

EDUCATION AND TRAINING

- 2011 **Harvard University**
Ph.D. in Biostatistics
Dissertation title: *Causal Models for Instrumental Variables and Misclassification*
- 2006 **Columbia University Mailman School of Public Health**
M.S. in Statistical Genetics
- 2003 **Harvard University**
A.B. with honors in Philosophy and Mathematics
Honors thesis title: *Consequentialism and the Person as an End-in-Itself*

PROFESSIONAL EXPERIENCE

- 2020–present Associate Professor, Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health
- 2022–present Senior Fellow, Good Science Project
- Spring 2022 Visiting Faculty, Simons Institute for the Theory of Computing, UC Berkeley
- 2021–present Affiliated Faculty, SNF Agora Institute
- 2017–present Associate, Hopkins Population Center, Johns Hopkins University
- 2017–present Member, Institute for Data-Intensive Engineering and Science, Johns Hopkins University
- 2017–present Affiliated Faculty, Center for Causal Inference, University of Pennsylvania
- 2013–2020 Assistant Professor, Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health
- 2011–2013 Research Fellow, Program on Causal Inference, Harvard School of Public Health
Advisor: Tyler VanderWeele
- 2012–2013 Research Fellow, Center for Communicable Disease Dynamics, Harvard School of Public Health
- 2007–08 Data Analyst and Statistical Consultant, Harvard Law School
Supervisor: Elizabeth Warren

PROFESSIONAL ACTIVITIES

- Committee Member Institute of Mathematical Statistics, Nominations Committee (2020-present)
 Institute of Mathematical Statistics, New Researchers Committee (2015–2018)
- Secretary/Treasurer American Statistical Association, Biometrics Section (2019–2020)
- Publications Officer American Statistical Association, Section on Statistics in Epidemiology (2014–2015)
- Grant Review Panel NIH BMRD Section (2021)
 PCORI (2020)
 National Science Foundation (2018)
- Ad hoc reviewer National Science Foundation (2020)
- DSMB member Computerized Cognitive Remediation for Treatment Resistant Geriatric Depression Trial, University of Utah
- Planning committee Causal Inference Workshop, UAI (July, 2021, online)
 World Congress of Probability and Statistics New Researchers Meeting (August, 2020; Seoul, South Korea)
 Junior Biostatisticians in Health Research Meeting (March 22-23, 2019; Philadelphia, PA)
 Networks and Causal Inference Symposium (June, 2018; Paris, France)
 IMS New Researchers Conference (July, 2017; Baltimore, MD)
 Atlantic Causal Conference (May, 2016; New York, NY)
 Atlantic Causal Conference (May 20-21, 2013; Cambridge, MA)
- Session organizer Eastern North American Regional Meeting of the International Biometric Society (March 16-19, 2014; Baltimore, MD)
 Atlantic Causal Conference (May 20-21, 2013; Cambridge, MA)
- Session chair Joint Statistical Meetings (August 8-13, 2015; Seattle, WA)
 Joint Statistical Meetings (July 28-August 2, 2012; San Diego, CA)
 Eastern North American Regional Meeting of the International Biometric Society (April 1-4, 2012; Washington, DC).

EDITORIAL ACTIVITIES

- Executive Editorial Board *Observational Studies* (2020–present)
- Associate Editor *Harvard Review of Data Science* (2020–2022)
International Journal of Biostatistics (2019–present)
Journal of the Royal Statistical Society: Series B (2018–present)
Biostatistics (2016–present)
Journal of Causal Inference (2016–2022)
Epidemiologic Methods (2016–2019)
Journal of the American Statistical Association, Theory and Methods (2014–2018)
- Moderator arXiv, statistical methodology (2021–present)
- Reviewer *American Journal of Epidemiology, American Journal of Managed Care, American Journal of Political Science, Annals of Applied Statistics, Annals of Epidemiology, Biometrics, Biometrika, BMC Medical Research Methodology, Epidemiology, Epidemiologic Methods, International Journal of Biostatistics, International Journal of Epidemiology, Journal of the American Statistical Association, Journal of Clinical Epidemiology, Journal of Causal Inference, Journal of Machine Learning Research, Journal of the Royal Statistical Society: Series B, Journal of the Royal Society Interface, Journal of Statistical Research, Paediatric and Perinatal Epidemiology, PLOS ONE, Statistics in Medicine, Statistics and Probability Letters.*

