

ACADEMIC AFFILIATIONS

Columbia University, Graduate School of Business. Assistant Professor, 2016-present.
Center for Economic Studies + Ifo Institute (CESifo). Research affiliate, 2017-present. Economics of Digitization Area.
Data Science Institute, Columbia University. Research affiliate in Computational Social Science, Cybersecurity areas. 2018-present.
Zuckerman Institute, Columbia University. Affiliate Member. 2019-present.
J. Robert Beyster Fellowship (Fall 2015). New York City, NY.

EDUCATION

University of California, Berkeley, Berkeley, CA, USA
PhD, Business and Public Policy, Haas School of Business. 2015 (MS 2011).
Stanford University, Palo Alto, CA, USA
MS, Statistics 2007-2009 (unfinished). Employer sponsored (Google).
BA, Public Policy, 2004. Undergraduate Senate Chair (elected), Byrd Scholar.

PUBLICATIONS

[Corporate Prediction Markets: Evidence from Google, Ford, and Firm X](#), *Review of Economic Studies*, Volume 82, Issue 4, 1309-1341. Also in *Proceedings of the 2014 ACM Conference on Economics and Computation*. (with Eric Zitzewitz).

[The Value of Hiring Through Employee Referrals](#), *Quarterly Journal of Economics*, Volume 130, Issue 2, 805-839 (with Stephen Burks, Mitch Hoffman and Michael Housman).

[Television Advertising and Online Search](#), *Management Science*. Volume 60 Issue 1, pp. 56-73 (with Mingyu Joo, Kenneth C. Wilbur and Yi Zhu).

- *Winner of the John D. C. Little Award* (2015), given annually to the best marketing-related paper published in *Management Science* or *Marketing Science*.
- *Frank M. Bass Dissertation Paper Award Finalist* (2015, one of three), given annually to the best marketing paper derived from a Ph.D. thesis published in *Management Science* or *Marketing Science*.
- *Finalist for Don Morrison Long Term Impact Award* (2021).

[Using Prediction Markets to Track Information Flows](#), *International Conference on Auctions, Market Mechanisms and Their Applications*. Springer, Berlin, Heidelberg, (with Justin Wolfers and Eric Zitzewitz).

[Biased Programmers? Or Biased Data? A Field Experiment in Operationalizing AI Ethics](#), *Proceedings of the Twenty-First ACM Conference on Economics and Computation*. 2020 (abstract). With Fabrizio Dell'Acqua, Samuel Deng, Daniel Hsu, Nakul Verma and Augustin Chaintreau.

[Multiplicative-innovation synergies: tests in technological acquisitions](#), *The Journal of Technology Transfer*. Volume 42, 1212–1233, 2017 (with Kathy Harrigan and Maria Chiara Di Guardo).

[How to Design an Internal Talent Marketplace: The employees you need are already on your team](#). *Harvard Business Review*, forthcoming (with Jonathan M.V. Davis, B. Pablo Montagnes and Patryk Perkowski).

[The Managerial Effects of Algorithmic Fairness Activism](#), *American Economic Association Papers and Proceedings*, May 2020 (with Fabrizio Dell'Acqua and Sandra Matz).

[Algorithmic Social Engineering](#), *American Economic Association Papers and Proceedings*, May 2020 (with Megan Stevenson).

[Do Workers Comply with Salary History Bans? Voluntary Disclosure, Adverse Selection, and Unraveling](#), *American Economic Association Papers and Proceedings*, May 2020 (with Amanda Agan and

Laura Gee).

[Refugee Entrepreneurship](#): The Case of Venezuelans in Colombia, *American Economic Association Papers and Proceedings*, forthcoming. With Dany Bahar and Jorge Guzman.

UNDER
REVIEW

[Matchmaking Principals: Theory and Evidence from Internal Labor Markets](#). With Jonathan Davis, Pablo Montonges and Patryk Perkowski.

[Political Power and Market Power](#), with [Andrea Prat](#) and [Tomasso Valetti](#).

