VICTOR CHERNOZHUKOV

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Web: victorchernozhukov.com
Book: causalml-book.org
Scholar Profile: V. Chernozhukov
Google Scholar metrics (Jan 2026): 42,483 citations; h-index 83; i10-index 142.

EDUCATION

Stanford University, Ph.D. Economics, 2000. Dissertation: Conditional Extremes and Near-Extremes: Concepts, Inference, and Economic Applications. Committee: T. Amemiya, P. Bajari, T. MaCurdy.

University of Illinois at Urbana-Champaign, M.S. Statistics, 1997

CURRENT ACADEMIC POSITIONS

Massachusetts Institute of Technology, Department of Economics & Center for Statistics and Data Science, Professor, 2008-present;

University College London, Honorary Professor and CEMMAP Fellow; since 2023.

PREVIOUS ACADEMIC POSITIONS

University of Chicago, Department of Economics, Visiting Associate Professor, Spring 2007

Massachusetts Institute of Technology, Department of Economics, Associate Professor (with tenure), 2005-2008

Massachusetts Institute of Technology, Department of Economics, Assistant Professor, 2000-2005

ACADEMIC SERVICE

Inaugural Moderator of the Economics (Econometrics) ArXiv (launch September 2017).
Co-initiated the launch of the Economics section of Arxiv and was elected to serve as its inaugural moderator.

Co-author of the Dual Ph.D. degree in Statistics + X at MIT — new Interdisciplinary Ph.D. program by the MIT's Institute for Data, Systems, and Society and Departments of Economics, Mathematics, Political Science, and others;

Co-author of the new B.S. degree 6-14 in Computer Science, Economics, and Data Science at MIT;

Co-author of the Minor in Statistics for B.S. degree candidates at MIT.

Co-organizer and co-founder of the MIT Stochastics and Statistics Seminar.

Co-adviser to Doctoral and Post-Doctoral Scholars. Christian Hansen, Allen Ferrell, Ivan Fernandez-Val, Alfred Galichon, Alexandre Belloni, Konrad Menzel, Igor Makarov, Mathew Harding, Oleg Rytchkov, Moshe Cohen, Paul Schrimpf, Arun Chandraksekhar, Denis Chetverikov, Blaise Melly, Kengo Kato, Kaspar Wuthrich, Tetsuya Kaji, Vira Semenova, Yaroslav Mukhin, Mert Demirer, Rahul Singh, Suhas Vijaykumar, Victor Quintas-Martinez, Sylvia Klosin.

Co-Author of the Online Professional Education Class at the MIT xPro platform: "Data Science: Data to Insights," 2015-present

Instructor in Summer and Short Courses on "Machine Learning for Causal and Structural Inference",

NBER, St. Gallen, Ljubljana University, The Swiss Bank Study Center at Gerzensee , Georgetown University, CEMMAP

Co-Editor for Econometrics Journal; Economic Theory; Econometric Theory (past).

Co-Author of a new editorial policy for Econometrics Journal, meant to have papers focusing on key ideas, while dramatically shortening the submission-to-publication times.

INDUSTRY SERVICE

Amazon. Com (Core Artificial Intelligence); Senior Principal Scientist; 2018-2020; Amazon Scholar since 2020

Amazon. Com (Central Economics); Independent Consultant on Data Analytics, 2015-2018

The State Street Corporation (Operational Risk Division); Independent Consultant, 2009-2012;

AWARDS, HONORS, GRANTS

Inaugural Sir David Cox Lecture, Institute of Mathematical Statistics and Bernoulli World Congress, 2024.

Fisher-Shultz Lecture, Econometric Society, 2019.

Bessel Award, Humboldt Foundation, Awarded in 2018.

Fellow of the Institute of Mathematical Statistics, 2019; "for pathbreaking contributions to high-dimensional statistics".

American Academy of Arts and Sciences, Fellow, Elected in 2016.

E.J. Hannan Lecture, The Australasian Econometric Society Meeting, 2016

Best Graduate Teacher, MIT Economics Department, Elected by Economics Graduate Student Association, 2015.

Inaugural Cowles Foundation Lecture, North American Econometric Society Meeting, 2009

Fellow of the Econometric Society, Elected in 2009

International Fellow, University College London, CEMMAP, 2009-present

Alfred P. Sloan Research Fellowship, 2005-2007

Castle-Krob Career Development Chair, 2004-2007

Arnold Zellner Award, 2005;
    Selection Committee: D. Andrews, B. Hansen, G. Koop, and A. Lewbel.

