

Jonathan Auerbach

Curriculum Vitae

🏛️ Department of Statistics
George Mason University
4400 University Drive, MS 4A7
Fairfax, VA 22030

✉️ jauerba@gmu.edu 🌐 jauerbach.github.io

updated August 2023

Education

Ph.D. Statistics, Columbia University	Oct 2020
M.Phil. Statistics, Columbia University	May 2018
M.A. Statistics, Columbia University	Oct 2015
B.A. Economics, Cornell University	May 2010

Positions

Assistant Professor, Statistics, George Mason University	Aug 2021 - Present
Research Associate, Center for Urban Research, CUNY	Jan 2014 - Aug 2014
Analyst/Aide, New York City Council	May 2010 - Jan 2014

Fellowships and Affiliations

Affiliated, Center Advancing Human-Machine Partnership, G. Mason Uni.	2022 - Present
Affiliated, Institute for Digital InnovAtion (IDIA), George Mason University	2021 - Present
Fellow, IDIA Public-Private-Partnership (P3) Faculty Fellow	2023 - 2024
Fellow, Office of Science Policy, American Statistical Association	2020 - 2021

Fellow, Brown Institute for Media Innovation	2018
Fellow, Data for Good Exchange Immersion Program, Bloomberg	2018
Fellow, Public Understanding of Stats, STATS.org/Am. Stat. Assoc.	2016
Fellow, Data Science for Social Good, University of Chicago/Schmidt	2013

Funding

Grant (Co-PI), State of the U.S. Data Infrastructure, Sloan Foundation	2023 - 2024
Grant (Advisor), Patriot Green Fund, George Mason University	2022 - 2023
Grant, (PI), COVID-19 Research Database Grant Award (Gates Foundation)	2021 - 2022
Grant, NSF 1513408/1741191, PI Shaw-Hwa Lo	2015 - 2019
Scholarship, Teaching Scholars Program, Columbia University	2019

Awards

Winner, United Bank Presidential Medal for Faculty Excellence, G. Mason Uni.	2023
Winner, Inaugural CEC Trailblazer Award, George Mason University	2022
Winner, Howard Levene Outstanding Teaching Award	2019
Winner (Team), NYC Department of Education Data Model Challenge	2017
Winner (Team), ASA Gov. Stats. Section Data Challenge, Professional Category	2016
Winner, ASA Government Statistics Section Wray Jackson Smith Scholarship	2015
Winner, Royal Statistical Society Young Statisticians Writing Competition	2014

Conferences, Seminars, and Working Groups

Panelist, Proactively Assessing Health of the Federal Statistical Agencies, JSM	2023
Discussant, Measuring the Health of the Federal Statistical System, FCSM	2023
Speaker, Assessing the Health of the Federal Statistical System, APDU Webinar	2023
Speaker, CAHMP Spring Mini-symposium, George Mason University	2023
Co-organizer, Graduate Student Seminar, Dep. Stat., George Mason University	2022 - 2023
Discussant, Strengthening Autonomy of the Federal Statistical System, FCSM	2022
Speaker, Visiting Scholar Speaker Series, Teachers College	2022
Speaker, Workshop Machine Learning/Artificial Intelligence, Columbia University	2022
Speaker, New Researchers Conference, Institute of Mathematical Statistics	2022
Panel, Cooperation Between National Statistical Offices and Scientific Societies, JSM	2022
Speaker, Statistics and Data Science Education Session, JSM	2022
Speaker, Biostatistics Interest Group, George Mason University	2022

Speaker, Student Seminar, Statistics, George Mason University	2022
Speaker, Calibrated Webcast, Generable	2022
Co-organizer, R. Clifton Bailey Seminar, Dep. Stat., George Mason University	2021 - 2022
Speaker, Temporal Ecology Lab, University of British Columbia	2021
Speaker, Computing Across Multiple Scales, George Mason University	2021
Panel (Chair), Value of Federal Statistics, FCSM Research and Policy Conference	2021
Panel (Chair), Value of Federal Statistics, APDU Annual Conference	2021
Discussant, Value of Science: Data, Products, and Use, Coleridge Initiative	2021
Speaker, Communicating Public Policy Statistics, ISI World Statistics Congress	2021
Speaker, Statistics and Data Science Education Session, JSM	2020
Speaker, StanCon, University of Cambridge	2020
Co-organizer, NYC Statistics in Government Working Group	2018 - 2019
Organizer, Social Stat/Gov Stat/Survey Research Meth Session, JSM	2018
Speaker, StanCon, Asilomar Conference Center	2018
Co-organizer, Public Data Day, Brown Institute for Media Innovation	2018
Speaker, High-Rise Building Safety Conference, John Jay College	2018
Speaker, StanCon, Columbia University	2017
Speaker, Technical Advisory Committee Meeting, FHWA	2017
Organizer, Student Seminar, Department of Statistics, Columbia University	2017
Speaker, Government Statistics Section Session, JSM	2017
Speaker, Government Statistics Section Session, JSM	2016
Speaker, Government Statistics Section Session, JSM	2015
Speaker, Big Data Prediction Workshop, National Chiao Tung University	2015
Speaker, APDU Annual Conference	2013