HONORS AND AWARDS

- 2022 Teaching Excellence Recognition for the course *Statistical Theory I*
- 2022 COPSS Emerging Leader Award
For creative methodological innovations in causal and network analysis; for contributions to education; for generous service to the profession and society, including leadership in addressing the COVID-19 pandemic.
- 2020 Johns Hopkins Discovery Award for proposal “Analyzing Barriers and Facilitators to Enrollment in the Supplemental Nutrition Assistance Program among Latino Children in Immigrant Families.”
- 2020 Teaching Excellence Recognition for the course *Statistical Theory I*

- 2019 Teaching Excellence Recognition for the course *Statistical Theory I*
- 2018 Society of Epidemiologic Research and American Journal of Epidemiology Article of the Year
- 2017 Teaching Excellence Recognition for the course *Statistical Theory I*
- 2016 National Academy of Sciences Kavli Fellow
- 2015 Teaching Excellence Recognition for the course *Statistical Theory I*
- 2014 Teaching Excellence Recognition for the course *Statistical Theory I*
- 2013 Rose Traveling Fellowship Program in Chronic Disease Epidemiology and Biostatistics.
- 2012 Thomas R. Ten Have Award, Atlantic Causal Inference Conference. (Awarded for exceptionally creative or skillful research on causal inference.)
- 2008 Robert Balentine Reed Prize for Excellence in Biostatistical Science. Department of Biostatistics, Harvard University. (Awarded for the highest score on the doctoral qualifying exam.)
- 2005, 2006 Peter J. Sharp Scholarship, Columbia University. (Full-tuition, merit-based scholarship.)

PAPERS (* lead author was a student or advisee at project conception)

UNDER REVIEW / TECH REPORTS

1. Gilbert B*, Datta A, Casey JA, **Ogburn EL**. Approaches to spatial confounding in geostatistics. (Submitted; [link](#))
2. Smith B*, **Ogburn EL**, McGue M, Basu S, Scharfstein DO. Causal Effects in Twin Studies: the Role of Interference. (Submitted; [link](#))
3. **Ogburn EL**, Shpitser I, Tchetgen Tchetgen EJ. Counterexamples to "The Blessings of Multiple Causes" by Wang and Blei. ([link](#))
4. Bruns-Smith D, Dukes O, Feller A, **Ogburn EL**. Augmented Balancing Weights as Under-smoothed Regressions. ([link](#))
5. Srinivasan R, Bhattacharya R, Nabi R, **Ogburn EL**, Shpitser I. Entangled Missingness.