Alfred P. Sloan Doctoral Dissertation Fellowship, 1999-2000

American Collegiate Consortium Scholarship, 1993-1994

National Science Foundation, 2002-2018

RESEARCH

Causal Inference with High-Dimensional Data Using Machine Learning and Artificial Intelligence. We develop double/debiased machine learning methods for estimating structural and causal effects, including heterogeneous treatment effects, policy learning, and inference for counterfactual and synthetic control analyses. Recent work studies automatic debiasing via Riesz representers and conditional influence functions, and it emphasizes robustness to covariate shift, sample selection, and high-dimensional dependence. Applications include AI-powered demand and hedonic price analysis, agentic economic modeling, and evaluation of policy interventions in high-dimensional panel, spatial, and network settings.

Sensitivity and Bounds Analysis, Moment Inequalities, Inference on Sets. We study partial identification and set-valued parameters, focusing on intersection bounds, many moment inequalities, and uniform/subvector inference. Recent work connects bounds and sensitivity analysis with debiased machine learning for sample selection and related missing-data problems. Applications include Hansen–Jagannathan bounds in finance and bounds-based decompositions of racial and gender wage gaps and their heterogeneity.

Quasi-Bayesian Estimation and Inference. We develop computationally efficient quasi-Bayesian meth-

ods for GMM and related extremum problems, including recent work on "plausible" GMM that yields interpretable uncertainty without a fully specified likelihood. We analyze computational complexity and provide sandwich-type adjustments that align Bayesian-style credible sets with frequentist coverage in large samples and high-dimensional regimes.

Shape Restrictions in Econometric Models. We exploit monotonicity, convexity, and noncrossing restrictions through rearrangement and shape-enforcing operators to stabilize estimation of distribution and quantile functions. Current work extends distribution regression and quantile methods to panels and networks, and to sample selection, enabling inference on counterfactual distributions, intergenerational mobility, and wage decompositions. Related tools include improved approximations based on Edgeworth and Cornish–Fisher expansions.

High-Dimensional Central Limit Theorems, Gaussian Approximations, and Bootstrap. We develop central limit theorems and nonasymptotic Gaussian approximation results for maxima and suprema of high-dimensional statistics, including uniform approximations over hyperrectangles (rectangular regions) and other index sets, even when the ambient dimension p can far exceed the sample size n (that is, $p \gg n$). We also develop multiplier and empirical bootstrap methods that deliver accurate simultaneous inference. These tools support uniform confidence bands and valid post-selection/post-regularization inference, and they extend to weakly dependent time series and to spatial and network data. Applications include lasso-driven inference in time and space, inference in high-dimensional graphical models, and uniform inference on high-dimensional spatial panel networks.

Extremes and Nonstandard Models. We develop inference for extreme and near-extreme conditional quantiles and tail risk measures, as well as inference in experiments and quasi-experiments with heavy-tailed data. Applications include market and birthweight risks and other settings where rare events and tail behavior are central. We also study nonregular econometric models with nonregular likelihoods, including models of equilibrium search, auctions, and production frontiers.

BOOKS

Handbook of Quantile Regression;
with R. Koenker et. al.; 2017;
CRC Press.

Applied Causal Inference Powered by ML and AI;
with C. Hansen, N. Kallus, M. Spindler and V. Syrgakanis;
causalml-book.org; arXiv:2403.02467

Adventures in Introductory Econometrics,
with D. Chetverikov, I. Fernandez-Val, W. Newey;
draft

Advances in Economics and Econometrics: Twelfth World Congress (edited vol) with Johannes Hörner and Eliana La Ferrara Cambridge University Press / Econometric Society Monographs, Vol. 2, 2025

PAPERS (papers dated after 2007 or so are all available via ARXIV.ORG)

1. "Conditional Value-at-Risk: Aspects of Modeling and Estimation"
   with L. Umantsev;
   Empirical Economics, 2001, Vol. 26, pp. 271–293

2. "Three-Step Censored Quantile Regression and Extramarital Affairs"
   with H. Hong;
   Journal of the American Statistical Association, 2002, Vol. 97, No. 459, pp. 872–882

3. "An MCMC Approach to Classical Estimation" with H. Hong;
   Journal of Econometrics, 2003, Vol.
   115, No. 2, pp. 293–346
   Awarded the 2005 Biannual Arnold Zellner Award.
   Selection Committee: D. Andrews, B. Hansen, G. Koop, and A. Lewbel.

