YINGYAO HU

CONTACT INFORMATION

E-mail : yhu@jhu.edu
Webpage : http://www.econ2.jhu.edu/people/hu/
Address : Department of Economics, Johns Hopkins University, Wyman Park Building 544E, 3400 N. Charles Street, Baltimore, MD 21218, USA

EDUCATION

Ph.D. in Economics (2003), Department of Economics, Krieger School of Arts and Sciences, Johns Hopkins University

M.S.E. in Mathematical Sciences (2001), Department of Mathematical Sciences, currently Department of Applied Mathematics and Statistics, Whiting School of Engineering, Johns Hopkins University

Coursework (1998), Department of Economics, Michigan State University

M.A. in International Finance (1997), School of Economics, Fudan University, Shanghai, China

B.E. in Management Information Systems (1994), School of Economics and Management, Tsinghua University, Beijing, China

RESEARCH INTERESTS

Econometrics, Empirical Industrial Organization, Labor Economics
Measurement error models, Latent variable models
Identification analysis
Machine learning

ACADEMIC EXPERIENCE

2023 – present	Krieger-Eisenhower Professor of Economics, JHU
2015 – 2023	Professor of Economics, JHU
2011 – 2015	Associate Professor of Economics, with tenure, JHU
2007 – 2011	Assistant Professor of Economics, JHU
2003 – 2007	Assistant Professor of Economics, U Texas-Austin

ADMINISTRATIVE EXPERIENCE

Vice Dean for Social Sciences, Krieger School of Arts and Sciences, 2024/1 – present

Chair, Department of Economics, 2019 – 2024/1

Member, Academic Board, Carey Business School, 2021- 2024

Chair/co-chair, Shared Governance Council subcommittee on Faculty Wages and Compensation, 2024

Member, Shared Governance Council subcommittee on Graduate Education, 2022-2024

Member, Shared Governance Council of the Krieger School of Arts and Sciences, 2021

Recruiting committee, 2007, 2011(chair), 2012(chair), 2017, 2018-2019(chair), 2024

Graduate admissions committee, 2005-2014, 2015(chair), 2016(co-chair), 2017(chair), 2018
Grievance committee (Homewood campus), 2011- 2014

PROFESSIONAL ACTIVITIES

Visiting Scholar, Machine Learning Department, Mohamed bin Zayed University of Artificial Intelligence, 2025/1
Member, Scientific Committee of the 2024 International Association of Applied Econometrics Conference
Member of Editorial Board, Journal of Systems Science and Information, 2023 – 2027
Member of Editorial Board, Journal of Systems Science and Systems Engineering, 2020 – present
Guest Co-editor, China Economic Review, Virtual Special Issue: 2020 CES Conferences
Program Committee member and Session Organizer, 2021 China Meeting of the Econometric Society
Fellow of the Global Labor Organization (GLO), 2020 – present
Member, Board of Directors, The Chinese Economists Society, 2019
Co-chair of Program Committee, 2019 China Meeting of the Econometric Society
Faculty Associate, Hopkins Population Center, 2016 – present
Fellow of the Journal of Econometrics, 2013– present
Research Fellow, IZA, Bonn, Germany, 2008 – 2025
Visiting Professor, IESR Advisory Board member (2017-2025), CEMP coordinator (2017-2024), Jinan University, Guangzhou, China
Distinguished Visiting Professor, Tsinghua University, Beijing, China, 2017 – 2020
Visiting Professor, Shanghai University of Economics and Finance, Shanghai, China, 2017, 2019
Visiting Scholar, University of Maryland, College Park, Fall 2010
Visiting Scholar, Harvard University, Fall 2008
Associate Editor, Econometrics Journal, Jan. 2015 – present
Associate Editor, Econometric Reviews, Sept. 2013 – present
Associate Editor, International Studies of Economics, 2022 – present
Associate Editor, Frontiers of Economics in China, 2012-2022
Associate Editor, Journal of Econometrics, 2012 – 2019
Co-editor (with Tom Wansbeek) of an Annals of Econometrics issue on measurement error models, (a special issue of Journal of Econometrics), 2014-2017
Program Committee member and Session Organizer, 2017 China Meeting of the Econometric Society
Member, Scientific Committee of the International Symposium on Econometric Theory and Applications (SETA), 2014-2017
Member, Program Committee of the 10th International Symposium on Econometric Theory and Applications (SETA), 2014
Session organizer, 2013 Asian Meeting of the Econometric Society
Panelist, National Science Foundation, 2011

PUBLICATIONS

- Nonparametric factor analysis and beyond (with Yujia Zheng, Yang Liu, Jiaxiong Yao, and Kun Zhang), Proceedings of the 28th International Conference on Artificial Intelligence and Statistics (AISTATS) 2025, PMLR: Volume 258.