- Summary and analysis by the [Washington Center for Equitable Growth](#).

[Salary History and Employer Demand: Evidence from a Two-Sided Audit](#). With Amanda Agan and Laura Gee.

- Summaries: [NBER Digest](#), [World Economic Forum](#), [VoxEU](#).

[Delegation in Hiring: Evidence from a Two-Sided Audit](#). With Patryk Perkowski.

[Stock Compensation and Employee Attention](#), with Eric Zitzewitz.

[Competition and Specificity in Market Design: Evidence from Geotargeted Advertising](#). With Cosmina Dorobantu.

[The US-Canada Border Effect: Evidence from Online Commerce and Worldwide Gravity in Online Commerce](#). With Cosmina Dorobantu.

WORKING
PAPERS

[Bias and Productivity in Humans and Algorithms: Theory and Evidence from Résumé Screening](#). Formerly titled, “The Labor Market Effects of Hiring through Machine Learning.”

[Economics, Fairness and Algorithmic Bias](#). With Catherine Tucker. Related: “[Algorithmic Bias: A Counterfactual Perspective](#).”

[Competition and Productivity in Employee Promotion Contests](#).

[Do Incentive Stock Options Incent? Evidence from a Natural Experiment in Employee Options Pricing](#), with Eric Zitzewitz.

[Does online trade live up to the promise of a borderless world? Evidence from the EU Digital Single Market](#). With Cosmina Dorobantu and Bertin Martens.

SELECT AWARDS,
FELLOWSHIPS
AND GRANTS

[Kauffman Junior Faculty Fellowship in Entrepreneurship Research](#). 2017-2020. Competitive research award for junior faculty in innovation and/or entrepreneurship.

[CESifo Prize](#) in Economics of Digitization (“Distinguished Affiliate”). 2017. For a young research economist for the scientific originality, policy relevance and quality of exposition.

[W.E. Upjohn Institute Early Career Research Grant](#). 2016 (solo). 2019 (with Laura Gee and Amanda Agan). 2020 (with Evan Starr). Competitive research award for early career faculty in labor economics and public policy.

[Poets & Quant’s Best 40 Under 40 Professors, 2020](#).

[Russell Sage Foundation Presidential Grant on the Future of Work](#): For *The Effects of Noncompetes on Workers and Employers: Evidence from a Large Field Experiment* with Evan Starr, 2020.

Term Member, [Council on Foreign Relations](#). 2018-2023.

[The Aspen Institute’s Ideas Worth Teaching Award](#), 2019.

Facebook Research Award. 2019. With Laura Gee and Amanda Agan. \$50K.

Strategy Research Forum. 2018-present.

John D. C. Little Award (2015), given annually to the best marketing-related paper published in *Management Science* or *Marketing Science*.

J. Robert Beyster Fellowship (2014-2015). Competitive award for scholars studying management, innovation, technology and employee ownership.

Winner, Ronald H. Coase Dissertation Award, 2016. Society for Institutional & Organizational Economics (SIOE).

Winner, Best Paper, Workshop on Information Systems and Economics (WISE). 2016.

Kauffman Dissertation Fellowship (2012-2013). Competitive research award for PhD students studying innovation and/or entrepreneurship.

European Commission, Joint Research Centre. Appointment and Grant. Independent Expert for the EU's Digital Agenda. For research about cross-border ecommerce. With Cosmina Dorobantu, 2013.

INVITED
ACADEMIC
PRESENTATIONS

2023 (inc. planned/invited): MIT (Sloan), United States Military Academy (Economics).

2022: NBER Economics of Organizations, Cornell (Johnson), WUSTL (Olin Strategy), NBER-CEME Decentralization meeting, Management, Analytics and Data Conference, REER (Georgia Tech), Strategy and the Business Environment Conference, Wharton Migration and Organizations Conference, Wharton Corporate Strategy and Innovation Conference, Manhattan College, Columbia (×2), SIOE, AOM (×2).

