Stanford



Robert Tibshirani

Professor of Biomedical Data Science and of Statistics

Department of Biomedical Data Science

Curriculum Vitae available Online

Bio

BIO

Robert Tibshirani's main interests are in applied statistics, biostatistics, and data mining. He is co-author of the books "Generalized Additive Models" (with Trevor Hastie, Stanford), "An Introduction to the Bootstrap" (with Brad Efron, Stanford), and "Elements of Statistical Learning" (with Trevor Hastie and Jerry Friedman, Stanford). His current research focuses on problems in biology and genomics, medicine, and industry. With Stanford collaborator Balasubramanian Narasimhan, he also develops software packages for genomics and proteomics.

ACADEMIC APPOINTMENTS

- Professor, Department of Biomedical Data Science
- Professor, Statistics
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Stanford Cancer Institute
- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- Professor, Department of Biomedical Data Science and Department of Statistics, Stanford University, (2015- present)
- Professor, Department of Health Research and Policy and Department of Statistics, Stanford University, (1998-2015)
- Professor, Department of Public Health Sciences and Department of Statistics, University of Toronto, (1994-1998)
- Associate Professor, Department of Statistics, University of Toronto, (1989-1994)
- Associate Professor, Department of Preventive Medicine and Biostatistics, University of Toronto, (1989-1994)
- Assistant Professor, Department of Statistics, University of Toronto, (1985-1989)
- Assistant Professor, Department of Preventive Medicine and Biostatistics, University of Toronto, (1985-1989)

HONORS AND AWARDS

- Doctor Honoris Causa, University of Waterloo (2018)
- Elected Member, National Academy of Sciences (2012)
- Gold Medal, Statistical Society of Canada (2012)
- Alumni Achievement Award, University of Waterloo (2006)
- Fellow, Royal Society of Canada (2001)
- CRM-SSC Prize in Statistics, Statistical Society of Canada (2000)

- E.W. Steacie Memorial Fellowship, Natural Sciences and Engineering Research Council of Canada (1997)
- President's Award, Committee of Presidents of Statistical Societies (1996)
- Guggenheim Fellowship, J. Guggenheim Foundation (1994)
- Fellow, Institute of Mathematical Statistics (1993)
- Fellow, American Statistical Association (1992)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Associate Editor, Annals of Applied Statistics (2006 - present)
- Associate Editor, PLoS Biology (2001 - 2004)
- Member, Screening Panel, National Science Foundation (1999 - 1999)
- Associate Editor, Annals of Statistics (1998 - present)
- Associate Editor, Statistical Science (1995 - present)
- Chair, Committee on Computerization, Institute of Mathematical Statistics (1995 - present)
- Associate Editor, Canadian Journal of Statistics (1995 - 1997)
- Program Chair, Statistical Computing, American Statistical Association (1995 - 1996)
- Annual Meeting Program Chair, Statistical Society of Canada (1994 - 1994)
- Series Editor, Computing and Graphics Monographs, Chapman & Hall (1994 - 1994)
- Council Member, Institute of Mathematical Statistics (1991 - 1994)
- Member, Statistical Sciences Grant Selection Committee, Natural Sciences and Engineering Research Council of Canada (1989 - 1993)
- Associate Editor, Canadian Journal of Statistics (1988 - 1991)
- Associate Editor, Theory and Methods, Journal of the American Statistical Association (1986 - 1995)

PROFESSIONAL EDUCATION

- B.Math., University of Waterloo , Statistics and Computer Science (1979)
- M.Sc., University of Toronto , Statistics (1980)
- Ph.D., Stanford University , Statistics (1984)

LINKS

- Personal Web Site: https://statistics.stanford.edu/~tibs/
- Statistics Department Profile: https://statistics.stanford.edu/people/robert-tibshirani

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

My research is in applied statistics and biostatistics. I specialize in computer-intensive methods for regression and classification, bootstrap, cross-validation and statistical inference, and signal and image analysis for medical diagnosis.