4. "Likelihood Inference in a Class of Non-Regular Econometric Models,"

with H. Hong,
Econometrica, vol.72 (2), pp. 1445-1480, 2004.

5. "The Impact of 401(k) Participation on the Wealth Distribution: An Instrumental Quantile Regression Analysis"
with C. Hansen
The Review of Economics and Statistics, 2004, Vol. 86, No. 3, pp. 735–751

6. "An Instrumental Variable Model of Quantile Treatment Effects"
with C. Hansen
Econometrica, 2005, Vol. 73, No. 1, pp. 245–261

7. Extremal Quantile Regression"
The Annals of Statistics, 2005, Vol. 33, No. 2, pp. 806–839

8. "Subsampling Inference on Quantile Regression Processes (with an Application to a Re-employment Experiment)"
with I. Fernández-Val
Sankhyā: The Indian Journal of Statistics, 2005, Vol. 67, No. 2, pp. 253–276

9. "Inference on Instrumental Quantile Processes for Structural and Treatment Effect Models"
with C. Hansen
Journal of Econometrics, 2006, Vol. 132, No. 2, pp. 491–525

10. "Quantile Regression under Misspecification and the U.S. Wage Structure"
with J. Angrist and I. Fernández-Val
Econometrica, 2006, Vol. 74, No. 2, pp. 539–563

11. "Estimation and Inference on Parameter Sets in Econometric Models"
with H. Hong and E. Tamer
Econometrica, 2007, Vol. 75, No. 5, pp. 1243–1284

12. "Extremal Quantiles and Value-at-Risk"
with Songzi Du
The New Palgrave Dictionary of Economics, 2008

13. "Instrumental Variable Identification and Estimation of Non-separable Models"
with G. Imbens and W. Newey
Journal of Econometrics, 2007, Vol. 139, No. 1, pp. 4–29

14. "The Reduced Form: A Simple Approach to Inference with Weak Instruments"
with C. Hansen
Economics Letters, 2007, Vol. 95, No. 2, pp. 241–246

15. "Instrumental Quantile Regression: A Robust Inference Approach"
with C. Hansen
Journal of Econometrics, 2008, Vol. 142, No. 1, pp. 379–398

16. "Finite-Sample Inference in Quantile Regression Models"
with C. Hansen and M. Jansson
Journal of Econometrics, 2009, Vol. 152, No. 2, pp. 93–103

17. "Admissible Tests for Instrumental Regression"
with C. Hansen and M. Jansson
Econometric Theory, 2007, Vol. 23, No. 2, pp. 312–334

18. "Computational Complexity of MCMC-Based Estimators in Large Samples"
with A. Belloni
The Annals of Statistics, 2009, Vol. 37, No. 4, pp. 2011–2055

19. "Improving Point and Interval Estimators of Monotonic Functions by Rearrangement"
with I. Fernández-Val and A. Galichon
Biometrika, 2009, Vol. 96, No. 3, pp. 559–575

20. "Quantile and Probability Curves without Crossing"
with I. Fernández-Val and A. Galichon

Econometrica, 2010, Vol. 78, No. 3, pp. 1093–1125

21. "Rearranging Edgeworth-Cornish-Fisher Expansions"
    with I. Fernández-Val and A. Galichon
    Economic Theory, 2010, Vol. 42, No. 2, pp. 247–268

22. "Sensitivity and Set-Identification Analysis of the Regression Model with Tobin Regressors"
    with T. Stoker and R. Rigobon
    Quantitative Economics, 2010, Vol. 1, No. 2, pp. 365–396

23. "Inference for Extremal Quantile Regression Models, with an Application to Market and Birthweight Risks"
    with I. Fernández-Val
    The Review of Economic Studies, 2011, Vol. 78, No. 2, pp. 559–589

24. "L1-Penalized Quantile Regression in High-Dimensional Sparse Models"
    with A. Belloni
    The Annals of Statistics, 2011, Vol. 39, No. 1, pp. 82–130

25. "High-Dimensional Sparse Econometric Models: An Introduction"
    with A. Belloni
    Springer Lecture Notes, 2011

