normann), *Rand Journal of Economics*, Autumn 2001, 32 (3): 466–496.
- “Reducing Government Spending Through Privatization Competitions: A Study of the Department of Defense Experience” (with Robert Trost and R. Derek Trunkey), *Review of Economics and Statistics*, February 2001, 83 (1): 108–117.

- “Bidding Behavior in the Department of Defense’s Commercial Activities Competitions” (with Robert Trost and R. Derek Trunkey), *Journal of Policy Analysis and Management*, Winter 2001, 20 (1): 21-42.
- “Information Sharing and Competition in the Motor Vehicle Industry” (with Maura Doyle), *Journal of Political Economy*, December 1999, 107 (6): 1326–1364.
- “Bounding the Benefits of Stochastic Auditing: The Case of Risk-Neutral Agents,” *Economic Theory*, July 1999, 14 (1): 247–253.
- “The Role of Buyer Size in Bilateral Bargaining: A Study of the Cable Television Industry” (with Tasneem Chipty), *Review of Economics and Statistics*, May 1999, 81 (2): 326–340.
- “Loan Commitments and the Debt Overhang Problem,” *Journal of Financial and Quantitative Analysis*, March 1998, 33(1): 87–116.
- “Why Do Larger Buyers Pay Lower Prices? Intense Supplier Competition,” *Economics Letters*, February 1998, 58 (2): 205–209.
- “Is No News Bad News? Information Transmission and the Role of Early Warning in the Principal Agent Model” (with Steven Levitt), *Rand Journal of Economics*, Winter 1997, 28 (4): pp. 641–661.
- “A Dynamic Theory of Countervailing Power,” *Rand Journal of Economics*, Winter 1996, 27 (4): 747–769.
- “Negotiation and Renegotiation of Optimal Financial Contracts under the Threat of Predation,” *Journal of Industrial Economics*, September 1996, 44 (3): 325–343.

## Books

- Intermediate Microeconomics and its Application* (with Walter Nicholson), 13th edition, South-Western (Cengage Learning), 2021, 630 pages.
- Instructor’s Manual for Intermediate Microeconomics and its Application* (with Walter Nicholson), 13th edition, South-Western (Cengage Learning), 2021.
- Microeconomic Theory: Basic Principles and Extensions* (with Walter Nicholson), 12th edition, South-Western (Cengage Learning), 2017, 761 pages.
- Instructor’s Resources for Microeconomic Theory: Basic Principles and Extensions* (with Walter Nicholson), 12th edition, South-Western (Cengage Learning), 2017.

## Edited Volumes

- Review of Industrial Organization* special issue on “The Intersection Between Industrial Organization and Healthcare Economics” (with Victor Tremblay), August 2018, vol. 53, no. 1, 273 pages.
- Review of Industrial Organization* special issue for the 2005 International Industrial Organization Conference, February 2006, vol. 28, no. 1, 80 pages.

*Review of Industrial Organization* special issue for the 2004 International Industrial Organization Conference, March 2005, vol. 26, no. 2, 98 pages.

*Review of Industrial Organization* special double issue for the 2003 International Industrial Organization Conference, December 2003, vol. 23, no. 3–4, 140 pages.

## Other Publications

“How the Government can Pay for a Universal Coronavirus Vaccine” (with Rachel Glennerster and Thomas Kelly), op-ed, *The Hill*, June 17, 2023.

“Discussing the Design of Advance Market Commitments for New Vaccines” (with Michael Kremer and Jonathan Levin), *Management Science Review* blog, September 27, 2022.

“Advance Market Commitments Worked for Vaccines. They Could Work for Carbon Removal, Too” (with Susan Athey, Rachel Glennerster, and Nan Ransohoff), op-ed, *Politico*, December 22, 2021.

“Bigger is Better When it Comes to Vaccine Production,” (with Eric Budish), op-ed, *Wall Street Journal*, March 17, 2020.

“Strengthening Incentives for Vaccine Development” (with Michael Kremer), *National Bureau of Economic Research Reporter*, December 2020.

“In the Race for a Coronavirus Vaccine, We Must Go Big. Really, Really Big” (with Susan Athey, Michael Kremer, and Alex Tabarrok), op-ed, *New York Times*, May 4, 2020.

“Using Global Demand Calibrations to Evaluate Policy: Case Study of HIV Pharmaceuticals” (with Michael Kremer and Fanele Mashwama), *VoxEU*, May 1, 2019.

“Worst-Case Deadweight Loss: Theory and Disturbing Real-World Implications” (with Michael Kremer and Albert Chen), *VoxEU*, March 27, 2019.