PUBLISHED ARTICLES

1. Lee Y*, Buchanan A, **Ogburn EL**, Friedman SR, Halloran ME, Katenka NV, Wu J, and Nikolopoulos G (in press). Identification of influential subjects in a network using a causal framework and evaluation of congruence with centrality measures. *Biometrics*.
2. **Ogburn EL**, Sofrygin O, Diaz I, van der Laan MJ (in press). Causal inference for social network data. *Journal of the American Statistical Association*.
3. Miao W, Hu W, **Ogburn EL**, Zhou X (in press). Identifying effects of multiple treatments in the presence of unmeasured confounding. *Journal of the American Statistical Association*.
4. Avolio, Lindsay N., et al. (in press). The Pregnancy, Arsenic, and Immune Response (PAIR) Study in rural northern Bangladesh. *Paediatric and Perinatal Epidemiology*.
5. Nguyen TQ*, **Ogburn EL**, Sarker EB, Greifer N, Schmid I, Koning IM, Stuart EA (in press). Causal mediation analysis: From simple to more robust strategies for estimation of marginal natural (in) direct effects. *Statistical Surveys*.
6. Di Stefano L*, **Ogburn EL**, et al (2022). Hydroxychloroquine/Chloroquine for the Treatment of Hospitalized Patients with COVID-19: An Individual Participant Data Meta-Analysis. *PloS one*, 17 (9), e0273526.
7. Casey JA, Kioumourtzoglou MA, **Ogburn EL**, Melamed A, Shaman J, Kandula S, Neophytou A, Darwin KC, Sheffield JS, Gyamfi-Bannerman C (2022). Long-term fine particulate matter concentrations and SARS-CoV-2 prevalence: differential relationships by socioeconomic status among pregnant individuals in New York City. *American Journal of Epidemiology*, 191(11), 1897-1905.
8. Nguyen TQ*, Schmid I, **Ogburn EL**, Stuart EA (2022). Clarifying causal mediation analysis for the applied researcher: effect identification via three assumptions and five potential outcomes. *Journal of Causal Inference*, 10(1).
9. **Ogburn EL**, Cai J, Kuchibhotla AK, Berk RA, Buja A (2022). Discussion of ‘Assumption-lean inference for generalised linear model parameters’ by Vansteelandt and Dukes. *Journal of the Royal Statistical Society Series B*, 84(3), 715-716.
10. **Ogburn EL**, Rudolph KE, Morello-Frosch R, Khan A, Casey JA (2022). Response to “Estimation and Bounds Under Data Fusion.” *American Journal of Epidemiology*, 191(4), 679-680.
11. Thorpe, LE, Adhikari S, Lopez P, Kanchi R, McClure LA, Hirsch AG, Howell CR, Zhu A, Alemi F, Rummo P and **Ogburn EL** (2022). Neighborhood Socioeconomic Environment and Risk of Type 2 Diabetes: Associations and Mediation Through Food Environment Pathways in Three Independent Study Samples. *Diabetes Care*, 45(4), 798-810.
12. **Ogburn EL**, Shpitser I (2021). Causal Modelling: The Two Cultures. *Observational Studies*, 7(1), 179-183.

13. **Ogburn EL**, Rudolph KE, Morello-Frosch R, Khan A, Casey JA (2021). A Warning About Using Predicted Values From Regression Models for Epidemiologic Inquiry. *American Journal of Epidemiology*, 190(6), 1142-1147.
14. **Ogburn EL** (2021). More efficient and effective clinical decision-making. *Harvard Data Science Review*.
15. Clipman SJ, Mehta SH, Srikrishnan AK, Zook KJ, Duggal P, Mohapatra S, Shanmugam S, Nandagopal P, Kumar MS, **Ogburn, EL** and Lucas GM (2021). Role of direct and indirect social and spatial ties in the diffusion of HIV and HCV among people who inject drugs: A cross-sectional community-based network analysis in New Delhi, India. *Elife*, 10, e69174.
16. Lee Y*, **Ogburn EL** (2021). Network dependence can lead to spurious associations and invalid inference. *Journal of the American Statistical Association*, 116(535), 1060-1074.
17. **Ogburn EL**, Bierer B, Brookmeyer R, Choirat C, Dean NE, De Gruttola V, Ellenberg SS, Halperin ME, Hanley DF, Lee JK, Wang R, and Scharfstein DO (2020). Aggregating data from COVID-19 trials. *Science*, 368(6496), pp.1198-1199.
18. **Ogburn EL**, Shpitser I, Lee Y (2020). Causal inference, social networks and chain graphs. *Journal of the Royal Statistical Society: Series A*, 183(4), 1659-1676.
19. Kimmel SE, Califf RM, Dean NE, Goodman SN, **Ogburn EL** (2020). COVID-19 Clinical Trials: A Teachable Moment for Improving Our Research Infrastructure and Relevance. *Annals of Internal Medicine*, 173, 652-653.
20. Wang B*, **Ogburn EL**, Rosenblum M (2020). Analysis of Covariance (ANCOVA) in Randomized Trials: More Precision and Valid Confidence Intervals, Without Model Assumptions. *Biometrics*, 75(4), 1391-1400.
21. Wang B, **Ogburn EL**, Rosenblum M (2020). Rejoinder to “Robustness of ANCOVA in randomized trials with unequal randomization” by Jonathan W. Bartlett. *Biometrics*, 76(3), 1039-1039.
22. Lee Y*, **Ogburn EL** (2020). Testing for Network and Spatial Autocorrelation. In *International Conference on Network Science* (pp. 91-104). Springer, Cham.
23. **Ogburn EL**, Shpitser I, Tchetgen Tchetgen EJ (2019). Comment on “Blessings of multiple causes.” *Journal of the American Statistical Association*, 114(528), 1611-1615.
24. Nguyen TQ*, Dafoe A, **Ogburn EL** (2019). The magnitude and direction of collider bias for binary variables. *Epidemiologic Methods*, 8(1).
25. Lucas G, Solomon SS, Solomon S, McFall AM, Srikrishnan AK, S Anand, V Verma, CK Vasudevan, P Balakrishnan, **EL Ogburn**, LH Moulton, MS Kumar, KS Sachdeva, O Laeyendecker, DD Celentano, SH Mehta (2019). Integrated HIV testing, prevention, and treatment intervention for key populations in India: results from a cluster randomized trial. *Lancet HIV*, 6(5), e283-e296.