26. "Square Root Lasso: Pivotal Recovery of Sparse Functions via Conic Programming"
    with A. Belloni and L. Wang
    Biometrika, 2011, Vol. 98, No. 4, pp. 791–806

27. "Sparse Models and Methods for Instrumental Regression with Application to Eminent Domain"
    with A. Belloni, C. Hansen, and D. Chen
    Econometrica, 2012, Vol. 80, No. 6, pp. 2369–2429

28. "Intersection Bounds: Estimation and Inference"
    with S. Lee and A. Rosen
    Econometrica, 2013, Vol. 81, No. 3, pp. 667–737

29. "Average and Quantile Effects in Nonlinear Panel Data Models"
    with J. Hahn, I. Fernández-Val, and W. Newey
    Econometrica, 2013, Vol. 81, No. 6, pp. 3049–3083

30. "Least Squares after Model Selection in High-Dimensional Linear Regression Model"
    with A. Belloni
    Bernoulli, 2013, Vol. 19, No. 2, pp. 521–547

31. "Inference Methods for High-Dimensional Sparse Econometric Models"
    with A. Belloni and C. Hansen
    Advances in Economics and Econometrics, 2013, Vol. 3, pp. 245–295

32. Quantile Models with Endogeneity"
    with C. Hansen
    Annual Review of Economics, 2013, Vol. 5, pp. 57–81

33. "Inference on Counterfactual Distributions"
    with I. Fernández-Val and B. Melly
    Econometrica, 2013, Vol. 81, No. 6, pp. 2205–2268

34. "Gaussian Approximations and Gaussian Multiplier Bootstrap for Maxima of Sums of High-Dimensional Random Vectors"
    with D. Chetverikov and K. Kato
    Annals of Statistics, 2013, Vol. 41, No. 6, pp. 2786–2819

35. "Identification in Semiparametric and Nonparametric Conditional Moment Models"
    with X. Chen, S. Lee, and W. Newey
    Econometrica, 2014, Vol. 82, No. 2, pp. 765–809

36. "Comparison and Anti-Concentration Bounds for Maxima of Gaussian Vectors"
    with D. Chetverikov and K. Kato

Probability Theory and Related Fields, 2015, Vol. 162, No. 1–2, pp. 47–70

37. "Inference on Treatment Effects with High-Dimensional Controls, with Application to Abortion and Crime"
with A. Belloni and C. Hansen
The Review of Economic Studies, 2014, Vol. 81, No. 2, pp. 608–650

38. "Posterior Inference in Curved Exponential Families under Increasing Dimension"
with A. Belloni
Econometrics Journal, 2014, Vol. 17, No. 2, pp. S1–S26

39. "Pivotal Estimation via Square-Root Lasso in Non-parametric Regression"
with A. Belloni and L. Wang
Annals of Statistics, 2014, Vol. 42, No. 2, pp. 757–788

40. "Inference on Structural and Treatment Effects with High-Dimensional Data"
with A. Belloni and C. Hansen
Journal of Economic Perspectives, 2014, Vol. 28, No. 2, pp. 29–50

41. "Gaussian Approximation of Suprema of Empirical Processes"
with D. Chetverikov and K. Kato
Annals of Statistics, 2014, Vol. 42, No. 4, pp. 1564–1597

42. "Anti-Concentration and Confidence Bands in Nonparametric Problems"
with D. Chetverikov and K. Kato
Annals of Statistics, 2014, Vol. 42, No. 5, pp. 1787–1818

43. "Inference on Sets in Finance"
with E. Kokatulum and K. Menzel
Quantitative Economics, 2015, Vol. 6, No. 2, pp. 383–421

44. "Quantile Regression under Censoring and Endogeneity"
with I. Fernández-Val and A. Kowalski
Journal of Econometrics, 2015, Vol. 186, No. 1, pp. 201–221

45. "Uniform Post-Selection Inference in LAD Regression and Other Z-Estimation Problems"
with A. Belloni and K. Kato
Biometrika, 2014, Vol. 101, No. 4, pp. 749–766

46. "Fragility of Asymptotic Agreement under Bayesian Learning"
with D. Acemoglu and M. Yildiz
Theoretical Economics, 2015, Vol. 10, No. 2, pp. 437–476

47. "Some New Asymptotic Theory for Least Squares Series Estimators"
with A. Belloni, D. Chetverikov, and K. Kato
Journal of Econometrics, 2015, Vol. 186, No. 2, pp. 345–366