“Introduction to the Special Issue on the Intersection Between Industrial Organization and Healthcare Economics” (with Victor J. Tremblay), *Review of Industrial Organization*, August 2018, vol. 53, no. 1, pp. 1–6.

“What Economists Study: A Guide for the Curious,” *VoxEU*, August 11, 2017.

“Vaccines, Drugs, and Zipf Distributions” (with Michael Kremer and Natalia Drozdoff), *VoxEU*, January 29, 2016.

“Introduction to the 2005 International Industrial Organization Conference Special Issue,” *Review of Industrial Organization*, February 2006, vol 28, no. 1, pp. 1–2.

“Introduction to the 2004 International Industrial Organization Conference Special Issue,” *Review of Industrial Organization*, March 2005, vol. 26, no. 2, pp. 145–146.

“The Best Business Model for Scholarly Journals: An Economist’s Perspective,” *Nature*, Web Focus: Access to the Literature, July 16, 2004. Available online at <http://www.nature.com/nature/focus/accessdebate/archive.html>.

“Introduction to the 2003 International Industrial Organization Conference Special Issue,” *Review of Industrial Organization*, December 2003, vol. 23, no. 3–4, pp. 175–177.

“Empirical Studies of Vertical Foreclosure,” *Industry Economics Conference Papers and Proceedings* (University of Melbourne and Bureau of Industry Economics), November 1995, vol. 95/23, pp. 98–127.

## Working Papers

“Costs of Managerial Attention and Activity as a Source of Sticky Prices: Structural Estimates from an Online Market” (with Sara Fisher Ellison and Hongkai Zhang), NBER working paper no. 24680, revise and resubmit at *Quantitative Economics*.

“Investing in Vaccines to Mitigate Harm from COVID-19 and Future Pandemics” (with Sarrin Chethik, Catherine Che, Rachel Glennerster, and Claire McMahon), revise and resubmit at *Disease Control Priorities, Fourth Edition* (DCP4), Volume 2 (Global Threats to Health), Part 4 (Pandemic Preparedness and Response).

“Money Isn’t Everything: Estimating the Prestige Value of Winning Cutthroat Kitchen from Overbidding in Sabotage Auctions” (with Meg Snyder, Daniel Bragen, and Matthew Rousu), NBER working paper no. 32070, submitted to *Journal of Economic Behavior and Organization*.

“Vaccine Supply Chain Resilience and International Cooperation” (with Chad Bown and Robert Staiger).

“Worst-Case Bounds on R&D and Pricing Distortions: Theory and Disturbing Conclusions if Consumer Values Follow the World Income Distribution” (with Michael Kremer), NBER working paper no. 25119.

“Deterring Nuisance Suits through Employee Indemnification” (with Wallace Mullin).

“Resume Padding Among Economists” (with Owen Zidar).

“The Rise of Securitization in Mortgage Markets: A Theoretical Analysis” (with Rohan Pitchford).

## Visiting/Temporary Positions

Expert Advisor, Frontier public benefit LLC, April 2022 to present. Administers advance market commitment for carbon removal.

Visiting Scholar, Duesseldorf Institute for Competition Economics (DICE), University of Duesseldorf, August 2010, June 2017, November 2021.

Visiting Scholar, Becker-Friedman Institute, University of Chicago, December 2015.

Visiting Professor, Department of Economics, University of Queensland, Summer 2009.

John M. Olin Visiting Professor, Stigler Center for Study of Economy and State, University of Chicago Graduate School of Business, 2003–2004.

Consultant, World Bank, Summer 2002. Assessed prospects for coordination among developing countries in the procurement of pharmaceuticals.

Visiting Professor, Department of Economics, Massachusetts Institute of Technology, 2000–2001.  
Courses: undergraduate principles of microeconomics, law and economics.

Visiting Fellow, Research School of Social Sciences, Australian National University, Summer 1995 and Summer 2000.

Expert Witness, U.S. Department of Justice, Fall 2000.

Consultant, Center for Naval Analyses, October 1996 to October 1998. Analyzed Commercial Activities outsourcing program.

Instructor, Department of Economics, Massachusetts Institute of Technology, Spring 1994. Course: undergraduate intermediate microeconomics.

Teaching Assistant, Department of Economics, Massachusetts Institute of Technology, September 1992 to January 1994. Course: graduate industrial organization.

### **Honors, Fellowships, Grants**

Coalition for Emergency Preparedness Innovations (CEPI) via Linksbridge SPC, grant for “Surge Financing for Future Pandemics: Phase II,” Winter 2024 \$15,100.

