

# Katya Vasilaky

Associate Professor of Economics and Noyce School of Computing (tenured), California Polytechnic State University; Invited Researcher, J-PAL (MIT) Invited Researcher, Affiliate Researcher, CEGA (UC Berkeley); Affiliated Associate Research Scientist, Columbia University

Website      Google Scholar      GitHub

## Research Interests

Causal Inference and Machine Learning; Experimentation and Evaluation; Recommendation and Ranking Systems; Technology Adoption; Labor Markets and Economic Opportunity; Behavioral Decision-Making; Development Economics.

## Current Positions

**Associate Professor of Economics and Noyce School of Computing (with tenure)** 2023–Present  
California Polytechnic State University

**Invited Researcher** 2024–Present Jameel Poverty Action Lab (J-PAL), MIT

**Faculty Associate** 2024–Present Center for Effective Global Action (CEGA), UC Berkeley

**Affiliated Associate Research Scientist** 2017–Present International Research Institute for Climate and Society, Columbia University

## Prior Research Collaborations

**Microsoft Research Visitor** 2015 Cambridge, MA

**Toulouse School of Economics** 2014 Toulouse, France

**Centre for Environmental and Resource Economics,** 2023 Umea, Sweden

## Research Summary

My research combines causal inference, machine learning, and randomized experimentation to study decision-making, technology adoption, labor-market outcomes, and economic development. Recent work focuses on correcting selection bias in recommendation systems, machine-learning methods for prediction and policy evaluation, labor productivity, and post-conflict labor-market reintegration.

## Technical Skills

**Programming:** Python, SQL, PostgreSQL, R, Stata

**Methods:** Randomized Controlled Trials, A/B Testing, Difference-in-Differences, Synthetic Controls, Double Machine Learning, Causal Forests, Panel Data Methods, Recommendation Systems, Learning-to-Rank, Selection-Bias Correction

## Selected Research Contributions

- Developed methods for correcting selection bias in recommendation and ranking systems, published at ACM SIGIR and WWW/WebConf.
- Designed and implemented more than ten randomized field and laboratory experiments studying incentives, technology adoption, labor productivity, and behavioral decision-making.
- Principal Investigator or Co-Principal Investigator on more than \$1 million in competitively awarded research funding.
- Led projects funded by J-PAL, CEGA, USDA, the Gates Foundation, the World Bank, and IFC.
- Reviewer for NeurIPS, ICLR, JDE, JEEM, Experimental Economics, Restat, The EJ, JEBO, World Development, Climatic Change.

## Current Research Projects

1. **Position Bias Correction Through Residuals** (Coauthors: Animul Islam, Elena Zheleva) Machine-learning methods for correcting position bias and selection bias in recommendation and ranking systems. *Requested Rebuttal, ACM RecSys 2026.*
2. **Charitable Giving in Wartime: Evidence from Ukraine’s War Fundraising** (Coauthors: Margaryta Klymak, Andrew Kosenko, Oleg Korenok, Dariia Mykhailyshyna) Analysis of 2.9 million charitable donations during Russia’s invasion of Ukraine to study the effects of casualties and media coverage on prosocial behavior. *Revise and Resubmit, Review of Economics and Statistics.*
3. **Reintegrating Internally Displaced Persons, Veterans, and Women in the Post-Invasion Labor Market in Ukraine** (Co-PIs: Michelle Brock, Margaryta Klymak) Large-scale randomized field experiment studying labor-market reintegration, language, identity, and social inclusion. *Funded by J-PAL European Social Inclusion Initiative and CEGA Development Economics Challenge.*
4. **War, Identity, and its Economic Consequences in Ukraine** Research examining how displacement and identity change affect labor-market and economic outcomes. *Funded by the IPA Displaced Livelihoods Initiative.*
5. **Selection-Aware Learning for Satellite-Based Crop Yield Prediction** (Coauthors: Meha Jain, Monish Deshpande, Connor Wilson) Machine-learning methods for correcting selection bias in remote-sensing-based agricultural prediction. *Working Paper; funded by a Cal Poly RSCA grant.*
6. **Inclusive Ridge: Adaptive Shrinkage with Applications to Causal Inference** (Coauthor: Walter Vasilaky) Development of a regularization framework combining prediction and causal inference with adaptive shrinkage. *Working Paper.*
7. **Timely Disaster Response and its Impacts on Poverty in the Philippines** (Coauthors: Aur’elie Harou, Chia-Ying Lee, Daniel Osgood) Evaluation of disaster response timing and its effects on household welfare and resilience. *Under Review; funded by the World Bank.*
8. **Does Background Uncertainty Narrow the Gender Competition Gap?** (Coauthor: Michelle Brock) Experimental study of uncertainty and gender differences in competitive behavior. *Under Review; funded by the European Bank for Reconstruction and Development (EBRD).*
9. **Intraday Farm Productivity Bonuses and Their Peer Effects** (Coauthor: Aric Shafran) Randomized field experiment examining dynamic incentive effects and peer spillovers in labor productivity. *Under Review; funded by AFRI USDA.*
10. **Group-Oriented Messaging and Diversity in Economics** (Coauthors: Jacqueline Doremus, Charlotte Zilber Mann) Randomized field experiment studying social identity, belonging, and educational choices. *Under Review; funded by a Cal Poly RSCA grant.*