26. Casey JA, Gemmill A, Karasek D, **Ogburn EL**, Goin DE, Morello-Frosch R (2018). Increase in fertility following coal and oil power plant retirements in California. *Environmental Health*, 17(1), 44.
27. Casey JA, Karasek D, **Ogburn EL**, Goin DE, Dang K, Braveman PA, Morello-Frosch R (2018). Coal and oil power plant retirements in California associated with reduced preterm birth among populations nearby. *American Journal of Epidemiology*, 187(8), 1586-1594. (Paper selected as *AJE* article of the year.)
28. **Ogburn EL** (2018). Challenges to estimating contagion effects from observational data. In *Complex Spreading Phenomena in Social Systems* (pp. 47-64). Springer, Cham.
29. Chen O*, Crainiceanu C, **Ogburn EL**, Caffo B, Wager T, Lindquist MA (2017). High-dimensional multivariate mediation with application to neuroimaging data. *Biostatistics*, 19(2), 121-136.
30. **Ogburn EL**, VanderWeele TJ (2017). Vaccines, contagion, and social networks. *Annals of Applied Statistics*, 11(2), 919-948.
31. Casey JA, Morello-Frosch R, Mennitt DJ, Fristrup K, **Ogburn EL**, James P (2017). Race/Ethnicity, Socioeconomic Status, Residential Segregation, and Spatial Variation in Noise Exposure in the Contiguous United States. *Environmental Health Perspectives*, 125(7), e077017.
32. Tsai AC, Kakuhikire B, Perkins JM, Vořechovská D, McDonough AQ, **Ogburn EL**, Downey JM, Bangsberg DR (2017). Measuring Personal Beliefs and Perceived Norms about Intimate Partner Violence: Population-Based Survey Experiment in Rural Uganda. *PLOS Medicine*, 14(5), e1002303.
33. **Ogburn EL** (2017). Comment on “Personalized Dose Finding Using Outcome Weighted Learning” by G Chen, D Zeng & MR Kosorok. *JASA*, 111(516), 1534-1537.
34. Gittelsohn J, Jock B, Redmond L, Fleischhacker S, Eckmann T, Bleich SN, Loh H, **Ogburn EL**, Gadhoke P, Swartz J, Pardilla M, Caballero B (2017). OPREVENT2: Design of a multi-institutional intervention for obesity control and prevention for American Indian adults. *BMC Public Health*, 17(1), 105.
35. Rasmussen SG, **Ogburn EL**, McCormack M, Casey JA, Bandeen-Roche K, Mercer DG, Schwartz BS (2016). Association between unconventional natural gas development in the Marcellus Shale and asthma exacerbations. *JAMA Internal Medicine*, 176(9), 1334-1343.
36. Casey JA, Savitz DA, Rasmussen SG, **Ogburn EL**, Pollak J, Mercer DG, Schwartz BS (2016). Unconventional natural gas development and birth outcomes in Pennsylvania, USA. *Epidemiology*, 27(2), 163.
37. **Ogburn EL**, Zeger SL (2016). Statistical Reasoning and Methods in Epidemiology to Promote Individualized Health: In Celebration of the 100th Anniversary of the Johns Hopkins Bloomberg School of Public Health. *American Journal of Epidemiology*, 183(5), 427-434.
38. **Ogburn EL**, Volfovsky A (2016). Networks. In *Big Data Handbook*. Buhlman P, Kane M, Drineas P, and van der Laan MJ, eds. Chapman and Hall. (Invited book chapter.)