Coalition for Emergency Preparedness Innovations (CEPI) via Linksbridge SPC, grant for “Surge Financing for Future Pandemics: Phase I,” Fall 2023 \$105,000.

Institute for Progress (IfP) grant for “Market Shaping Research and Policy,” 2023–2025, \$230,000.

University of Chicago Development Innovation Lab, grant for “Optimal Vaccine Dosing,” Summer 2022, \$52,100.

Dickey Center for International Understanding, Global Health and Development Program, grant for “Expanding Capacity for Vaccines Against Covid-19 and Future Pandemics: A Review of Economic Issues,” May 2022, \$700.

Distinguished Service Award, Industrial Organization Society, 2022.

Nuclear Threat Initiative (NTI) grant for “Incentives for Emergency Medical Countermeasures,” 2019, \$1,000.

National Institutes of Health, R21 grant for “Learning from Medicare Payment Reform: Economic Effects of ACO Incentives,” (Carrie Colla, Principal Investigator), 2013–2017, \$308,000.

Sloan Foundation grant for “Econometric Studies of Open Access to the Scholarly Literature.” Principal Investigator, 2012–2013, \$133,000.

National Institutes of Health, R21 grant for “Learning from Medicare Payment Reform: Economic Effects of ACO Incentives,” (Carrie Colla, Principal Investigator), 2012–2013, \$2,300,000.

Sloan Foundation subaward for “Economics of Open-Access Journals,” 2012, \$20,000.

The Dartmouth Institute Dartmouth Institute for Health Policy and Clinical Practice grant for “Toward a Structural Model of Accountable Care Organization Benchmarking,” July 2010, \$8,000.

Mellon Foundation grant for “Measuring the Impact of Digitization and Online availability on Journal Citations,” Co-Principal Investigator (with Mark McCabe and Roger Schonfeld), 2006–09, \$280,000.



Center for Global Development grant for “The Optimal Design of Advanced Market Commitments for Vaccines,” Principal Investigator, 2008, \$18,000.

NET Institute grant for “The Economics of Open Access Journals,” Co-Principal Investigator (with Mark McCabe), 2004, \$7,500.

Open Society Institute grant for “Access to Science: Exploring New Markets for Digital Journals,” Co-Principal Investigator (with Mark McCabe), 2004, \$113,000.

John M. Olin Fellowship for year of leave at the Stigler Center for Study of Economy and State, University of Chicago Graduate School of Business, 2003–2004.

George Washington University Facilitating Fund Grant, 2002–2003.

George Washington University Public Policy Research Scholar, 2002–2004.

Exemplary Conference Paper Award, Social Sciences Division, George Washington University, December 1998.

National Science Foundation Graduate Fellowship, 1989–1992.

## **Journal Editing**

*Journal of Law and Economics*. Editor, 2018–2022.

*Review of Industrial Organization*. Associate Editor, 2004 to present. Co-Editor, 2003–2004. Editor for the International Industrial Organization Conference Special Issue, 2003–2005. Associate Editor, 2002–2003.

*International Journal of Industrial Organization*. Associate Editor, 2000–2014.

## **Conference Organization**

International Industrial Organization Conference. Program Committee Co-Chair for 2003 IIOC (Boston). Program Committee Co-Chair and Local Arrangements Co-Chair for 2004 IIOC (Chicago). Program Committee Member, 2005–2016.

Innovation Atlas Workshop. Co-sponsored by the Institute for Progress and Dartmouth Irving Institute. Organizer, 2024.

Dartmouth Tuck School of Business Industrial Organization Conference. Co-Organizer, 2015–2019, 2023.

American Law and Economics Association. Program Committee, 2007–2016.

Economic Perspectives on Scholarly Communication in a Digital Age Workshop. Organizer. University of Michigan School of Information, September 2008.

## Other Professional Activities

Industrial Organization Society. Treasurer, 2015 to present. Board Member, 2002 to present. President, 2006–2007. Vice President, 2004–2005. Distinguished Service Award committee, 2022.

First Roundtable on the Economics of AMR (Antimicrobial Resistance) R&D Incentives. Panel member, Paris meeting, Spring 2024.

National Academies of Sciences, Engineering, and Medicine. Panel member, expert meeting on Economics of Vaccine Investment, Winter 2021. Panel member, Advancing Pandemic and Seasonal Influenza Vaccine Preparedness and Response: Recommendations for Global Coordination, Partnerships, and Financing Committee, Spring–Summer 2021. Moderator, Financing and Investment in Supply Chain session of International Workshop on COVID-19 Lessons to Inform Pandemic Influenza, May 2021. Panel member, Economic Incentives for the Funding, Development, and Manufacturing of Therapeutics for Potential Future Pandemics, Fall 2022.