2021: Carnegie Mellon (Tepper, Business Technologies Seminar), NBER *Decentralization Conference*, University of Minnesota (Carlson, *Strategy Seminar*), University of Hong Kong (*Management & Strategy seminar*), American Economic Association Annual Conference (session on *Setting Up Your Own Firm for a Field Experiment*), Chicago 2021 *Antitrust and Competition Conference: Monopolies and Politics*, Sixth *Marketplace Innovation Workshop (MIW, INFORMS)*, Workshop on Information Systems and Economics (WISE 2021), Causal Data Science Meeting 2021, Academy of Management (2×: Sessions on *Unpacking Employee Mobility* and *New Data and Methods in Strategic Management Research*), Columbia Business School (2×), Strategic Management Society (SMS, Session on *Human Capital Resource Allocation*), Wharton *People & Organizations* Conference, Stanford CASBS Convocation (*Organizations and Their Effectiveness Institute*).

2020: MIT (*Digital Economy Seminar*), NBER Summer Institute (*Personnel Economics*), *2020 Workshop on Field Experiments in Strategy, Innovation, and Entrepreneurship* (Duke), American Economic Association Annual Conference (×2, San Diego, Sessions on *Algorithmic Fairness and Bias* and *Information and Sorting in Labor Markets*), Columbia Business School (2×), London Business School (LBS), CMU-Pitt Seminar on Information Technology & Economics, Virtual Digital Economy Seminar, Academy of Management (*Organizations in the Age of AI*), NeurIPS (*Navigating the Broader Impacts of AI Research workshop*).

2019: HBS (*Digital Initiative Discussion & Symposium*), NYU, NBER Summer Institute 2019 (×3: *Crime, Labor, and Digitization*), Microsoft Research (Cambridge), *Wharton People Analytics Conference*, NBER *Market Design*, UC Santa Barbara (Economics), NBER *Economics of AI*, NBER (Conference on *Big Data: Long-Term Implications*). Simons Institute (UC Berkeley, Workshop on “*Recent Developments in Research on Algorithms and Fairness*”), Washington Center for Equitable Growth, Columbia Business School, Entrepreneurship and Private Enterprise Development (EPED), Computing Community Consortium (CCC) (Harvard, *Workshop on Economics and Fairness*), *Platform Strategy Research Symposium* (Boston University), Amazon Research Day (Cambridge, MA), SMS Annual Conference (Minneapolis), *17th Annual Information Ethics Roundtable: Justice and Fairness in Data Use and Machine Learning* (Boston University), Columbia University *Trustworthy AI Symposium*, HBS (Innovations and Institutions Conference, 10/2019), Academy of Management

(×2, Boston, MA).

2018: NBER Economics of AI (Toronto), NBER Summer Institute (Personnel), HBS (Strategy), Cornell Tech, Empirical Management Conference (HBS), Stanford Conference on Hiring, Behavioral Decision Research in Management (BDRM, 3×), Marketplace Innovation Workshop (2018 INFORMS Revenue Management and Pricing Section, Toronto), AOM (Strategy, Careers), Workshop on Information Systems and Economics (WISE), 14th Annual Smith Entrepreneurship Research Conference (Maryland), HBS (Innovations and Institutions Conference, 10/2018), Harvard Gender and Technology Conference, NYU (NET Institute), Columbia Business School (4×).

2017: MIT (Org Econ), NBER Labor Studies (Cambridge, MA), Wharton (Operations, Information and Decisions), MIT (Sloan/IDE), OECD & IZA Joint Workshop on Labor Productivity and the Digital Economy, CESifo (Area Conference on the Economics of Digitization), American Economic Association (AEA) Annual Meetings (Chicago), Organization Science Winter Conference (Utah), Winter Strategy Conference (Utah), Columbia Business School, Rutgers (Economics), Society of Labor Economists (SOLE) Annual Meetings, University of Chicago Crime Lab, Marketing Science Conference (UCLA), INFORMS' Advances in Decision Analysis Conference, City University of New York (Econ. Seminar), INFORMS Annual Conference (Houston), HBS (Innovations and Institutions Conference, 10/2017), REER Conference (Georgia Tech), NSF Conference on Trustworthy Algorithms (Arlington, VA).