Teaching

Courses at George Mason University (see jauerbach.github.io/teaching/)

Instructor, STAT689 Causal Inference	Fall 2023
Instructor, STAT489 Pre-Capstone (Statistics Communication)	Fall 2021 - 2023
Instructor, STAT490 Capstone in Statistics	Spring 2022 - 2023

Courses at Columbia University

Instructor/Creator, UN1010 Statistics for Activists	Fall 2019
---	-----------

Instructor, UN1001 Introduction to Statistical Reasoning	Fall 2017
Instructor/Co-creator, Explorations in Data Science, Science Honors Program	2016 - 2018

Conferences and Workshops

Co-instructor, STEM Summer Saturdays, George Mason University	2022
Project Sponsor, PIT Data Science Corps, Columbia University	2022
Co-instructor, Introduction to Stan, StanCon	2019
Co-instructor, Girls' Science Day, Columbia University	2018 - 2019

Service

Volunteer

President-Elect, Washington Statistical Society	2023 - 2024
Mason Spring Preview Event, George Mason University	2023
Innovation Week, George Mason University	2023
Speaker, Prospective Student Information Sessions, George Mason University	2023
OSCAR Coordinator, George Mason University	2022 - 2023
Advisor, Statistics Graduate Student Association, George Mason University	2022 - 2023
30-year Celebration Committee, George Mason University	2022 - 2023
Engineering Week, George Mason University	2022
Honors College Celebration of Excellence, George Mason University	2022
Mason Fall Premier Event, George Mason University	2021
Mason by Moonlight, George Mason University	2021
2020 Census Quality Reviewer, selected by American Stat. Assoc. CQI Taskforce	2021

Competitions

Co-organizer, Cherry Blossom Prediction Competition, George Mason University	2022 - 2023
Judge, K-12 Poster Competition, American Statistical Association	2023
Judge, Fall Data Challenge, American Statistical Association	2020
Judge, ASA Government Statistics Section Data Challenge	2017

Research

Unpublished (see jauerbach.github.io/papers/)

1. Biemer, Paul, Joseph Salvo, and Jonathan Auerbach. The quality of the 2020 Census: An independent assessment of Census Bureau activities critical to data quality.
2. Auerbach, Jonathan, Martin Slawski, and Shixue Zhang. Reevaluating COVID-19 mandates using tensor completion.
3. Auerbach, Jonathan, Yair Ghitza, and Andrew Gelman. A generational voting model for forecasting the 2020 American presidential election.
4. Auerbach, Jonathan. Does the New York City Police Department rely on quotas? StanCon. 2018.
5. Elliott, Emerson, Jonathan Auerbach, Constance Citro, Daniel Elchert, Steve Pierson, Marilyn Seastrom, Thomas Snyder, Katherine Wallman, and James Woodworth. Bolstering education statistics to serve the nation. Submitted.
6. Auerbach, Jonathan and Christi Wilcox. Empowering students to assess the state of diversity, equity, and inclusion on campus. Submitted.

Published

1. Auerbach, Jonathan. Safeguarding facts in an era of disinformation: The case for independently monitoring the U.S. statistical system. *Harvard Data Science Review*, vol. 5, no. 3. 2023.
2. Citro, C., J. Auerbach, C. K. Smith Evans, J. Landefeld, J. Mulrow, T. Petska, S. Pierson, N. Potok, C. Rothwell, J. Thompson, J. Woodworth, and E. Wu. What protects the autonomy of the federal statistical agencies? An assessment of the procedures in place that protect the independence and objectivity of official statistics. *Statistics and Public Policy*. 2023.
3. Andrade Chris, Jonathan Auerbach, Icaro Bacelar, Hane Lee, Angela Tan, Mariana Vazquez, Owen Ward. Does it pay to park in front of a fire hydrant? *Significance*, vol. 20, no. 1. 2023.