39. Staples PC, **Ogburn EL**, Onnela JP (2015). Incorporating contact network structure in cluster randomized trials. *Scientific Reports*, 5, e17581.
40. Casey JA, **Ogburn EL**, Rasmussen SG, Irving JK, Pollak J, Locke PA, Schwartz BS (2015). Predictors of Indoor Radon Concentrations in Pennsylvania, 1989–2013. *Environmental Health Perspectives*, 123(11), 1130-1137.
41. Solomon SS, Mehta SH, Srikrishnan AK, Vasudevan CK, McFall AM, Balakrishnan P, Anand S, Nandagopal P, **Ogburn EL**, Laeyendecker O, Lucas GM, Solomon S, Celentano DD (2015). High HIV prevalence and incidence among men who have sex with men (MSM) across 12 cities in India. *AIDS*, 29(6), 723.
42. Lucas GM, Solomon SS, Srikrishnan AK, Agrawal A, Iqbal S, Laeyendecker O, McFall AM, Kumar MS, **Ogburn EL**, Celentano DD, Solomon S, Mehta SH (2015). High HIV burden among people who inject drugs in 15 Indian cities. *AIDS*, 29(5), 619.
43. **Ogburn EL**, Rotnitzky A, Robins JM (2015). Doubly robust estimation of the local average treatment effect curve. *Journal of the Royal Statistical Society, Series B*, 77(2), 373-396. (Paper selected for presentation at the Royal Statistical Society Journal Club.)
44. **Ogburn EL**, VanderWeele TJ (2015). Causal diagrams for interference. *Statistical Science*, 29(4), 559-578.
45. Cacioppo JT, Cacioppo S, Gonzaga GC, **Ogburn EL**, VanderWeele TJ (2013). Marital satisfaction and breakups differ across online and offline meeting venues. *Proceedings of the National Academy of Sciences*, 110(25), 10135-10140.
46. **Ogburn EL**, VanderWeele TJ (2013). Bias Attenuation Results for Nondifferentially Mismeasured Ordinal and Coarsened Confounders. *Biometrika*, 100(1), 241-248.
47. **Ogburn EL**, VanderWeele TJ (2012). Analytic results on the nondifferential misclassification of a binary mediator. *American Journal of Epidemiology*, 176(6), 555-561.
48. **Ogburn EL**, VanderWeele TJ (2012). On the nondifferential misclassification of a binary confounder. *Epidemiology*, 23(3), 433-439.
49. **Ogburn EL** (2012). Discussion of “Mediation analysis without sequential ignorability: Using baseline covariates interacted with random assignment as instrumental variables” by Dylan Small. *Journal of Statistical Research*. 46(2), 105-111.
50. VanderWeele TJ, **Ogburn EL**, Tchetgen Tchetgen EJ (2012). Why and when “flawed” network analyses still yield valid tests of no contagion. *Statistics, Politics, and Policy*, 3(1), 1-11.
51. VanderWeele TJ, Valeri L, **Ogburn EL** (2012). The role of measurement error and misclassification in mediation analysis: mediation and measurement error. *Epidemiology*, 23(4), 561-564.
52. VanderWeele TJ, **Ogburn EL** (2012). Theorems, proofs, examples and rules in the practice of epidemiology. *Epidemiology* 23: 443-445.