- A generalized model of misclassification errors and labor force dynamics (with Shuaizhang Feng and Jiandong Sun), *Journal of Labor Economics*, forthcoming

- Simple closed-form estimation of a binary latent variable model (with Jingrong Li, Ji-Liang Shiu, and Matthew Shum), *The Econometrics Journal*, forthcoming

- Misclassification and the hidden silent rivalry (with Zhongjian Lin), *Journal of Econometrics*, forthcoming

- Identification and estimation of dynamic structural models with unobserved choices, (with Yi Xin), *Journal of Econometrics*, Volume 242, Issue 2 (June 2024)

- Default risk and stock returns: From a perspective of measurement errors, (with Xiaolou Yang), *International Review of Economics and Finance*, Volume 92, April 2024, Pages 1545-1561

- Dynamic Discrete Choice Models with Incomplete Data: Sharp Identification (with Yuya Sasaki, Yuya Takahashi, and Yi Xin), *Journal of Econometrics*, Volume 236, Issue 1 (September 2023)

- robustpf: A command for robust estimation of production functions, (with Guofang Huang and Yuya Sasaki), *The Stata Journal*, Volume 23, Number 1 (2023), Pages 1-11

- Rotation Group Bias and the Persistence of Misclassification Errors in the Current Population Surveys (with Shuaizhang Feng and Jiandong Sun), *Econometric Reviews*, Volume 41, Issue 9 (2022), Pages 1077-1094

- A simple test of completeness in a class of nonparametric specification (with Ji-Liang Shiu), *Econometric Review*, Volume 41, Issue 4 (2022), Pages 373-399

- Illuminating economic growth (with Jiaxiong Yao), *Journal of Econometrics*, Volume 228, Issue 2 (June 2022), Pages 359-378
  - Reported in BBC, IMF blog, IMF F&D magazine, Le Monde, The Economist, Financial Times, Bloomberg News, Wall Street Journal.
  - The Denis J. Aigner Award for best empirical paper published in the Journal of Econometrics in 2022-23.

- Identification of nonparametric monotonic regression models with continuous nonclassical measurement errors (with Susanne Schennach and Ji-Liang Shiu), *Journal of Econometrics*, Volume 226, Issue 2 (February 2022), Pages 269-294

- Misclassification errors in labor force statuses and the early identification of economic recessions (with Jiandong Sun and Shuaizhang Feng), *Journal of Asian Economics*, Volume 75, August 2021

- Dynamic decisions under subjective beliefs: A structural analysis (with Yonghong An and Ruli Xiao), *Journal of Econometrics*, Volume 222, Issue 1 (May 2021), Pages 645-675

- Global estimation of finite mixture and misclassification models with an application to multiple equilibria, (with Ruli Xiao), *Econometric Review*, Volume 40, Issue 5 (May 2021), Pages 455-469.

- Estimating production functions with robustness against errors in the proxy variables, (with Guofang Huang and Yuya Sasaki), *Journal of Econometrics*, Volume 215, Issue 2, April 2020, Pages 375-398

- Semiparametric estimation of the canonical permanent-transitory model of earnings dynamics, (with Robert Moffitt and Yuya Sasaki), *Quantitative Economics*, Volume 10, Issue 4 (November 2019)

- Estimating heterogeneous contributing strategies in threshold public goods provision: A structural analysis (with Yonghong An and Pengfei Liu), *Journal of Economic Behavior & Organization*, Volume 152 (2018), pages 124–146

- Nonparametric identification using instrumental variables: sufficient conditions for completeness (with Ji-Liang Shiu), *Econometric Theory*, Volume 34, Issue 3 June 2018, pp. 659-693

- On the robustness of alternative unemployment measures, (with Shuaizhang Feng and Jiandong Sun), *Economics Letters*, Volume 166, May 2018, pages 1-5

- Identification and estimation of semi-parametric censored dynamic panel data models of short time periods (with Ji-Liang Shiu), *Econometrics Journal*, Volume 21, Issue 1, February 2018, Pages 55-85

- Closed-form identification of dynamic discrete choice models with proxies for unobserved state variables (with Yuya Sasaki), *Econometric Theory*, Volume 34, Issue 1 (February 2018) , pp. 166-185

- Estimating marginal and incremental effects in the analysis of medical expenditure panel data using marginalized two-part random-effects generalized Gamma models: Evidence from China healthcare cost data (with Bo Zhang and Wei Liu) *Statistical Methods in Medical Research*, Volume 27, Issue 10, (2018) p. 3039.