2016: NBER Economics of Digitization (Stanford), NBER Summer Institute (Labor/Personnel), Harvard EconCS (Economics and Computer Science) Seminar, Summer Institute in Competitive Strategy (Berkeley/Haas), Tinbergen Institute, Universidad Carlos III de Madrid, NYU/Stern Creativity and Innovation Seminar (3/2016), Kauffman Emerging Scholars Conference, Collective Intelligence 2016 Conference (plenary speaker), Stanford (CASBS), Academy of Management Annual Conference (Best Dissertation Presentations, TIM and BPS), Wharton People and Organizations (Plenary, 9/2016), University of Chicago (Advances in Field Experiments, 9/2016), NYU Information Systems Seminar (11/2016), HBS (Innovations and Institutions Conference, 10/2016), Workshop on Information Systems and Economics (WISE, 12/2016).

2015: Kellogg (MEDS), University of Michigan (Econ), Harvard Business School (NOM), London School of Economics (Management), Harvard Business School (TOM), 2015 Empirical Management Conference (Stanford), Harvard Business School (Innovations and Institutions Conference, 11/2015), Kauffman/UToronto/FSU Workshop on Experimental Economics and Entrepreneurship, UT Austin (Economics), WUSTL Olin (Econ), Georgia Tech Scheller (Strategy), Wharton People and Organizations (Plenary, 10/2015), Vanderbilt (Strategic Management).

2014: Columbia Business School, The Fifteenth ACM Conference on Economics and Computation (*EC'14*), Emory (Goizueta ISOM), Kauffman Emerging Scholars (10/2014), Academy of Management Annual Meeting (8/2014), INFORMS Annual Meeting: Empirical Market Design Session (11/2014), Collective Intelligence 2014, Wharton People and Organizations (Plenary, 10/2014), eLance/oDesk Research Seminar (5/2014), Consortium on Competitiveness and Cooperation ("CCC") Doctoral Conference (4/2014), Beyster Symposium 2014, Berkeley Innovation Seminar (4/2014), All California Labor Economics Conference (poster, 10/2014).

2013: NBER Market Design Working Group (10/2013), Wharton People and Organizations Conference (Breakout 9/2013), *Computation in California*, (Ken Judd's Summer meeting of computational economists at Stanford, 7/2013), *EC'13* (6/2013), Berkeley Psych/Econ Non-Lunch (9/2013).

Earlier: Kauffman Foundation conference on Information Markets (11/2007), Google Faculty Summit (2007), Conference on Auctions, Market Mechanisms and Their Applications (AMMA, 2008), Center for Collective Intelligence (CCI) Seminar, Massachusetts Institutes of Technology (2008), Collective Intelligence FooCamp (Google Headquarters, Mountain View, 2008).

INVITED
DISCUSSANT

- [AI Conference at Brookings Center on Regulation and Markets](#), May 2021.
- [NBER Economics of AI](#), October 2020.
- [American Economic Association Annual Meetings](#), 2020. Session about [Gender Differences in Career Progression](#).
- [American Economic Association Annual Meetings](#), 2020. Session about [Economics of Privacy](#).

- *Workshop on Information Systems and Economics (WISE)*. Discussant and session chair, 2018. Labor and Information Technology Session.
- *NBER Summer Institute*. Economics of Digitization meeting. July 2017.
- *NBER Summer Institute*. Entrepreneurship Bootcamp Alumni Panel. July 2017.
- The Mid-Year Fellows Workshop in Honor of Louis O. Kelso (January 2016).
- *Workshop on Information Systems and Economics*. December 2016.

REFEREEING

American Economic Review, Quarterly Journal of Economics, American Economic Review: Insights, Management Science, Strategic Management Review, Strategy Science, European Economic Review, Journal of Labor Economics, Marketing Science, Operations Research, Journal of Law, Economics and Organization, The Economic Journal, Economic Inquiry, Decision Analysis, 17th ACM Conference on Economics and Computation ("EC'16"), Information Economics and Policy, Google Faculty Research Awards, Collective Intelligence '15 (Conference), Global Environmental Change.