Teaching

COURSES

2026-27

- Statistical Learning and Data Science: STATS 202 (Win)
- Workshop in Biomedical Data Science: BMDS 280A, STATS 260A (Aut)

2025-26

- Statistical Learning and Data Science: STATS 202 (Win)

2024-25

- Literature of Statistics: STATS 319 (Win)
- Statistical Learning and Data Science [Flipped]: STATS 202F (Win)

2023-24

- Literature of Statistics: STATS 319 (Win)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Josh Kazdan, Leda Liang, Eduardo Lozano Garcia, Sophia Lu, Nick Phillips

Doctoral Dissertation Advisor (AC)

Ryan Goto, Max Schuessler, Min Sun

Master's Program Advisor

Abigail Alemayeho

Doctoral Dissertation Co-Advisor (AC)

Aymen Echarghaoui, Jing Shang, Ivy Zhang

Doctoral (Program)

Yixing Jiang, Gowri Nayar, Betty Xiong

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Biomedical Data Science (PhD Program)
- Immunology (PhD Program)

Publications

PUBLICATIONS

- **Adapting the MasSpec Pen for noninvasive detection of oral cavity squamous cell carcinoma (vol 123, e2603602123, 2026).** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Wolfe, C. A., Mendes, T. V., Jackobs, F., Bench, S., Ma, E. X., Armijo, B. J., Montgomery, A. E., de Brito, R. V., Chone, C. T., Eberlin, M. N., Carvalho, C. P., Ibrahim, J., Huang, et al
  2026; 123 (43): e2603602123

- **Univariate-guided sparse regression for Biobank-scale high-dimensional omics data.** *PLoS genetics*
  Richland, J., Kiiskinen, T., Wang, W., Lu, W. S., Narasimhan, B., Hastie, T., Rivas, M., Tibshirani, R.
  2026; 22 (9): e1012314

- **Adapting the MasSpec Pen for noninvasive detection of oral cavity squamous cell carcinoma.** *Proceedings of the National Academy of Sciences of the United States of America*
  Wolfe, C. A., Mendes, T. V., Jackobs, F., Bench, S., Ma, E. X., Armijo, B. J., Montgomery, A. E., V de Brito, R., Chone, C. T., Eberlin, M. N., Carvalho, C. P., Ibrahim, J., Huang, et al
  2026; 123 (32): e2603602123

- **CuGen: A GPU-accelerated framework for large-scale genomics.** *medRxiv : the preprint server for health sciences*
  Kiiskinen, T., Richland, J., Wang, W., Lu, S., Narasimhan, B., Hastie, T., Tibshirani, R., Rivas, M. A.
  2026