- The econometrics of unobservables: Applications of measurement error models in empirical industrial organization and labor economics, *Journal of Econometrics,* Volume 200, Issue 2, (October 2017), pages 154-168

- Measurement error models: Editors' introduction, (with Tom Wansbeek), *Journal of Econometrics,* Volume 200, Issue 2, (October 2017), pages 151-153

- Injectivity of a class of integral operators with compactly supported kernels, (with Susanne Schennach and Ji-Liang Shiu), *Journal of Econometrics*, Volume 200, Issue 1, (September 2017), pages 48-58

- Long run trends in unemployment and labor force participation in China (with Shuaizhang Feng and Robert Moffitt), *Journal of Comparative Economics*, vol 45(2), (2017) pages 304-324. (reported in Wall Street Journal)

- Identification of paired nonseparable measurement error models (with Yuya Sasaki), *Econometric Theory,* Volume 33, Issue 4, (August 2017), pp. 955-979.

- A simple estimator for dynamic models with serially correlated unobservables (with Matthew Shum, Wei Tan, and Ruli Xiao), *Journal of Econometric Methods*, Volume 6, Issue 1 (January 2017)

- Identification and estimation of online price competition with an unknown number of firms (with Yonghong An and Michael Baye, John Morgan and Matthew Shum), *Journal of Applied Econometrics*, Volume 32, Issue 1, (January 2017), pages 80-102

- Identification in nonseparable models with measurement error and endogeneity, (with J. Shiu and Tiemen Woutersen), 2016, *Economics Letters*, Volume 144: 33-36.

- Identification and estimation of single index models with measurement error and endogeneity (with Ji-Liang Shiu and Tiemen Woutersen), *Econometrics Journal,* Volume 18, Issue 3 (October 2015), pages 347–362

- Closed-form estimation of nonparametric models with non-classical measurement errors (with Yuya Sasaki), *Journal of Econometrics*, vol. 185, issue 2 (April 2015), pages 392-408

- Identifying dynamic games with serially-correlated unobservables (with Matthew Shum), *Advances in Econometrics*, vol. 31 (2013), pages 97-113

- Nonparametric learning rules from bandit experiments: the eyes have it! (with Yutaka Kayaba and Matthew Shum). *Games and Economic Behavior*, vol. 81, (September 2013), pages 215-231

- Identification and estimation of nonlinear dynamic panel data models with unobserved covariates (with Ji-Liang Shiu). *Journal of Econometrics*, vol. 175, issue 2 (August 2013), pages 116-131

- Nonparametric identification of first-price auctions with non-separable unobserved heterogeneity (with David McAdams and Matthew Shum). *Journal of Econometrics*, vol. 174, issue 2 (June 2013), pages 186-193.

- Misclassification errors and the underestimation of U.S. unemployment rates (with Shuaizhang Feng), *American Economic Review*, vol. 103, issue 2 (April 2013), pages 1054-70.

- Nonparametric identification and semiparametric estimation of classical measurement error models without side information (with Susanne Schennach), *Journal of the American Statistical Association*, vol. 108, issue 501 (March 2013), pages 177-186.

- Nonparametric identification of dynamic models with unobserved state variables (with Matthew Shum), *Journal of Econometrics*, vol. 171, issue 1 (November 2012), pages 32-44.

- Returns to lying? Identifying the effects of misreporting when the truth is unobserved (with Arthur Lewbel), *Frontiers of Economics in China*, vol. 7 (2012), pages 163-192.

- Well-posedness of measurement error models for self-reported data (with Yonghong An), *Journal of Econometrics*, vol. 168 (2012), pages 259-269.

- Estimation of nonlinear models with mismeasured regressors using marginal information (with Geert Ridder), *Journal of Applied Econometrics*, vol. 27, issue 3 (2012), pages 347-385.

- Estimating first-price auctions with an unknown number of bidders: a misclassification approach (with Yonghong An and Matthew Shum), *Journal of Econometrics*, vol. 157 (2010), pages 328-341.

- Identification and inference in nonlinear models using two samples with nonclassical measurement errors (with Raymond Carroll and Xiaohong Chen), *Journal of Nonparametric Statistics*, 22 (2010), issue 4, pages 379-399.
  - Journal of Nonparametric Statistics 2010 Best Paper Award

- Rejoinder: Identification and inference in nonlinear models using two samples with nonclassical measurement errors (with Raymond Carroll and Xiaohong Chen), *Journal of Nonparametric Statistics*, 22 (2010), issue 4, pages 419-423.

- On deconvolution as a first stage nonparametric estimator (with Geert Ridder), *Econometric Reviews*, vol. 29 (2010), issue 4, pages 1-32.