53. Heiman G, **Ogburn E**, Gorroochurn P, Keyes K, Hasin D (2008). Evidence for a two-stage model of dependence using the NESARC and its implications for genetic association studies. *Drug and Alcohol Dependence*, 92(3), 258-266.
54. Blanco C, **Ogburn E**, de los Cobos JP, et al. (2008). DSM-IV criteria-based clinical subtypes of cannabis use disorders: Results from the National Epidemiological Survey on Alcohol and Related Conditions (NESARC). *Drug and Alcohol Dependence*, 96(2), 136–144.
55. Blanco C, Olfson M, Goodwin RD, **Ogburn E**, et al. (2008). Generalizability of clinical trial results for major depression to community samples: results from the National Epidemiologic Survey on Alcohol and Related Conditions. *Journal of Clinical Psychiatry*, 69(8) 12,76-80.
56. Blanco C, Alderson D, **Ogburn E**, et al. (2007). Changes in the prevalence of non-medical prescription drug use and drug use disorders in the United States: 1991–1992 and 2001–2002. *Drug and Alcohol Dependence*, 90(2), 252-260.
57. Hasin DS, Stinson FS, **Ogburn E**, Grant BF (2007). Prevalence, correlates, disability and comorbidity of DSM-IV alcohol abuse and dependence in the United States. *Archives of General Psychiatry*, 64(7), 830-842.
58. Hasin D, Hatzenbuehler ML, Keyes-Wild K, **Ogburn E** (2007). Vulnerability to alcohol and drug use disorders. In: Stone WS (Ed): *Recognition and prevention of major mental and substance use disorders*. American Psychiatric Publishing: 115-155.
59. Hasin D, Hatzenbuehler ML, Keyes-Wild K, **Ogburn E** (2007). Substance use disorders. In: Saunders JB, Schuckit MA, Sirovatka P (Eds): *Diagnostic issues in substance use disorders: refining the research agenda for DSM-V*. American Psychiatric Association: 93-129.
60. Hasin D, Hatzenbuehler M, **Ogburn E**, Keyes K (2006). Substance Use Disorders: Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) and International Classification of Diseases (ICD-10). *Addiction*, 101(1), 59-75.
61. Campbell CD, **Ogburn EL**, Lunetta KL, Lyon HN, Freedman ML, Groop LC, Altshuler D, Ardlie KG, Hirschhorn JN (2005). Demonstrating stratification in a European American population. *Nature Genetics*, 37(8), 868-872.

PRACTICE ACTIVITIES

Consulted for the Equal Employment Opportunity Commission, 2014 - 2015

TEACHING AND ADVISING

ADVISING OR CO-ADVISING (* expected graduation)

- 2025 * Shiyao Xu, PhD candidate
Department of Biostatistics, Johns Hopkins University
- 2023 * Brian Gilbert, PhD candidate
Department of Biostatistics, Johns Hopkins University
- 2021 Trang Nguyen, PhD
Department of Biostatistics, Johns Hopkins University
- 2020 Qifang Bi, MHS
Department of Biostatistics, Johns Hopkins University
- 2019 Youjin Lee, PhD
Department of Biostatistics, Johns Hopkins University
Thesis: "Statistical Reasoning in Network Data"
Currently Postdoctoral Fellow at the University of Pennsylvania Center for Causal Inference
- 2017 Kathryn Risher, Ph.D. candidate in Epidemiology and MHS candidate in Biostatistics (co-advisor)
Department of Biostatistics, Johns Hopkins University
Currently Research Fellow at the London School of Hygiene and Tropical Medicine
- 2015 Oliver Chen, ScM
Department of Biostatistics, Johns Hopkins University
- 2014 Caroline Epstein, ScM
Department of Biostatistics, Johns Hopkins University

PRELIMINARY ORAL EXAM OR THESIS ADVISORY COMMITTEE MEMBER

- 2023 Tyler Smith, PhD candidate
Department of Environmental Health, Johns Hopkins University
- 2023 Ranjani Srinivasan, PhD candidate
Department of Electrical and Computer Engineering, Johns Hopkins University
- 2021 Eli Sherman, PhD candidate
Department of Computer Science, Johns Hopkins University
- 2020 Noam Finkelstein, PhD candidate
Department of Computer Science, Johns Hopkins University

- 2020 Lindsay Avolio, PhD candidate
Department of Environmental Health, Johns Hopkins University
- 2019 Bonnie Smith, PhD candidate
Department of Biostatistics, Johns Hopkins University
- 2019 Razieh Nabi, Ph.D. candidate
Department of Computer Science, Johns Hopkins University
- 2019 Rohit Bhattacharya, Ph.D. candidate
Department of Computer Science, Johns Hopkins University
- 2018 Lamar Alexander, Ph.D. candidate
Department of Biostatistics, Johns Hopkins University
- 2018 Zixuan Lin, Ph.D. candidate
Department of Biomedical Engineering, Johns Hopkins University
- 2018 Ben Ackerman, Ph.D. candidate
Department of Biostatistics, Johns Hopkins University
- 2017 Claire Ruberman, Ph.D.
Department of Biostatistics, Johns Hopkins University
- 2016 Yuting XU, Ph.D.
Department of Biostatistics, Johns Hopkins University
- 2015 Sara Rasmussen, Ph.D.
Department of Environmental Health, Johns Hopkins University