4. Ghitza, Yair, Andrew Gelman, and Jonathan Auerbach. The Great Society, Reagan's Revolution, and generations of presidential voting. *American Journal of Political Science*, vol. 67, no. 3. 2023.
5. Auerbach, Jonathan and Catherine Elizabeth DeLazzero. Linked data deetail a gender gap in STEM that persists across time and place. *Harvard Data Science Review*, vol. 4, no. 2. 2022.
6. E. Wolkovich, J. Auerbach, C. Chamberlain, D. Buonaiuto, A. Ettinger, I. Morales-Castilla, and A. Gelman. A simple explanation for declining temperature sensitivity with warming. *Global Change Biology*, vol 27, no. 20. 2021.
7. Auerbach, Jonathan, Christopher Eshleman, and Rob Trangucci. A hierarchical Bayes approach to adjust for selection bias in before-after analyses of Vision Zero policies. *Computational Statistics*, vol. 36, no. 3. 2021.
8. Auerbach, Jonathan and Steve Pierson. Does voting by mail increase fraud? Estimating the change in reported voter fraud when states switch to elections by mail. *Statistics and Public Policy*, vol. 8, no. 1. 2021.
9. Auerbach, Jonathan and Phyllis Wan. Forecasting the urban skyline with extreme value theory. *International Journal of Forecasting*, vol. 36, no. 3. 2020.
10. Auerbach, Jonathan, Quentin Brummet, John Czajka, George C. Hough, Eddie Hunsinger, and Joseph Salvo. Will administrative data save government surveys? *Significance*, vol. 16, no. 5. 2019.
11. Patton, Desmond, Owen Rambow, Jonathan Auerbach, Kevin Li, and William Frey. Expressions of loss predict aggressive comments on Twitter among gang involved youth in Chicago. *Nature Digital Medicine*, vol. 1, no. 1. 2018.
12. Auerbach, Jonathan, Richard Howey, Lai Jiang, Anne Justice, Liming Li, Karim Oualkacha, Sergi Sayols-Baixeras, and Stella Aslibekyan. Causal modeling in a multi-omics setting. *BMC Genetics*, vol. 19, no. 1. 2018.

13. Hsu, Yayun, Jonathan Auerbach, Tian Zheng, and Shaw-hwa Lo. Coping with family structure in genome-wide association studies: A comparative evaluation. *BMC Proceedings*, vol. 12, no. 9. 2018.
14. Auerbach, Jonathan. Are New York City drivers more likely to get a ticket at the end of the month? *Significance* 14, vol 14, no. 4. 2017.
15. Gelman, Andrew and Jonathan Auerbach. Age-aggregation bias in mortality trends. *Proceedings of the National Academy of Sciences*, vol. 113, no. 7. 2016.
16. König, Inke R., Jonathan Auerbach, Damian Gola, Elizabeth Held, Emily R. Holzinger, Marc-André Legault, Rui Sun, Nathan Tintle, and Hsin-Chou Yang. Machine learning and data mining in complex genomic data. *BMC Genetics*, vol. 17, no. 2. 2016.
17. Auerbach, Jonathan, Michael Agne, Rachel Fan, Adeline Lo, Shaw-Hwa Lo, Tian Zheng, and Pei Wang. Identifying regions of disease-related variants in admixed populations with the summation partition approach. *BMC Proceedings*, vol. 10, no. 7. 2016.
18. Lo, Adeline, Michael Agne, Jonathan Auerbach, Rachel Fan, Shaw-Hwa Lo, Pei Wang, and Tian Zheng. Network-guided interaction mining for the blood pressure phenotype of unrelated individuals in Genetic Analysis Workshop 19. *BMC Proceedings*, vol. 10, no. 7. 2016.
19. Auerbach, Jonathan. Does New York City really have as many rats as people? *Significance*, vol 11, no. 4. 2014.

Newspapers, Magazines, and Technical Reports

1. Auerbach, Jonathan and Steve Pierson. What would happen if the deadline for the 2020 Census data collection operation changed? Technical Report. American Statistical Association. September 17, 2020.
2. Auerbach, Jonathan. Why top-down testing every kid for lead poisoning can backfire. *New York Daily News*. April 14, 2019.

3. Auerbach, Jonathan. No urban legend: Stats show NYPD traffic tickets more likely at month's end. *New York Daily News*. August 31, 2017.
4. Auerbach, Jonathan. De Blasio wants to dramatically reduce NYC's rat population. *Slate Magazine*. July 21, 2017.
5. Auerbach, Jonathan and Andrew Gelman. Stop saying White mortality is rising. *Slate Magazine*. March 28, 2017.
6. Auerbach, Jonathan. Open data: More questions than answers. *Magazine of the American Statistical Association*. January 1, 2014.

Tutorials

1. Auerbach, Jonathan. A demonstration of the law of the flowering plants. *Real World Data Science*. 2023.
2. Auerbach, Jonathan, Christopher Eshleman, and Jeff Chen. Diving into New York City's service requests, part 1. *Commerce Data Service*, U.S. Department of Commerce. 2016.
3. Auerbach, Jonathan, Christopher Eshleman, and Jeff Chen. Diving into New York City's service requests, part 2. *Commerce Data Service*, U.S. Department of Commerce. 2016.