- The fertility effect of catastrophe: U.S. hurricane births, (with Rick Evans and Zhong Zhao), *Journal of Population Economics*, vol. 23 (2010), issue 1, pages 1-36.
  - The 2013 Kuznets Prize for the best published article in the Journal of Population Economics during the period 2010-2012

- Bounding the effect of a dichotomous regressor with arbitrary measurement errors (with P. Deng), *Economics Letters*, vol. 105 (2009), issue 3, pages 256-260.

- Nonparametric identification and estimation of nonclassical errors-in-variables models without additional information (with Xiaohong Chen and Arthur Lewbel), *Statistica Sinica*, 19 (2009), pages 949-968.

- Nonparametric identification of regression models containing a misclassified dichotomous regressor without instruments (with Xiaohong Chen and Arthur Lewbel), *Economics Letters*, vol. 100 (2008), issue 3, pages 381-384.

- A note on the closed-form identification of regression models with a mismeasured binary regressor (with Xiaohong Chen and Arthur Lewbel), *Statistics and Probability Letters*, vol. 78 (2008), issue 12, pages 1473-1479.

- Instrumental variable treatment of nonclassical measurement error models (with Susanne Schennach), *Econometrica*, vol. 76, no. 1 (2008), pages 195–216.

- Identification and estimation of nonlinear models with misclassification error using instrumental variables: A general solution, *Journal of Econometrics*, vol. 144 (2008), issue 1, pages 27-61.

- Bounding parameters in a linear regression model with a mismeasured regressor using additional information, *Journal of Econometrics* 133 (2006), issue 1, pages 51-70.

- Is area yield insurance competitive with farm yield insurance? (with Barry Barnett, Roy Black, and Jerry Skees) *Journal of Agricultural and Resource Economics*, vol. 30 (2005), no. 2, pages 285-301.

- Cooperatives and capital markets: the case of Minnesota-Dakota sugar beet cooperatives, (with J. Roy Black and Barry J. Barnett) *American Journal of Agricultural Economics*, vol. 81 (1999), no. 5, proceedings issue, pages 1240-1246.

WORKING PAPERS

- Estimation of dynamic models with unobserved state variables by reinforcement learning (with Fangzhu Yang)

- Optimal linear rank indexes for latent variables (with Ji-Liang Shiu, Yi Xi, and Jiaxiong Yao)

- Partial identification of nonlinear models with misclassification error: A perturbation approach (with Ji-Liang Shiu)

- Uncovering hidden harmony: Latent binary quantile regression and an application (with Zhongjian Lin and Ning Yu)

- Identification of Unobservables in Observations

BOOK MANUSCRIPT

- The Econometrics of Unobservables -- Latent Variable and Measurement Error Models and Their Applications (an online manuscript of a second-year Ph.D. econometrics textbook.)

OTHER WORK

- China's slowdown: More there than meets the eye (a blog article with Bob Barbera)
- Steeling Ourselves for Less Steel Use in China (a blog article with Bob Barbera)
- Early publications in China include four papers and a book.

TEACHING

University of Texas:
Fall 2003: ECO 329 (Undergraduate Economic Statistics), ECO 341K (Undergraduate Econometrics)
Fall 2004: ECO 329, ECO 392M.2 (Graduate Econometrics I)
Fall 2005: ECO 329, ECO 392M.2
Spring 2006: ECO 329, Research seminar
Spring 2007: ECO 329, ECO 392M.2, Research seminar

Johns Hopkins University:
Spring 2008: 180.633 (Graduate Econometrics), 180.638 (Graduate Mirco-econometrics II)
Spring 2009: 180.633, 180.638
Fall 2009: 180.694 (Applied Micro Workshop)
Spring 2010: 180.633, 180.638
Spring 2011: 180.334 (Undergraduate Econometrics), 180.633, 180.638
Spring 2012: 180.334, 180.633, 180.638
Fall 2012: 180.694
Spring 2013: 180.633, 180.638
Spring 2014: 180.633, 180.638
Spring 2015: 180.633, 180.638
Fall 2015: 180.354 (Econometrics of unobservables)
Spring 2016: 180.633, 180.638
Fall 2016: 180.354, 180.694
Spring 2017: 180.633, 180.638
Spring 2018: 180.434 (Undergraduate Advanced Econometrics), 180.633, 180.638
Fall 2018: 180.694
Spring 2019: 180.434, 180.633, 180.638

Spring 2020: 180.633, 180.638
Spring 2021: 180.633, 180.638
Spring 2022: 180.633, 180.638
Spring 2023: 180.633, 180.638
Fall 2023: 180.637 B
Fall 2024: 180.637 B