- **Cell Cycle Sensing Shapes Human T Cell Fate and Exhaustion Programs.** *bioRxiv : the preprint server for biology*
  Amouzgar, M., Murty, T., Favaro, P., Sotillo, E., Bruce, T., Ho, D., Lam, A. J., Tibshirani, R., Mackall, C. L., Bendall, S. C.
  2026
- **Wavelet Decomposition-Based Genomic Analysis of the Human Electrocardiogram.** *medRxiv : the preprint server for health sciences*
  Zainana, S., Lauer, L., Kiiskinen, T., Tibshirani, R., Hastie, T., Ashley, E. A., O'Sullivan, J. W., Rivas, M. A.
  2026
- **Utilization and Survival Benefit of Adjuvant Therapy in IB vs IIA Non-Small Cell Lung Cancer Tumors: Real-World Evidence from the US**
  Schuessler, M., Sverdrup, E., Leppert, J. T., Wakelee, H., Tibshirani, R., Wager, S., Neal, J.
  ELSEVIER SCIENCE INC.2026
- **Structure-Preserving Multivariate Hypothesis Testing for Mass Spectrometry Imaging and Single-Cell Data.** *Bioinformatics (Oxford, England)*
  Liebenberg, K. E., Craig, E., Tibshirani, R., Eberlin, L. S.
  2026
- **Temporal and spatial composition of the tumor microenvironment predicts response to immune checkpoint inhibition in metastatic TNBC.** *Nature cancer*
  Greenwald, N. F., Nederlof, I., Sowers, C., Ding, D. Y., Park, S., Kong, A., Houlahan, K. E., Varra, S. R., de Graaf, M., Geurts, V., Liu, C. C., Ranek, J. S., Voorwerk, et al
  2026
- **Programmable JAK/STAT signaling drives CAR T cells to enhanced functional states**
  Cho, W., Liu, J. Y., Beckett, A. N., Craig, E., Brademan, D. R., Lunger, J. C., Xu, P., Ho, K., Chen, E. E., Salcido-Alcantar, A., Sant'anna, L. E., Obbad, K., Po, et al
  AMER ASSOC CANCER RESEARCH.2026
- **Prognostic pan-cancer and single-cancer models: A large-scale analysis using a real-world clinico-genomic database.** *PloS one*
  McGough, S. F., Lyalina, S., Incerti, D., Huang, Y., Tyanova, S., Mace, K., Harbron, C., Copping, R., Narasimhan, B., Tibshirani, R.
  2026; 21 (2): e0341355
- **Pretraining and the lasso.** *Journal of the Royal Statistical Society. Series B, Statistical methodology*
  Craig, E., Pilanci, M., Le Menestrel, T., Narasimhan, B., Rivas, M. A., Gullaksen, S. E., Dehghannasiri, R., Salzman, J., Taylor, J., Tibshirani, R.
  2026; 88 (1): 261-281
- **The addition of dupilumab enhances desensitization and reduces gastrointestinal symptoms in omalizumab-facilitated multi-allergen oral immunotherapy in the COMBINE trial**
  Sindher, S., Long, A., Garcia-Ilorett, M., Leonard, S., Mastej, E., Bogetic, D., Parsons, E., Cao, S., Beaulieu, M., Woch, M., Martinez, K., Raeber, O., Anderson, et al
  MOSBY-ELSEVIER.2026
- **Glaucoma Classification Through SSVEP-Derived ON- and OFF-Pathway Features.** *Translational vision science & technology*
  Scott, M. T., Xu, H., Yakovleva, A., Tibshirani, R., Goldberg, J. L., Norcia, A. M.
  2026; 15 (1): 2
- **Identification of serum protein biomarkers for clear cell renal cell carcinoma using patient-derived xenografts.** *The Journal of clinical investigation*
  Zhang, D., Chiu, C., Garcia Marques, F. J., Bermudez, A., Hoerner, C. R., Hadi, N., Wang, E., Metzner, T. J., Trabanino, L., Leppert, J. T., Zhao, H., Tibshirani, R., Fan, et al
  2026; 136 (1)
- **Adaptive Forward Stepwise: A Method for High Sparsity Regression** *JOURNAL OF MACHINE LEARNING RESEARCH*
  Zhang, I., Tibshirani, R.
  2026; 27
- **MMBU: A Massive Multi-modal Biomedical Understanding Benchmark to Probe the Perception Capabilities of Vision-Language Models**
  D'Cunha, R., Lozano, A., Sun, X., Jarquin, D., Sun, M., Aklilu, J., Burgess, J., Zhang, Y., Robayo, P., Ye, J., Hu, M., Deng, Z., He, et al
  edited by Favaro, P., Kukelova, Z., Maki, A., Rohrbach, A., Schindler, K., Tombari, F.
  SPRINGER INTERNATIONAL PUBLISHING AG.2026: 588-604