COVID-19 Vaccine Global Access (COVAX) Facility. Mechanism Design Working Group, Spring 2020.

Rensselaer Polytechnic Institute PhD Program External Review Committee. Member, Fall 2019.

World Health Organization. Task Force on Multiple-Disease-Resistant TB Scale-Up, Supply, and Procurement Function of Global Drug Facility, June 2010.

Global Alliance for Vaccines and Immunizations (GAVI). Expert group member, designing advanced market commitment to procure pneumococcus vaccine for developing countries, 2007.

Sloan Industry Studies. Affiliate Member. 2007–2011.

Dartmouth College Mathematical Social Sciences. Affiliated Professor 2006–2014.

Dartmouth Economic Research Scholars (DERS). Coordinator, 2014–2017, 2023–2024.

George Washington University Research Program in Industry Economics and Policy. Co-Director, 2001–2005. Member, 1999–2001.

George Washington University Institute for Public Policy. Research Affiliate 2004–2005. Policy Research Scholar 2002–2004.

Professional Societies. American Economic Association, American Law and Economics Association, Econometric Society, Industrial Organization Society.

Dartmouth College Committees. Committee on Standards member 2007–2008. Council on Libraries member 2010. Council on Computing chair 2010–2013. Committee on Admissions and Financial Aid member 2020–2023. Government Department External Review member Spring 2023. Scholarly Innovation and Advancement Committee member Spring 2023.

## Advising

George Washington University Ph.D. Dissertation Advisor. David Osinski, Robert Choi, Günseli Baygan, Mariusz Sumlinski, Anna Ter-Martirosyan, Roger Alexander, Russell Tucker.

George Washington University Dissertation Committee Member. Theresa Alafita, Julie Hay, Kevin Roth, Anthony Aylward (Finance), Hesuk Chun, Abdourahmane Sarr. George Washington University Dissertation Reader: Stephen St. Marie, Dana Stryk, Ali Gungor, Geoffrey Paulin, Katherine Gleason (Finance).

External Reader. Andrew Waite (Australian National University). Andre Boik (University of Toronto).

Dartmouth Undergraduate Thesis Advisor. John Caramichael (June 2020), Anna Fagin (June 2013).

Dartmouth Undergraduate Thesis Committee Member. Emma Johnson, Keso Kakachia (May 2024), IMax Schindel (May 2022); Elana Doty, Michelle Wu (June 2020); Brian Curren, Alex Magnuson, James Schenck (June 2019); Ran Zhuo (June 2017); Mahnum Shazhad (June 2015), Peter Osorio (June 2012); Brian Murphy, Jacob Robbins (June 2011); Tilman Dette Vivienne Zhao (June 2010); Jennifer Crist, Yue Ding, Arnold Engel, Arielle Rodman (June 2007); Mukund Bhaskar (June 2006).

Dartmouth Undergraduate Fellowship Research Supervisor. Christopher Cardillo (2021); Nishi Jain (2021); Sophie Smith (2019); Ran Zhou (2015).

Dartmouth Presidential Scholar Advisor. Harrison Dahl, Timothy Millis, and Clay Socas (2024–2025); Fatma Dolay and Arpit Rao (2023–24); Hailey Hao (2022–23); Brandon Chen (2021–22); Emily Wang and Andrew White (2020–21); Paul Jeon (2019–20); John Caramichael, Albert Chen, and Olivia Zhao (2018–19); Isabel Hurley and Henry Senkfor (2017–18); Natalia Drozdoff (2015–16); Ran Zhou (2014–15); Barry Chen, Ting Cheng, Jenny Shou (2013–14); Kelsey Anspach, David Bessel, Tobin Paxton, and Rexford Woodbury (2013–14); Christopher Falkner and Stephen Prager (2012–13); Anna Fagin and Paulina Karpis (2011–12); Mark Wills Begor and Glynnis Kearney (2010–11); Lindsey Beckett and Cacey Chang (2009–10); Yilan Hu and James Wang (2008–09); Ella Kim and Scot Parsley (2007–08); Jamie Bergeson-Bradshaw and Owen Zidar (2006–07).

Dartmouth Funded Research Advisor. Yangyang Li (2019), Ganqi Li (2023–24).