FINAL ORAL EXAM COMMITTEE MEMBER (* expected graduation)

- 2021 Aaron Sarvet, PhD
Department of Epidemiology, Harvard University
- 2021 Bonnie Smith, PhD
Department of Biostatistics, Johns Hopkins University
- 2021 Qifang Bi, Ph.D.
Department of Epidemiology, Johns Hopkins University
- 2020 Lamar Alexander, Ph.D.
Department of Biostatistics, Johns Hopkins University
- 2020 Ben Ackerman, Ph.D.
Department of Biostatistics, Johns Hopkins University
- 2018 Claire Ruberman, Ph.D.
Department of Biostatistics, Johns Hopkins University

2015 Smita Das, Ph.D.
Department of Molecular Microbiology and Immunology, Johns Hopkins University

CLASSROOM INSTRUCTION

- 2015-present Causal Inference II (co-taught with Constantine Frangakis)
Department of Biostatistics, Johns Hopkins University
Enrollment approximately 5 students
- 2014-present Statistical Theory I
Department of Biostatistics, Johns Hopkins University
Enrollment approximately 10 students
Received Teaching Excellence Recognition each time taught
- 2014 Statistics and Networks (special topics course)
Department of Biostatistics, Johns Hopkins University
Enrollment approximately 5 students
- 2010–2011 Summer preparatory introduction to statistical theory for incoming Ph.D. students
Department of Biostatistics, Harvard School of Public Health
- 2003–04 9th, 10th, and 11th Grade Math Teacher, American School of Paris
Classes: Algebra 2, Geometry, Pre-Calculus

SHORT COURSES

2021 Causality in Clinical Research: What, Why, When and How
UPenn Perlman School of Medicine
Module: History of Causal Inference

TEACHING ASSISTANT

- 2009–2011 Department of Epidemiology, Harvard School of Public Health
Class: Advanced Epidemiologic Methods
Professors: Eric Tchetgen Tchetgen, James Robins, Miguel Hernan
- 2009–2011 Department of Biostatistics, Harvard School of Public Health
Class: Statistical Inference
Professors: Yi Li, Rebecca Betensky
- 2011 Departments of Biostatistics and Epidemiology, Harvard School of Public Health
Class: Methods for Mediation and Interaction
Professor: Tyler VanderWeele
- 2008 Department of Biostatistics, Kitasato University (Tokyo, Japan)
Class: Statistical Methods
Professor: Louise Ryan

2007–08 Harvard Law School
 Class: Empirical Analysis of Law
 Professor: Elizabeth Warren

RESEARCH GRANT PARTICIPATION

- 2020-2025 R01HL152813 (PI Chang) NIH/NHLBI Epidemiology and Impact of the HIV, NCD, and Urbanization Syndemic in Africa A major global health threat is the growing combination of HIV, chronic diseases, urbanization, and air pollution. This study will follow people as they migrate from rural settings into cities and track their health outcomes and potentially related factors such as air pollution levels and health care access. Results from this study will help to develop strategies to better care for persons with HIV and chronic diseases as they live in increasingly urbanized and polluted settings. Co-Investigator.
- 2021–2024 Principled Causal Inference with Unmeasured Confounding. Project grant, Office of Naval Research.
Principal Investigator (with Ilya Shpitser). \$650,000 over the life of the grant.
- 2016-2023 U24OD023382 (PI Jacobson/Parker) NIH ECHODAC (Environmental Influences on Child Health Outcomes Data Analysis Center) The ECHO Program will create an extensive resource for elucidating the roles of environmental and genetic characteristics that affect child health. The Data Analysis Center will advance ECHO research by providing state-of-the-art study designs and analyses, and by publicizing high quality, well documented ECHO data to promote informative analyses by the scientific community at-large. Co-Investigator.
- 2019-2023 R01ES029201 (PI Buckley) NIH Early Life Phthalate and Perfluoroalkyl Substance Exposures and Childhood Bone Health This project seeks a major shift in the scope of children’s environmental health research to include bone density, a significant contributor to overall health throughout the life course, based on preliminary data demonstrating associations of phthalate and PFAS exposures with child height and biomarkers of bone turnover and vitamin D. Co-Investigator.
- 2019-2022 U01DP006296 (Sub PI: Schwartz/ Prime PI: Hirsch) Greisinger Clinic (Prime: NIH) A multi-level study of community context and type 2 diabetes and coronary heart disease using electronic health record and new primary data across nested geographies in Pennsylvania. The 4co-BBS study will broaden the scope of pathways examined, collecting data on health behaviors, health system distrust, and community perceptions. Identifying the contextual factors with the greatest influence on the prevalence of T2D and T2D cardiometabolic complications in PA is critical to understanding regional differences and will inform the development of targeted primary and secondary prevention strategies. Co-Investigator.