- **Using pre-training and interaction modeling for ancestry-specific disease prediction using multiomics data from the UK Biobank.** *PloS one*
  Le Menestrel, T., Craig, E., Tibshirani, R., Hastie, T., Rivas, M.
  2025; 20 (12): e0336861
- **Concussions and risk of a subsequent traffic crash: retrospective cohort analysis in Ontario, Canada.** *BMJ open*
  Redelmeier, D. A., Bhatt, V., Tibshirani, R., Drover, S. S.
  2025; 15 (11): e105391
- **"Univariate-Guided Sparse Regression":Rejoinder** *HARVARD DATA SCIENCE REVIEW*
  Chatterjee, S., Hastie, T., Tibshirani, R.
  2025; 7 (3)
- **Annotation-free discovery of disease-relevant cells in single-cell datasets.** *Science advances*
  Craig, E., Keyes, T. J., Sarno, J., D'Silva, J. P., Domizi, P., Zaslavsky, M., Tsai, A., Glass, D., Nolan, G. P., Hastie, T., Tibshirani, R., Davis, K. L.
  2025; 11 (35): eadv5019
- **Optimal pruning of hierarchical clustering dendrograms** *COMMUNICATIONS IN STATISTICS-THEORY AND METHODS*
  Tibshirani, R., Ge, J.
  2025
- **Univariate-Guided Sparse Regression.** *Harvard data science review*
  Chatterjee, S., Hastie, T., Tibshirani, R.
  2025; 7 (3)
- **Pretraining and the lasso** *JOURNAL OF THE ROYAL STATISTICAL SOCIETY SERIES B-STATISTICAL METHODOLOGY*
  Craig, E., Pilanci, M., Le Menestrel, T., Narasimhan, B., Rivas, M. A., Gullaksen, S., Dehghannasiri, R., Salzman, J., Taylor, J., Tibshirani, R.
  2025
- **Spatial proteomics of Alzheimer's disease-specific human microglial states.** *Nature immunology*
  Mrdjen, D., Cannon, B. J., Amouzgar, M., Kim, Y., Liu, C., Vijayaragavan, K., Camacho, C., Spence, A., McCaffrey, E. F., Bharadwaj, A., Tebaykin, D., Bukhari, S., Bosse, et al
  2025
- **powerROC: An Interactive Web Tool for Sample Size Calculation in Assessing Models' Discriminative Abilities.** *AMIA Joint Summits on Translational Science proceedings. AMIA Joint Summits on Translational Science*
  Grolleau, F., Tibshirani, R., Chen, J. H.
  2025; 2025: 196-204
- **An ultrasensitive method for detection of cell-free RNA.** *Nature*
  Nesselbush, M. C., Luca, B. A., Jeon, Y. J., Jabara, I., Meador, C. B., Garofalo, A., Binkley, M. S., Hui, A. B., van 't Erve, I., Xu, N., Shi, W. Y., Liu, K. J., Sugio, et al
  2025
- **Quantitative characterization of tissue states using multiomics and ecological spatial analysis.** *Nature genetics*
  Ding, D. Y., Tang, Z., Zhu, B., Ren, H., Shalek, A. K., Tibshirani, R., Nolan, G. P.
  2025
- **A review of survival stacking: a method to cast survival regression analysis as a classification problem.** *The international journal of biostatistics*
  Craig, E., Zhong, C., Tibshirani, R.
  2025
- **Disease diagnostics using machine learning of B cell and T cell receptor sequences.** *Science (New York, N.Y.)*
  Zaslavsky, M. E., Craig, E., Michuda, J. K., Sehgal, N., Ram-Mohan, N., Lee, J. Y., Nguyen, K. D., Hoh, R. A., Pham, T. D., Röltgen, K., Lam, B., Parsons, E. S., Macwana, et al
  2025; 387 (6736): eadp2407
- **Genetics of cardiometabolic disease progression.** *medRxiv : the preprint server for health sciences*
  Justesen, J. M., Venkataraman, G., Tanigawa, Y., Li, R., Hastie, T., Tibshirani, R., Knowles, J. W., Rivas, M. A.
  2025