48. "Nonparametric Identification in Panels Using Quantiles"
with I. Fernández-Val, W. Newey, et al.
Journal of Econometrics, 2015, Vol. 188, No. 2, pp. 439–456

49. "Implementing Intersection Bounds in Stata"
with W. Kim, S. Lee, and A. Rosen
Stata Journal, 2015, Vol. 15, No. 3, pp. 1–21

50. "Post-Selection and Post-Regularization Inference in Large Linear Models with Many Controls and Instruments"
with C. Hansen and M. Spindler
American Economic Review, Papers and Proceedings, 2015, Vol. 105, No. 5, pp. 482–486

51. "Post-Selection and Post-Regularization Inference: An Elementary, General Approach"
with C. Hansen and M. Spindler
Annual Review of Economics, 2015, Vol. 7, pp. 649–688

52. "Censored Quantile Instrumental Variable Estimation with Stata"
with I. Fernández-Val, Sukjin Han, and Amanda Kowalski

The Stata Journal, 2019, Vol. 19, No. 4, pp. 768–781

53. "Honest Confidence Regions for High-Dimensional Sparse Generalized Linear Models"
with A. Belloni and W. Ying
Journal of Business and Economic Statistics, 2016, Vol. 34, No. 4, pp. 483–502

54. "Inference on Treatment Effects with High-Dimensional Panel Data, with an Application to Gun Control"
with D. Kozbur and C. Hansen
Journal of Business and Economic Statistics, 2016, Vol. 34, No. 4, pp. 535–546

55. "Empirical and Gaussian Bootstraps for Suprema of Empirical Processes of Increasing Complexity, and Related Gaussian Couplings"
with D. Chetverikov and K. Kato
Stochastic Processes and Their Applications, 2016, Vol. 126, No. 12, pp. 3721–3757

56. "Vector Quantile Regression"
with G. Carlier and A. Galichon
Annals of Statistics, 2016, Vol. 44, No. 3, pp. 1165–1192

57. "Program Evaluation with High-Dimensional Data"
with A. Belloni, C. Hansen, and I. Fernández-Val
Econometrica, 2017, Vol. 85, No. 1, pp. 233–298

58. "A Lava Attack on the Recovery of Sums of Sparse and Dense Signals"
with C. Hansen and Y. Liao
Annals of Statistics, 2017, Vol. 45, No. 3, pp. 1206–1236

59. "Monge-Kantorovich Depth, Quantiles, and Ranks"
with A. Galichon, M. Hallin, and M. Henry
Annals of Statistics, 2017, Vol. 45, No. 5, pp. 2234–2257

60. "Central Limit Theorems and Bootstrap in High Dimensions"
with D. Chetverikov and K. Kato
Annals of Probability, 2017, Vol. 45, No. 5, pp. 2309–2351

61. "Double/Debiased/Neyman Machine Learning for Treatment Effects"
with Denis Chetverikov, Mert Demirer, Esther Duflo, Christian Hansen, and Whitney Newey
American Economic Review, Papers & Proceedings, 2017, Vol. 107, No. 5, pp. 261–265

62. "Double/De-Biased Machine Learning for Treatment and Causal Parameters"
with Denis Chetverikov, Mert Demirer, Esther Duflo, Christian Hansen, Whitney Newey, and James Robins
Econometrics Journal, 2018

63. "HDM: High-Dimensional Metrics"
with C. Hansen and M. Spindler
The R Journal, 2016, Vol. 8, No. 2, pp. 185–199

64. "Quantreg.nonpar: An R Package for Performing Nonparametric Series Quantile Regression"
with M. Lipsitz, I. Fernández-Val, and A. Belloni
The R Journal, 2017, Vol. 9, No. 2, pp. 305–321

65. "Counterfactual: An R Package for Counterfactual Analysis"
with Mingli Chen, Iván Fernández-Val, and Blaise Melly
The R Journal, 2018, Vol. 10, No. 1, pp. 372–386

66. The Sorted Effects Method: Discovering Heterogeneous Partial Effects Beyond Their Averages
with I. Fernández-Val and Y. Luo
Econometrica, 2018, Vol. 86, No. 4, pp. 1181–1205

67. Inference on Causal and Structural Parameters Using Many Moment Inequalities
with D. Chetverikov and K. Kato
Review of Economic Studies, 2019, Vol. 86, No. 5, pp. 1867–1900