## Publications

### Machine Learning, Recommendation Systems, and Methodology

1. Ovaisi, Zohreh, Kathryn Vasilaky, Elena Zheleva (2021). *Propensity-independent Bias Recovery in Offline Learning-to-Rank Systems*. Proceedings of the 44th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR), pp. 1763–1767.
2. Ovaisi, Zohreh, Ragib Ahsan, Kathryn Vasilaky, Elena Zheleva (2020). *Correcting for Selection Bias in Learning-to-Rank Systems*. Proceedings of the 29th International World Wide Web Conference (WWW/WebConf), pp. 1863–1872.

- Vasilaky, Kathryn, Michelle Brock (2020). *Power(ful) Guidelines for Experimental Economists*. Journal of the Economic Science Association, Vol. 6, No. 2, pp. 189–212.

## **Labor Markets, Incentives, and Productivity**

- Flory, Jeff, Kenneth Leonard, Magda Tsaneva, Kathryn Vasilaky (2023). *How Social Structure Shapes Female Competition Throughout Her Lifetime*. Journal of Economic Behavior and Organization, Vol. 216, pp. 433–456.
- Hamilton, Steve, Tim Richards, Aric Shafran, Kathryn Vasilaky (2022). *Farm Labor Productivity and the Impact of Mechanization*. American Journal of Agricultural Economics.
- Buehren, Niklas, Joao Montalvao, Markus Goldstein, Kenneth Leonard, Kathryn Vasilaky (2020). *Spillover Effects of Girls' Empowerment on Brothers' Competitiveness: Evidence from a Lab-in-the-Field Experiment in Uganda*. Economic Development and Cultural Change.
- Vasilaky, Kathryn, Asif Islam (2018). *Competition or Cooperation? Using Team and Tournament Incentives for Learning among Female Farmers in Rural Uganda*. World Development, Vol. 103, pp. 216–225.
- Vasilaky, Kathryn, Kenneth Leonard (2018). *As Good as the Networks They Keep? Improving Outcomes through Weak Ties in Rural Uganda*. Economic Development and Cultural Change, Vol. 66, No. 4, pp. 755–792.
- Vasilaky, Kathryn (2013). *Female Social Networks and Farmer Training: Can Randomized Information Exchange Improve Outcomes?* American Journal of Agricultural Economics, Vol. 95, No. 2, pp. 376–383.

## **Technology Adoption, Insurance, and Economic Development**

- Baul, Tushi, Dean Karlan, Kentaro Toyama, Kathryn Vasilaky (2024). *Improving Smallholder Agriculture via Video-Based Group Extension*. Journal of Development Economics, Vol. 169.
- Vasilaky, Kathryn, Katherine Alfredo, Aur'elie Harou (2023). *What Works for Water Conservation? Evidence from a Field Experiment*. Journal of Environmental Economics and Management.
- Enenkel, Markus, Molly E. Brown, J. V. Vogt, John L. McCarty, Andrew Reid Bell, Debarati Guha-Sapir, W. A. Dorigo, Kathryn Vasilaky, Mark Svoboda, Rebecca Bonifacio, Stefan Voigt, Molly Anderson, Chris Funk, Daniel Osgood, Christian Hain, Patrick Vinck (2020). *Why Predict Climate Hazards if We Need to Understand Impacts? Mobile Technologies Could Put Humans Back into the Equation*. Climatic Change, Vol. 162, pp. 1161–1176.
- Vasilaky, Kathryn, Sofia Saenz Martinez, Radost Stanimirova, Daniel Osgood (2020). *Perceptions of Farm Size Heterogeneity and Demand for Group Index Insurance*. Games, Vol. 11, No. 1.
- Vasilaky, Kathryn, Rahel Diro, Geoff McCarney, Daniel Osgood (2019). *Can Education Unlock Scale? The Demand Impact of Educational Games on a Large-Scale Unsubsidised Index Insurance Programme in Ethiopia*. Journal of Development Studies.

## **Education**

**Ph.D., Applied Economics**

**B.A., Economics and Mathematics**

2011 University of Maryland, College Park  
2003 Columbia University