- **Temporal and spatial composition of the tumor microenvironment predicts response to immune checkpoint inhibition.** *bioRxiv : the preprint server for biology*
  Greenwald, N. F., Nederlof, I., Sowers, C., Ding, D. Y., Park, S., Kong, A., Houlahan, K. E., Varra, S. R., de Graaf, M., Geurts, V., Liu, C. C., Ranek, J. S., Voorwerk, et al
  2025
- **powerROC: An Interactive Web Tool for Sample Size Calculation in Assessing Models' Discriminative Abilities.** *AMIA Joint Summits on Translational Science proceedings. AMIA Joint Summits on Translational Science*
  Grolleau, F., Tibshirani, R., Chen, J. H.
  2025; 2025: 196-204
- **BIOMEDICA: An Open Biomedical Image-Caption Archive, Dataset, and Vision-Language Models Derived from Scientific Literature**
  Lozano, A., Sun, M., Burgess, J., Chen, L., Nirschl, J. J., Gu, J., Lopez, I., Aklilu, J., Rau, A., Katzer, A., Zhang, Y., Chiu, C., Wang, et al
  IEEE COMPUTER SOC.2025: 19724-19735
- **Glaucoma classification through SSVEP derived ON- and OFF-pathway features.** *medRxiv : the preprint server for health sciences*
  Scott, M. T., Xu, H., Yakovleva, A., Tibshirani, R., Goldberg, J. L., Norcia, A. M.
  2024
- **Multimodal data fusion using sparse canonical correlation analysis and cooperative learning: a COVID-19 cohort study.** *NPJ digital medicine*
  Er, A. G., Ding, D. Y., Er, B., Uzun, M., Cakmak, M., Sadee, C., Durhan, G., Ozmen, M. N., Tanriover, M. D., Topeli, A., Aydin Son, Y., Tibshirani, R., Unal, et al
  2024; 7 (1): 117
- **CAR19 monitoring by peripheral blood immunophenotyping reveals histology-specific expansion and toxicity.** *Blood advances*
  Hamilton, M. P., Craig, E., Gentille Sanchez, C., Mina, A., Tamaresis, J., Kirmani, N., Ehlinger, Z., Syal, S., Good, Z., Sworder, B., Schroers-Martin, J., Lu, Y., Muffly, et al
  2024
- **Intraoperative Evaluation of Breast Tissues During Breast Cancer Operations Using the MasSpec Pen.** *JAMA network open*
  Garza, K. Y., King, M. E., Nagi, C., DeHoog, R. J., Zhang, J., Sans, M., Krieger, A., Feider, C. L., Bensussan, A. V., Keating, M. F., Lin, J. Q., Sun, M. W., Tibshirani, et al
  2024; 7 (3): e242684
- **Artificial Intelligence Identifies Factors Associated with Blood Loss and Surgical Experience in Cholecystectomy.** *NEJM AI*
  Aklilu, J. G., Sun, M. W., Goel, S., Bartoletti, S., Rau, A., Olsen, G., Hung, K. S., Mintz, S. L., Luong, V., Milstein, A., Ott, M. J., Tibshirani, R., Jopling, et al
  2024; 1 (2): AIoa2300088
- **Smooth multi-period forecasting with application to prediction of COVID-19 cases.** *Journal of computational and graphical statistics : a joint publication of American Statistical Association, Institute of Mathematical Statistics, Interface Foundation of North America*
  Tuzhilina, E., Hastie, T. J., McDonald, D. J., Tay, J. K., Tibshirani, R.
  2024; 33 (3): 955-967
- **Smooth Multi-Period Forecasting With Application to Prediction of COVID-19 Cases** *JOURNAL OF COMPUTATIONAL AND GRAPHICAL STATISTICS*
  Tuzhilina, E., Hastie, T. J., Mcdonald, D. J., Tay, J., Tibshirani, R.
  2024
- **Semi-supervised Cooperative Learning for Multiomics Data Fusion**
  Ding, D., Shen, X., Snyder, M., Tibshirani, R.
  edited by Maier, A. K., Schnabel, J. A., Tiwari, P., Stegle, O.
  SPRINGER INTERNATIONAL PUBLISHING AG.2024: 54-63
- **Evaluating a shrinkage estimator for the treatment effect in clinical trials.** *Statistics in medicine*
  van Zwet, E. W., Tian, L., Tibshirani, R.
  2023
- **Multimodal Biomedical Data Fusion Using Sparse Canonical Correlation Analysis and Cooperative Learning: A Cohort Study on COVID-19.** *Research square*

Er, A. G., Ding, D. Y., Er, B., Uzun, M., Cakmak, M., Sadee, C., Durhan, G., Ozmen, M. N., Tanriover, M. D., Topeli, A., Son, Y. A., Tibshirani, R., Unal, et al
2023

- **Public health factors help explain cross country heterogeneity in excess death during the COVID19 pandemic.** *Scientific reports*
  Sun, M. W., Troxell, D., Tibshirani, R.
  2023; 13 (1): 16196