Dartmouth Independent Study. Andrew White, Law and Economics course, Spring 2021; Anna Fagin, Economics of Scholarly Journals course, Winter 2013.

## Recent Seminars and Conferences

- 2024** Presented “Evaluating the Costs and Benefits of the 100-Day Mission” to the Coalition for Emergency Preparedness Innovations (CEPI) Policy Analysis Group (Oslo, Norway, held virtually). Presented “Can Operation Warp Speed Serve as a Model for Accelerating Innovations Beyond Covid Vaccines?” in National Bureau of Economic Research (NBER) Entrepreneurship, Innovation Policy, and the Economy Conference (Washington, DC). Presented “Financing Innovation in Carbon Removal” in Dartmouth Irving Institute Board Meeting (Hanover, NH). Presented “Money Isn’t Everything: Estimating the Prestige Value of Winning Cutthroat Kitchen from Overbidding in Sabotage Auctions” in International Industrial Organization Conference (Boston, MA) Collusion, Corruption, Sabotage, and Commitment in Auctions session.
- 2023** Presented “Optimal Vaccine Subsidies for Epidemic Diseases” in American Economic Association Annual Meeting (New Orleans, LA) Inappropriate Technologies session. Presented “The Economics of Accelerating Innovation” in Office of Management and Budget sponsored cross-agency workshop on industrial procurement. Presented “An Optimal Mechanism to Fund the Development of Vaccines Against Emerging Epidemics” in U.C. Berkeley Industrial Organization workshop. Presented

“Vaccine Supply Chain Resilience and International Cooperation” in International Industrial Organization Conference (Washington, DC) Supply Chain and Resilience session. Moderated panel on “The Economics of Accelerating Innovation” at the Market Shaping Accelerator Launch Event held at the International Monetary Fund (Washington, DC). Panelist in the Payment Models to Encourage Biosecurity Breakthroughs workshop held at the Institute for Progress (Washington, DC). Presented “Shaping the Market for Green Innovation” at the Dartmouth Irving Institute (Hanover NH). Presented “Introducing the Market Shaping Accelerator” at the Congressional Budget Office (Washington, DC). Panelist in the Financing Innovation for Neglected Diseases policy roundtable at the CEPR Health Economics conference (Toulouse, France). Presented “An Optimal Mechanism to Fund the Development of Vaccines Against Emerging Epidemics” in CEPR Health Economics conference (Toulouse, France) Innovation session. Panelist in the National Bureau of Economic Research Summer Institute on Innovation “Operation Warp Speed” panel. Presented “An Optimal Mechanism to Fund the Development of Vaccines Against Emerging Epidemics” in Dartmouth Summer Data Science and AI webinar (Hanover, NH). Presented “The Economics of Accelerating Innovation” in David Kaserman Memorial Lecture at Auburn University (Auburn, AL). Presented “Global Benefits of Pandemic Preparedness” in Dartmouth Globalization seminar. Presented “Financing Innovation in Carbon Removal” in Dartmouth Irving Institute Symposium on Climate, Energy and Society “Carbon Sequestration” panel.

**2022** Presented “Worst-Case Bounds on R&D and Pricing Distortions: Theory and Disturbing Conclusions if Consumer Values Follow the World Income Distribution” in MIT Industrial Organization workshop (Cambridge, MA). Guest lecture on “Advance Market Commitments and Incentives for Vaccines” in MIT Data, Economics, and Development Policy (DEDP) Masters Program. Presented “Expanding Capacity for Vaccines Against Covid-19 and Future Pandemics: A Review of Economic Issues” in Oxford Review of Economics and Policy Conference (virtual at Oxford University, UK). Presented “What is the Best Way to Maximize Potential for Pooled Procurement Mechanisms” in Global Health Initiative Pandemic Security Project (Hanover, NH). Presented “Optimal Vaccine Subsidies for Epidemic Diseases” in International Industrial Organization Conference (Boston, MA) Pharmaceutical Supply and Demand session. Presented “Vaccine Supply Chain Resilience and International Cooperation” in National Bureau of Economic Research Summer Institute on International Trade. Presented “Optimal Vaccine Subsidies for Epidemic Diseases” in University of Chicago Economic Epidemiology and the COVID Pandemic Conference and Webinar. Presented “Designing an Advance Market Commitment for Carbon Removal” in Dartmouth Energy Week Faculty Symposium on Climate, Energy, and Society (Hanover, NH). Presented “Examining Selection Pressures in the Publication Process Through the Lens of Sniff Tests” at Yeshiva University Syms School of Business workshop (New York, NY).