68. Robust Inference in Approximately Sparse Quantile Regression Models

with A. Belloni and K. Kato
Journal of the American Statistical Association, 2019, Vol. 114, No. 527, pp. 1784–1796

69. Uniformly Valid Post-Regularization Confidence Regions for Many Functional Parameters in Z-Estimation Framework
with A. Belloni, V. Chernozhukov, D. Chetverikov, and Y. Wei
Annals of Statistics, 2018, Vol. 46, No. 6A, pp. 3643–3675

70. Vector Quantile Regression Beyond Correct Specification
with G. Carlier and A. Galichon
Journal of Multivariate Analysis, 2018, Vol. 161, pp. 96–102

71. Conditional Quantile Processes Based on Series or Many Regressors (with an Application to Gasoline Demand)
with A. Belloni, D. Chetverikov, and I. Fernández-Val
Journal of Econometrics, 2019, Vol. 213, No. 1, pp. 4–29.

72. "Generic Inference on Quantile and Quantile Effect Functions for Discrete Outcomes"
with Iván Fernández-Val, Blaise Melly, and Kaspar Wüthrich
Journal of the American Statistical Association, 2020, Vol. 115, No. 529, pp. 123–137

73. "Nonseparable Multinomial Choice Models in Cross Section and Panel Data"
with I. Fernández-Val and W. Newey
Journal of Econometrics, 2021

74. "On Cross-Validated Lasso"
with D. Chetverikov and Z. Liao
Annals of Statistics, 2021, Vol. 49, No. 3, pp. 1300–1317

75. "Identification of Hedonic Equilibrium and Nonseparable Simultaneous Equations"
with A. Galichon, M. Henry, and B. Pass
Journal of Political Economy, 2021, Vol. 129, No. 3, pp. 842–870

76. "Shape-Enforcing Operators for Point and Interval Estimators"
with Xi Chen, I. Fernández-Val, Scott Kostyshak, and Y. Luo
Journal of Machine Learning Research, 2021, Vol. 22, Paper No. 220, pp. 1–42

77. "Network and panel quantile effects via distribution regression"
with I. Fernández-Val and M. Weidner
Journal of Econometrics, 2024, Vol. 240, No. 2, 105009

78. "Debiased Machine Learning of Conditional Average Treatment Effects and Other Causal Functions"
with Vira Semenova
The Econometrics Journal, 2021, Vol. 24, Issue 2, pp. 264–289

79. "An Exact and Robust Conformal Inference Method for Counterfactual and Synthetic Controls"
with Kaspar Wüthrich and Yinchu Zhu
Journal of the American Statistical Association, 2021, Vol. 116, No. 536, pp. 1849–1864

80. "Semi-Parametric Estimation of Structural Functions in Nonseparable Triangular Models"
with I. Fernández-Val, W. Newey, S. Stouli, and Francis Vella
Journal of Econometrics, 2020, Vol. 218, No. 2, pp. 758–783

81. "Detailed Proof of Nazarov's Inequality"
with K. Kato and D. Chetverikov
ArXiv Only, 2017, arXiv:1701.07857

82. "The Impact of Big Data on Firm Performance: An Empirical Investigation"
with P. Bajari, A. Hortacsu, and J. Suzuki
American Economic Association Papers and Proceedings, 2019, Vol. 109, pp. 33–37

83. "Exact and Robust Conformal Inference Methods for Predictive Machine Learning with Dependent Data"
with K. Wüthrich and Y. Zhu
Proceedings of the 31st Conference on Learning Theory (COLT), 2018, pp. 732–751

84. "Debiased machine learning of global and local parameters using regularized Riesz representers"
with W. K. Newey and R. Singh
The Econometrics Journal, 2022, Vol. 25, Issue 1, pp. 1–24 (arXiv 2018)

85. "Automatic Debiased Machine Learning of Causal and Structural Effects"
with W. Newey and R. Singh
Econometrica, 2022, Vol. 90, No. 3, pp. 967–1008

86. "Lasso-driven inference in time and space"
with W. Karl Härdle, C. Huang, and W. Wang
The Annals of Statistics, 2021, Vol. 49, No. 3, pp. 1702–1735

87. "Optimal Targeted Lockdowns in a Multi-Group SIR Model"
with D. Acemoglu, M. Whinston, and I. Werning
American Economic Review: Insights, 2021, Vol. 3, No. 4, pp. 487–502