- **Confidence intervals for the Cox model test error from cross-validation.** *Statistics in medicine*
  Sun, M. W., Tibshirani, R.
  2023

- **Spatial proteomics reveals human microglial states shaped by anatomy and neuropathology.** *Research square*
  Mrdjen, D., Amouzgar, M., Cannon, B., Liu, C., Spence, A., McCaffrey, E., Bharadwaj, A., Tebaykin, D., Bukhari, S., Hartmann, F. J., Kagel, A., Vijayaragavan, K., Oliveria, et al
  2023

- **Distinguishing Renal Cell Carcinoma From Normal Kidney Tissue Using Mass Spectrometry Imaging Combined With Machine Learning.** *JCO precision oncology*
  Shankar, V., Vijayalakshmi, K., Nolley, R., Sonn, G. A., Kao, C. S., Zhao, H., Wen, R., Eberlin, L. S., Tibshirani, R., Zare, R. N., Brooks, J. D.
  2023; 7: e2200668

- **Cross-Validation: What Does It Estimate and How Well Does It Do It?** *JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION*
  Bates, S., Hastie, T., Tibshirani, R.
  2023

- **STABL Enables Reliable and Selective biomarker Discovery in Predictive Modeling of High Dimensional Omics Data**
  Verdonk, F., Hedou, J., Maric, I., Bellan, G., Einhaus, J., Gaudilliere, D., Ladant, F., Stelzer, I., Feyaerts, D., Tsai, A., Bonham, A., Angst, M., Aghaeepour, et al
  LIPPINCOTT WILLIAMS & WILKINS.2023: 814-821

- **Leading edge competition promotes context-dependent responses to receptor inputs to resolve directional dilemmas in neutrophil migration.** *Cell systems*
  Hadjitheodorou, A., Bell, G. R., Ellett, F., Irimia, D., Tibshirani, R., Collins, S. R., Theriot, J. A.
  2023

- **A tissue atlas of ulcerative colitis revealing evidence of sex-dependent differences in disease-driving inflammatory cell types and resistance to TNF inhibitor therapy** *SCIENCE ADVANCES*
  Mayer, A. T., Holman, D. R., Sood, A., Tandon, U., Bhate, S. S., Bodapati, S., Barlow, G. L., Chang, J., Black, S., Crenshaw, E. C., Koron, A. N., Streett, S. E., Gambhir, et al
  2023; 9 (3)

- **A tissue atlas of ulcerative colitis revealing evidence of sex-dependent differences in disease-driving inflammatory cell types and resistance to TNF inhibitor therapy.** *Science advances*
  Mayer, A. T., Holman, D. R., Sood, A., Tandon, U., Bhate, S. S., Bodapati, S., Barlow, G. L., Chang, J., Black, S., Crenshaw, E. C., Koron, A. N., Streett, S. E., Gambhir, et al
  2023; 9 (3): eadd1166

- **Feature-weighted elastic net: using "features of features" for better prediction.** *Statistica Sinica*
  Tay, J. K., Aghaeepour, N., Hastie, T., Tibshirani, R.
  2023; 33 (1): 259-279

- **Improved Relapse Prediction in Pediatric Acute Myeloid Leukemia By Deconvolving Lineage-Specific and CancerSpecific Features in Single-Cell Data**
  Keyes, T., Jager, A., Krueger, M., Plevritis, S., Tibshirani, R., Aplenc, R., Nolan, G. P., Redell, M. S., Davis, K. L.
  AMER SOC HEMATOLOGY.2022: 6288-6289

- **CD8+ T cell differentiation status correlates with the feasibility of sustained unresponsiveness following oral immunotherapy.** *Nature communications*
  Kaushik, A., Dunham, D., Han, X., Do, E., Andorf, S., Gupta, S., Fernandes, A., Kost, L. E., Sindher, S. B., Yu, W., Tsai, M., Tibshirani, R., Boyd, et al
  2022; 13 (1): 6646

- **Cooperative learning for multiview analysis.** *Proceedings of the National Academy of Sciences of the United States of America*
  Ding, D. Y., Li, S., Narasimhan, B., Tibshirani, R.
  2022; 119 (38): e2202113119

