

## Guido Imbens

Denning Co-Director of Stanford Institute for Human-Centered AI, Applied Econometrics Professor, Senior Fellow at the Stanford Institute for Economic Policy Research and Professor of Economics

### Bio

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#### ACADEMIC APPOINTMENTS

- Professor, Economics
- Professor, Economics
- Senior Fellow, Stanford Institute for Economic Policy Research (SIEPR)
- Faculty Affiliate, Institute for Human-Centered Artificial Intelligence (HAI)
- Member, Stanford Data Science
- Faculty Director, Stanford Causal Science Center

#### LINKS

- Imbens Website: <https://people.stanford.edu/imbens/>

### Teaching

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#### COURSES

##### 2025-26

- Causality, Decision Making and Data Science: BUSGEN 108 (Aut)
- Causality, Decision Making and Data Science: CS 171, DATASCI 161, ECON 115 (Aut)
- Econometric Methods I: MGTECON 603 (Aut)
- Econometrics Seminar: ECON 370 (Aut, Win, Spr)
- Intermediate Econometrics I: ECON 270 (Aut)

##### 2024-25

- Causality, Decision Making and Data Science: BUSGEN 108 (Aut)
- Causality, Decision Making and Data Science: CS 171, DATASCI 161, ECON 115 (Aut)
- Econometrics Seminar: ECON 370 (Aut, Win, Spr)
- Intermediate Econometrics III: Methods for Applied Econometrics: ECON 272 (Spr)
- Methods for Applied Econometrics: MGTECON 607 (Spr)

##### 2023-24

- Data Science for Environmental Business: ECON 185 (Spr)
- Data Science for Environmental Business: MGTECON 340 (Spr)
- Data Science for Environmental Business: PUBLPOL 185, SUSTAIN 135, SUSTAIN 235 (Spr)
- Econometrics Seminar: ECON 370 (Aut, Win, Spr)

- Intermediate Econometrics III: Methods for Applied Econometrics: ECON 272 (Spr)
- Methods for Applied Econometrics: MGTECON 607 (Spr)
- Quantitative Methods for Empirical Research: ECON 292 (Aut)
- Quantitative Methods for Empirical Research: MGTECON 640 (Aut)

#### 2022-23

- Data Science and Experimentation for Decision Making: MGTECON 540 (Spr)
- Econometrics Workshop: ECON 370 (Aut, Win, Spr)
- Intermediate Econometrics III: Methods for Applied Econometrics: ECON 272 (Spr)
- Methods for Applied Econometrics: MGTECON 607 (Spr)

## STANFORD ADVISEES

### Doctoral Dissertation Reader (AC)

Aditya Ghosh, Alexia Olaizola, Sadegh Shirani

### Orals Chair

Rohan Sinha

### Postdoctoral Faculty Sponsor

David Bruns-Smith, Jaume Vives i Bastida

### Doctoral Dissertation Advisor (AC)

Lea Bottmer, Janelle Nelson, David Ritzwoller, Ravi Sojitra, Amar Venugopal, Sarah Vicol, Jason Weitze

### Doctoral Dissertation Co-Advisor (AC)

Joonhyuk Lee

### Undergraduate Major Advisor

Nathan Lam

## Publications

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### PUBLICATIONS

- **Whitney Newey's contributions to econometrics** *JOURNAL OF ECONOMETRICS*  
Abadie, A., Angrist, J., Imbens, G.  
2024; 240 (2)
- **Using Wasserstein Generative Adversarial Networks for the design of Monte Carlo simulations** *JOURNAL OF ECONOMETRICS*  
Athey, S., Imbens, G. W., Metzger, J., Munro, E.  
2024; 240 (2)
- **A New Look at P Values for Randomized Clinical Trials.** *NEJM evidence*  
van Zwet, E., Gelman, A., Greenland, S., Imbens, G., Schwab, S., Goodman, S. N.  
2024; 3 (1): EVIDoa2300003
- **Optimal Experimental Design for Staggered Rollouts** *MANAGEMENT SCIENCE*  
Xiong, R., Athey, S., Bayati, M., Imbens, G.  
2023
- **A Design-Based Perspective on Synthetic Control Methods** *JOURNAL OF BUSINESS & ECONOMIC STATISTICS*  
Bottmer, L., Imbens, G. W., Spiess, J., Warnick, M.  
2023