ORGANIZING

- Organizer, [The Non-Market Effects of Market Power Conference](#) (2022-2023).
- Organizer, [Management, Analytics, and Data Conference \(MAD\)](#) (2022-present).
- Area Chair, [ACM FAccT Conference](#). Computer Science conference about Fairness, Accountability, and Transparency (2022).
- [Setting Up Your Own Firm for a Field Experiment](#). Session Organizer and presenter, ASSA + American Economic Association Annual Meetings. January 2021.
- [Algorithmic Fairness and Bias](#). Session Organizer and presenter, ASSA + American Economic Association Annual Meetings. San Diego, January 2020.
- [Information and Sorting in Labor Markets](#). Session Organizer and presenter, ASSA + American Economic Association. San Diego, January 2020.
- Moderator, Columbia University Symposium on Trustworthy AI. Data Science Institute, 2019.
- [ACM Conference on Fairness, Accountability, and Transparency \(ACM FAT*\)](#). Session Chair (2x, 2019).
- [AAAI/ACM Conference on Artificial Intelligence, Ethics, and Society](#). Program Committee (2018).
- [10th, 11th and 12th NYU-Columbia Doctoral Conference](#). 2016-2018. Moderator and discussant for human capital session.
- Professional Development Workshop (PWD) at Academy of Management (AOM) Annual Meeting, 2017 (Atlanta).
 - [Technology in Management \(TIM\) Doctoral Research Development Workshop](#).
 - [Business Policy and Strategy \(BPS\) Doctoral Research Development Workshop](#).
- [17th ACM Conference on Economics and Computation \("EC'16"\)](#). Program Committee (2016).
- [Collective Intelligence '15](#). times Committee.
- [AOM 2014](#). Symposium: "Skills, Innovation and Mobility in Knowledge Workers."
- [Stanford Institute for Theoretical Economics 2014, Numerical Methods in Economics](#). Offsite session at Google: "Ad auctions and quantum computing."
- [ACM EC'13](#). Session: "Econometrics for Computer Scientists."

PRACTITIONER TALKS

TechComBank (Ha Noi, Vietnam, 6/2017), eLance/oDesk (5/2014), McKinsey Global Strategy Conference 2007 (Dubai), McKinsey Global Strategy Conference 2008 (Barcelona), US Defense Department, Highlands Forum (2008), National Intelligence Council Long-Term Strategic Analysis Workshop (2008). O'Reilly Money:Tech Conference (2008), O'Reilly ETech (2008), Beyster Symposium 2014, Google Faculty Summit (2007).

TEACHING

- *People Analytics*, Columbia Business School EMBA/MBA. Summer/Spring 2019-present.
- *Strategy Formulation*, Columbia Business School EMBA/MBA/undergrad. Spring/Fall 2017-2019.
- *Technology Immersion*, Columbia Business School. Spring 2017-2019.
- *Advanced Strategy (PhD)*, Columbia Business School. Spring 2018- present (even years).
- *Research Methods (PhD)*, Columbia Business School. Spring 2019-2020, Fall 2020-present.
- *PhD Proseminar*, Columbia Business School. Organizer (Fall 2017), Speaker (2015-present).
- *Data and Decisions (MBA Statistics)*, Haas School of Business, UC Berkeley. GSI, Fall 2012.
- *MBA Guest Lectures*: Northwestern/Kellogg (3/2010), Wharton/UPenn (4/2009), Stanford MS&E (2008), Stanford Stats (2007, 2008), MIT/Sloan (2007, 2008), Harvard Business School (2007, 2008), Columbia Technology Business MBA Student Group (2017).

OTHER WRITING “[The Future of Work](#),” with Ufuk Akcigit, Robert Seamans and Oren Ziv. *Kauffman Foundation State of the Field Series*, 2017.