PhD ADVISING

PhD dissertation primary advisor:
Yonghong An (2011, University of Connecticut; currently, Texas A&M University)
Ruli Xiao (2014, Indiana University Bloomington)
Yajing Jiang (2016, Charles River Associate International Inc.)
Yi Xin (2018, California Institute of Technology)
Chuhan Liu (2023, Analysis Group, co-advisor with Jian Ni)
Fangzhu Yang (2024, Bates White)

PhD dissertation committee member:
U Texas: Dong Li, Feng Hong, Xiaolou Yang
JHU: Zhixiang Zhang, Ji-Liang Shiu, Chi Wang, Wendy Chi, Su-Hsin Chang, Haomiao Yu, Xia Zhou, Wei Xiao, Kai Liu, Xiaochen Xu, Mingjian Wang, Sung Ah Bahk, Jianhui Li, Hanchen Jiang, Shiqi Wang, Sahan Yildiz, Xinyu Zhao, Strahil Lepoev, Chuhan Liu, Silin Huang, Huan Deng, Qingyang Han, Syareza Tobing.

OTHER ACTIVITIES

Referee:
American Economic Journal: Macroeconomics, American Economic Review, American Journal of Agricultural Economics, Annals of Statistics, Asian Perspective, Biometrical Journal, Canadian Journal of Economics, Econometrica, Econometrics Journal, Econometric Reviews, Econometric Theory, Economics Letters, European Economic Review, Israel Science Foundation, National Science Foundation (panelist & reviewer), International Economic Review, Journal of Applied Econometrics, Journal of Business and Economic Statistics, Journal of Comparative Economics, Journal of Econometrics, Journal of Labor Economics, Journal of Money, Credit, and Banking, Journal of Nonparametric Statistics, Journal of Population Economics, Journal of Statistical Computation and Simulation, Journal of the American Statistical Association, Journal of the Royal Statistical Society, The Lancet Public Health, Macroeconomic Dynamics, Ministry of Science and Technology of Taiwan, Oxford Bulletin of Economics and Statistics, Psychometrika, Quantitative Economics, Rand Journal of Economics, Research Grants Council of Hong Kong, Review of Economic Studies, Review of Economics and Statistics, Social Sciences and Humanities Research Council of Canada, Statistica Sinica.

Presentations:

2025: Mohamed bin Zayed University of Artificial Intelligence
2024: JHU workshop on ME&LV, Academia Sinica Taiwan
2023: Virginia Tech, U Toronto
2022: UPenn, Notre Dame
2021: Penn State Cornell Conference
2020: DC-MD-VA Econometrics Workshop
2019: Texas Econometrics Camp (keynote speaker), Tsinghua International Econometrics Conference, Sixth International Annual Conference of NSE at Peking University, Ohio State U, USC
2018: Texas A&M, Rice U, U Colorado-Boulder, Michigan State, Southern Economic Association Annual Meeting
2017: North American Winter Meeting of the Econometric Society, Asia Meeting of the Econometric Society, U of Tokyo, Temple U. Southern Economic Association Annual Meeting
2016: U Kentucky, HKUST, U Virginia
2015: NUS, Emory, “G2 at GW” conference at GWU
2014: USC, UCLA, Indiana U, International Symposium on Econometrics at Shanghai University of Economics and Finance
2013: Texas A&M, Rice, U Wisconsin-Madison, Georgetown U, LSE, ES North American Winter Meeting
2012: U Wisconsin-Milwaukee, U Toronto, Boston College, CeMMAP conference "Measurement Error and Related Topics"
2011: 16th World Congress of IEA , U Pittsburgh, U Maryland, Vanderbilt
2010: U Arizona, UT-Austin, Brown, Columbia, USC, UC-Davis, ES World Congress
2009: International Symposium on Econometric Theory and Applications, ES Far East and South Asia Meeting, U Minnesota, U Virginia, U Michigan, NYU
2008: UPenn, ES Far East and South Asia Meeting, PSU, Harvard, UCL, Clark U, MIT, Boston U, Greater New York Econometrics Colloquium, U Montreal
2007: Yale, JHU, ES North American Summer Meeting, UWO, OSU, JHU Economics & Biostatistics Joint Workshop
2006: UT-ITAM conference, SEA annual meeting, ES North American Summer Meeting, NYU, IZA
2005: ES World Congress, Texas Econometrics Camp.
2004: ES North American Summer Meeting, Texas Econometrics Camp, UT-Austin
2003: Georgetown, Queen’s U, UBC, UT-Austin, U Toronto, UWO