- **Fixed Effects and the Generalized Mundlak Estimator** *REVIEW OF ECONOMIC STUDIES*  
Arkhangelsky, D., Imbens, G. W.  
2023
- **Experimental Design in Marketplaces** *STATISTICAL SCIENCE*  
Bajari, P., Burdick, B., Imbens, G. W., Masoero, L., McQueen, J., Richardson, T. S., Rosen, I. M.  
2023; 38 (3): 458-476
- **Semi-parametric estimation of treatment effects in randomised experiments** *JOURNAL OF THE ROYAL STATISTICAL SOCIETY SERIES B- STATISTICAL METHODOLOGY*  
Athey, S., Bickel, P. J., Chen, A., Imbens, G. W., Pollmann, M.  
2023
- **Causality in Econometrics: Choice vs Chance** *ECONOMETRICA*  
Imbens, G. W. W.  
2022; 90 (6): 2541-2566
- **When Should You Adjust Standard Errors for Clustering?\*** *QUARTERLY JOURNAL OF ECONOMICS*  
Abadie, A., Athey, S., Imbens, G. W., Wooldridge, J. M.  
2022
- **Comment on: "Confidence Intervals for Nonparametric Empirical Bayes Analysis" by Ignatiadis and Wager** *JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION*  
Imbens, G.  
2022; 117 (539): 1181-1182
- **Doubly robust identification for causal panel data models** *ECONOMETRICS JOURNAL*  
Arkhangelsky, D., Imbens, G. W.  
2022
- **Bayesian Meta-Prior Learning Using Empirical Bayes** *MANAGEMENT SCIENCE*  
Nabi, S., Nassif, H., Hong, J., Mamani, H., Imbens, G.  
2022; 68 (3): 1737-1755
- **Design-based analysis in Difference-In-Differences settings with staggered adoption** *JOURNAL OF ECONOMETRICS*  
Athey, S., Imbens, G. W.  
2022; 226 (1): 62-79
- **Synthetic Difference-in-Differences** *AMERICAN ECONOMIC REVIEW*  
Arkhangelsky, D., Athey, S., Hirshberg, D. A., Imbens, G. W., Wager, S.  
2021; 111 (12): 4088-4118
- **THE ET INTERVIEW: PROFESSOR GARY CHAMBERLAIN** *ECONOMETRIC THEORY*  
Graham, B., Hirano, K., Imbens, G.  
2021
- **Statistical Significance, p-Values, and the Reporting of Uncertainty** *JOURNAL OF ECONOMIC PERSPECTIVES*  
Imbens, G. W.  
2021; 35 (3): 157-173
- **A CAUSAL BOOTSTRAP** *ANNALS OF STATISTICS*  
Imbens, G., Menzel, K.  
2021; 49 (3): 1460-1488
- **Matrix Completion Methods for Causal Panel Data Models** *JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION*  
Athey, S., Bayati, M., Doudchenko, N., Imbens, G., Khosravi, K.  
2021
- **Potential Outcome and Directed Acyclic Graph Approaches to Causality: Relevance for Empirical Practice in Economics** *JOURNAL OF ECONOMIC LITERATURE*

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- Imbens, G. W.  
2020; 58 (4): 1129–79
- **Identification and Efficiency Bounds for the Average Match Function Under Conditionally Exogenous Matching** *JOURNAL OF BUSINESS & ECONOMIC STATISTICS*  
Graham, B. S., Imbens, G. W., Ridder, G.  
2020; 38 (2): 303–16
  - **SAMPLING-BASED VERSUS DESIGN-BASED UNCERTAINTY IN REGRESSION ANALYSIS** *ECONOMETRICA*  
Abadie, A., Athey, S., Imbens, G. W., Wooldridge, J. M.  
2020; 88 (1): 265–96
  - **Comment on: "The Blessings of Multiple Causes" by Yixin Wang and David M. Blei** *JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION*  
Athey, S., Imbens, G. W., Pollmann, M.  
2019; 114 (528): 1602–4
  - **Why High-Order Polynomials Should Not Be Used in Regression Discontinuity Designs** *JOURNAL OF BUSINESS & ECONOMIC STATISTICS*  
Gelman, A., Imbens, G.  
2019; 37 (3): 447–56
  - **Optimized Regression Discontinuity Designs** *REVIEW OF ECONOMICS AND STATISTICS*  
Imbens, G., Wager, S.  
2019; 101 (2): 264–78
  - **External Validity in Fuzzy Regression Discontinuity Designs** *JOURNAL OF BUSINESS & ECONOMIC STATISTICS*  
Bertanha, M., Imbens, G. W.  
2019
  - **Balanced Linear Contextual Bandits**  
Dimakopoulou, M., Zhou, Z., Athey, S., Imbens, G., AAAI  
ASSOC ADVANCEMENT ARTIFICIAL INTELLIGENCE.2019: 3445–53
  - **Machine Learning Methods That Economists Should Know About** *ANNUAL REVIEW OF ECONOMICS, VOL 11, 2019*  
Athey, S., Imbens, G. W.  
edited by Aghion, P., Rey, H.  
2019; 11: 685–725
  - **Pharmacogenetic testing among patients with mood and anxiety disorders is associated with decreased utilization and cost: A propensity-score matched study** *DEPRESSION AND ANXIETY*  
Perlis, R. H., Mehta, R., Edwards, A. M., Tiwari, A., Imbens, G. W.  
2018; 35 (10): 946–52
  - **Approximate residual balancing: debiased inference of average treatment effects in high dimensions** *JOURNAL OF THE ROYAL STATISTICAL SOCIETY SERIES B-STATISTICAL METHODOLOGY*  
Athey, S., Imbens, G. W., Wager, S.  
2018; 80 (4): 597–623
  - **Comments on understanding and misunderstanding randomized controlled trials: A commentary on Cartwright and Deaton.** *Social science & medicine (1982)*  
Imbens, G.  
2018
  - **Addressing unmeasured confounding in comparative observational research** *PHARMACOEPIDEMIOLOGY AND DRUG SAFETY*  
Zhang, X., Faries, D. E., Li, H., Stamey, J. D., Imbens, G. W.  
2018; 27 (4): 373–82
  - **Exact p-Values for Network Interference** *JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION*  
Athey, S., Eckles, D., Imbens, G. W.  
2018; 113 (521): 230–40