- **Post-infusion CAR T-Reg cells identify patients resistant to CD19-CAR therapy** *NATURE MEDICINE*
  Good, Z., Spiegel, J. Y., Sahaf, B., Malipatlolla, M. B., Ehlinger, Z. J., Kurra, S., Desai, M. H., Reynolds, W. D., Lin, A., Vandris, P., Wu, F., Prabhu, S., Hamilton, et al
  2022

- **LARGE-SCALE MULTIVARIATE SPARSE REGRESSION WITH APPLICATIONS TO UK BIOBANK.** *The annals of applied statistics*
  Qian, J., Tanigawa, Y., Li, R., Tibshirani, R., Rivas, M. A., Hastie, T.
  2022; 16 (3): 1891-1918

- **LARGE-SCALE MULTIVARIATE SPARSE REGRESSION WITH APPLICATIONS TO UK BIOBANK** *ANNALS OF APPLIED STATISTICS*
  Qian, J., Tanigawa, Y., Li, R., Tibshirani, R., Rivas, M. A., Hastie, T.
  2022; 16 (3): 1891-1918

- **Prediction and outlier detection in classification problems.** *Journal of the Royal Statistical Society. Series B, Statistical methodology*
  Guan, L., Tibshirani, R.
  2022; 84 (2): 524-546

- **Significant sparse polygenic risk scores across 813 traits in UK Biobank.** *PLoS genetics*
  Tanigawa, Y., Qian, J., Venkataraman, G., Justesen, J. M., Li, R., Tibshirani, R., Hastie, T., Rivas, M. A.
  2022; 18 (3): e1010105

- **Prediction and outlier detection in classification problems** *JOURNAL OF THE ROYAL STATISTICAL SOCIETY SERIES B-STATISTICAL METHODOLOGY*
  Guan, L., Tibshirani, R.
  2022

- **Identification of end-stage renal disease metabolic signatures from human perspiration** *Natural Sciences*
  Shankar, V., Michael, B., Celli, A., Zhou, Z., Ashland, M., Tibshirani, R., Snyder, M., Zare, R.
  2022

- **Can auxiliary indicators improve COVID-19 forecasting and hotspot prediction?** *Proceedings of the National Academy of Sciences of the United States of America*
  McDonald, D. J., Bien, J., Green, A., Hu, A. J., DeFries, N., Hyun, S., Oliveira, N. L., Sharpnack, J., Tang, J., Tibshirani, R., Ventura, V., Wasserman, L., Tibshirani, et al
  1800; 118 (51)

- **Author Correction: Genetics of 35 blood and urine biomarkers in the UK Biobank.** *Nature genetics*
  Sinnott-Armstrong, N., Tanigawa, Y., Amar, D., Mars, N., Benner, C., Aguirre, M., Venkataraman, G. R., Wainberg, M., Ollila, H. M., Kiiskinen, T., Havulinna, A. S., Pirruccello, J. P., Qian, et al
  2021

- **Rapid Screening of COVID-19 Directly from Clinical Nasopharyngeal Swabs Using the MasSpec Pen.** *Analytical chemistry*
  Garza, K. Y., Silva, A. A., Rosa, J. R., Keating, M. F., Povilaitis, S. C., Spradlin, M., Sanches, P. H., Varao Moura, A., Marrero Gutierrez, J., Lin, J. Q., Zhang, J., DeHoog, R. J., Bensussan, et al
  2021

- **Testing for a Sweet Spot in Randomized Trials.** *Medical decision making : an international journal of the Society for Medical Decision Making*
  Redelmeier, D. A., Thiruchelvam, D., Tibshirani, R. J.
  2021: 272989X211025525

- **Author Correction: An inflammatory aging clock (iAge) based on deep learning tracks multimorbidity, immunosenescence, frailty and cardiovascular aging.** *Nature aging*
  Sayed, N., Huang, Y., Nguyen, K., Krejciova-Rajaniemi, Z., Grawe, A. P., Gao, T., Tibshirani, R., Hastie, T., Alpert, A., Cui, L., Kuznetsova, T., Rosenberg-Hasson, Y., Ostan, et al
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