“[McKinsey Quarterly: The promise of prediction markets](#)” with Renee Dye, James Surowiecki, Todd Henderson and Todd Svets. Second Quarter Edition, 2008.

“[Good Bet: Can Markets Forecast Election Results?](#)” With Cass Sunstein. The New Republic. November 21, 2006.

SELECTED PRESS RESEARCH ABOUT BIAS IN AI AND MACHINE LEARNING, ESP IN HIRING:
& CASE
COVERAGE

- New York Times: **A.I. as Talent Scout: Unorthodox Hires, and Maybe Lower Pay** by Noam Scheiber. 12/6/2018. [link](#)
- Harvard Business Review: **Want Less-Biased Decisions? Use Algorithms.** by Alex P. Miller. 7/26/2018. [link](#)
- Forbes: **Overcoming AI’s Challenge In Hiring: Avoid Human Bias.** 11/29/2018. [link](#)

RESEARCH ABOUT EMPLOYEE REFERRALS IN NEW YORK TIMES:

- **Scientific Management Redux: The Difference is in the Data** by Steve Lohr. 4/21/2013. [link](#)
- **How Big Data Is Playing Recruiter for Specialized Workers.** by Matt Richtel. 4/27/2013. [link](#)

RESEARCH ON INTERNAL PREDICTION MARKETS IN NEW YORK TIMES:

- **At Google, Workers are placing their Bets** by Ian Austen. 11/26/2005. [link](#).
- **Future Divined by the Crowd** by Joe Nocera. 3/07/2006. [link](#).
- **Google’s Lunchtime Betting Game** by Noam Cohen. 1/7/2008. [link](#).

PROTAGONIST, **Harvard Business School Case Study N9-607-088: Prediction Markets at Google.** [link](#).

Financial Times: Table Talk by Tim Harford. 1/19/2008. [link](#).

Businessweek: Workers Place your Bets by Rachel King. August 3, 2006. [link](#).

Bloomberg: Google Gets Answers as Staff Bets on Gmail, ‘Star Wars’ Success By Crayton Harrison, 7/10/2008. [link](#).

BBC World Service (Radio): Business Daily: Feb 19, 2008 interview about markets inside of companies.

OTHER AWARDS, FELLOWSHIPS AND GRANTS **Research Grant Winner**, Richard Paul Richman Center for Business, Law and Public Policy. Columbia University. 2019.

Finalist, Wharton People Analytics Conference Research Competition. 2×: 2019 & 2020.

Franz Edelman Award Semifinalist. 2019. INFORMS Award for Achievement in Advanced Analytics, Operations Research, and Management Science.

NBER Productivity, Innovation and Entrepreneurship Program. Research Grant. 2018.

NET Institute Summer Research Award. 2018.

J-PAL Southeast Asia IRF Grant Award. 2017. Grant for field experiment about digital jobs in developing economies.

Chazen Institute Faculty Research Grant Award. 2017.

Frank M. Bass Dissertation Paper Award Finalist (one of three, 2015), given annually to the best marketing paper derived from a Ph.D. thesis published in *Management Science* or *Marketing Science*.

Wiley Blackwell Award for Outstanding Dissertation Research in Business Policy and Strategy Finalist, 2016. One of six. Academy of Management, Business Policy and Strategy Division (BPS).

Technology in Management Best Dissertation Award Finalist, 2016. One of four. Academy of Management, Technology in Management Division (TIM).

INFORMS TIMES Best Dissertation Award Finalist, 2017. One of five. INFORMS, Technology, Innovation Management and Entrepreneurship Section (TIMES).

Society for Business Ethics Best Dissertation Award Finalist, 2016. One of three.

IARPA Research Award: IARPA-BAA-10-05 (2011-2012): PhD supported by grant from US intelligence research agency supporting research about forecasting and information aggregation. RA for winning team (“The Good Judgement Project”) in [US Government forecasting competition](#).

Berkeley Graduate Fellowships: Full PhD tuition, stipend and travel support.

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