- **Redefine statistical significance.** *Nature human behaviour*  
Benjamin, D. J., Berger, J. O., Johannesson, M., Nosek, B. A., Wagenmakers, E. J., Berk, R., Bollen, K. A., Brembs, B., Brown, L., Camerer, C., Cesarini, D., Chambers, C. D., Clyde, et al  
2018; 2 (1): 6-10
- **Redefine statistical significance** *NATURE HUMAN BEHAVIOUR*  
Benjamin, D. J., Berger, J. O., Johannesson, M., Nosek, B. A., Wagenmakers, E., Berk, R., Bollen, K. A., Brembs, B., Brown, L., Camerer, C., Cesarini, D., Chambers, C. D., Clyde, et al  
2018; 2 (1): 6–10
- **Propensity Score Matching and Subclassification in Observational Studies with Multi-Level Treatments** *BIOMETRICS*  
Yang, S., Imbens, G. W., Cui, Z., Faries, D. E., Kadziola, Z.  
2016; 72 (4): 1055-1065
- **Robust Standard Errors in Small Samples: Some Practical Advice** *REVIEW OF ECONOMICS AND STATISTICS*  
Imbens, G. W., Kolesar, M.  
2016; 98 (4): 701-712
- **Recursive partitioning for heterogeneous causal effects** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Athey, S., Imbens, G.  
2016; 113 (27): 7353-7360
- **Matching on the Estimated Propensity Score** *ECONOMETRICA*  
Abadie, A., Imbens, G. W.  
2016; 84 (2): 781-807
- **Identification and Inference With Many Invalid Instruments** *JOURNAL OF BUSINESS & ECONOMIC STATISTICS*  
Kolesar, M., Chetty, R., Friedman, J., Glaeser, E., Imbens, G. W.  
2015; 33 (4): 474-484
- **A Measure of Robustness to Misspecification** *AMERICAN ECONOMIC REVIEW*  
Athey, S., Imbens, G.  
2015; 105 (5): 476-480
- **Matching Methods in Practice Three Examples** *JOURNAL OF HUMAN RESOURCES*  
Imbens, G. W.  
2015; 50 (2): 373-419
- **Inference for Misspecified Models With Fixed Regressors** *JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION*  
Abadie, A., Imbens, G. W., Zheng, F.  
2014; 109 (508): 1601-1614
- **Rejoinder** *STATISTICAL SCIENCE*  
Imbens, G.  
2014; 29 (3): 375-379
- **Instrumental Variables: An Econometrician's Perspective** *STATISTICAL SCIENCE*  
Imbens, G. W.  
2014; 29 (3): 323-358
- **Complementarity and aggregate implications of assortative matching: A nonparametric analysis** *QUANTITATIVE ECONOMICS*  
Graham, B. S., Imbens, G. W., Ridder, G.  
2014; 5 (1): 29-66
- **Social Networks and the Identification of Peer Effects** *JOURNAL OF BUSINESS & ECONOMIC STATISTICS*  
Goldsmith-Pinkham, P., Imbens, G. W.  
2013; 31 (3): 253-264
- **Identification and inference in nonlinear difference-in-differences models** *ECONOMETRICA*

Athey, S., Imbens, G. W.  
2006; 74 (2): 431-497