88. "Insights from optimal pandemic shielding in a multi-group SEIR framework"
with P. Bach and M. Spindler
arXiv preprint arXiv:2011.01092, 2020

89. "Causal impact of masks, policies, behavior on early COVID-19 pandemic in the US"
with H. Kasahara and P. Schrimpf
Journal of Econometrics, 2021; arXiv preprint arXiv:2005.14168 (May 2020)

90. "A Response to Philippe Lemoine's Critique on our Paper "Causal Impact of Masks, Policies, Behavior on Early COVID-19 Pandemic in the US""
with H. Kasahara and P. Schrimpf
arXiv preprint arXiv:2110.06136, 2021

91. "Comments on the 'John Hopkins' Meta Study (Herby et al., 2022) and Chisadza et al. (2021)"
with H. Kasahara and P. Schrimpf
March 2022. Available via cdn.factcheck.org (UploadedFiles/Chernozhukov-Kasahara...)

92. "Vector Quantile Regression and Optimal Transport, from Theory to Numerics"
with G. Carlier, G. De Bie, and A. Galichon
Empirical Economics, 2022, Vol. 62, No. 1, pp. 35–62

93. "The Association of Opening K-12 Schools and Colleges with the Spread of COVID-19 in the United States: County-Level Panel Data Analysis"
with H. Kasahara and P. Schrimpf
Proceedings of the National Academy of Sciences, 2021, Vol. 118, No. 42, e2103420118

94. "Inference on Heterogeneous Treatment Effects in High-Dimensional Dynamic Panels under Weak Dependence"
with V. Semenova, M. Goldman, and M. Taddy
Quantitative Economics, 2023; to appear; arXiv preprint arXiv:1712.09988

95. "Improved Central Limit Theorem and Bootstrap Approximations in High Dimensions"
with D. Chetverikov, K. Kato, and Y. Koike
Annals of Statistics, 2022, Vol. 50, No. 5, pp. 2921–2957

96. "Distributional Conformal Prediction"
with K. Wüthrich and Y. Zhu
Proceedings of the National Academy of Sciences, 2021, Vol. 118, No. 48, e2107794118

97. "Fast Algorithms for the Quantile Regression Process"
with I. Fernández-Val and B. Melly
Empirical Economics, 2021, Vol. 60, No. 1, pp. 1–31

98. "QRPROCESS: Stata module for quantile regression: fast algorithm, pointwise and uniform inference"

with I. Fernández-Val and B. Melly
Boston College Department of Economics (Stata module), 2020

99. "Sorted Effects: Sorted Causal Effects in R"
with S. Chen, I. Fernández-Val, and Y. Luo
R Journal, 2020, Vol. 12, No. 1, pp. 131–148

100. "Mastering Panel Metrics: Causal Impact of Democracy on Growth"
with S. Chen and I. Fernández-Val
AEA Papers and Proceedings, 2020, Vol. 110, pp. 77–82

101. "Deeply-Debiased Off-Policy Interval Estimation"
with Chengchun Shi, Runzhe Wan, and Rui Song
International Conference on Machine Learning, 2021, Proceedings of Machine Learning Research, Vol. 139, pp. 9580–9591

102. "RieszNet and ForestRiesz: Automatic Debiased Machine Learning with Neural Nets and Random Forests"
with W. Newey, V. Syrgkanis, and V. Quintas-Martinez
International Conference on Machine Learning, 2022, Proceedings of Machine Learning Research, Vol. 162, pp. 3901–3914

103. "DoubleML—An Object-Oriented Implementation of Double Machine Learning in Python"
with P. Bach, M. Kurz, and M. Spindler
Journal of Machine Learning Research, 2022, Vol. 23, Paper No. 53, pp. 1–6

104. "Locally Robust Semi-Parametric Estimation"
with Juan Carlos Escanciano, Hidehiko Ichimura, Whitney K. Newey, and James Robins
Econometrica, 2022, Vol. 90, No. 4, pp. 1501–1535

105. "A Simple and General Debiased Machine Learning Theorem with Finite Sample Guarantees"
with W. Newey and R. Singh
Biometrika, 2023, Vol. 110, No. 1, pp. 257–264

106. "Nearly Optimal Central Limit Theorem and Bootstrap in High Dimensions"
with D. Chetverikov and Yuta Koike
Annals of Applied Probability, 2023, Vol. 33, No. 4, pp. 2345–2377

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