- 2018–2022 A pragmatic trial to evaluate the intermediate-term effects of early, aggressive versus escalation therapy in people with multiple sclerosis. Ellen Mowry, PI. PCORI.
Co-investigator. Lead statistician in charge of study design and analysis for multi-center pragmatic trial.
- 2020-2021 U24TR001609 (PI Hanley) NIH Johns Hopkins-Tufts Trial Innovation Center Johns Hopkins University (JHU) and Tufts University (with Harvard Clinical Research Institute and Massachusetts Institute of Technology) have formed a working group to improve the science of randomized clinical trials. BIOS, a JHU trials research group, will convene this group of randomized, controlled trial experts to develop a Trial Innovation Center (TIC) as part of a bigger NCATS research resources initiative. The scientific purpose will be to demonstrate that innovations in trial design, execution, and evaluation will advance NCATS' goal of getting more treatments, to more patients, more quickly.
Co-Investigator.
- 2018–2021 PA-16-160 (PI Stuart) Causal mediation methods for studying mechanisms in mental health.
Co-investigator. Expert in causal identification of mediation effects.
- 2018–2021 Uncertainty and Networks. Project grant, Office of Naval Research.
Principal Investigator (with Ilya Shpitser). \$600,000 over the life of the grant.
- 2020 For developing the COVID Collaboration Platform to bring disparate research teams working on the same clinical research questions together to share protocols, data, and evidence. Outside of a few centrally organized trials, most COVID-19 randomized clinical trials are small and/or redundant—and it's only by aggregating evidence across these trials that we will learn how to best treat COVID-19. FastGrants. Fewer than 1% of applicants were funded under this novel COVID-19 funding mechanism.
Principal Investigator. \$40,000
- 2015–2020 OPREVENT2. Joel Gittelsohn, PI. R01, NIH/NHLBI.
Co-investigator. Lead statistician for cluster randomized trial.
- 2016–2020 Individual, Network and Environmental Drivers of HIV and HCV among drug users in India. Sunil Solomon, PI. R01, NIDA.
Co-investigator. Lead statistician in charge of design and analysis of transmission and drug-sharing network data.
- 2015–2018 Valid statistical inference for network dependent data. Project grant, Office of Naval Research.
Principal Investigator. \$400,000 over the life of the grant.
- 2014-2018 5R24HD042854 (Hao) NICHD Research Infrastructure for the Hopkins Population Center The major goals of the Hopkins Population Center (HPC) are to support the development of population research at Hopkins and to facilitate interdisciplinary collaboration across Hopkins schools and campuses.

2017-2018 R13CA221378 (Ogburn) NIH/NCI 19th IMS New Researchers Conference An annual conference organized under the auspices of the Institute of Mathematical Statistics (IMS), organized by and held for junior researchers working in the fields of Statistics and Probability.

Principal Investigator.

2015-2017 Patients' Views of Streamlined Ethical Oversight. Nancy Kass, PI. Project grant, PCORI. Co-investigator. Lead statistician in charge of design and analysis of multi-arm trial.

2012-2015 Health outcomes, progressive entrepreneurship, and networks (HopeNet). Alexander Tsai and Bernard Kakuhikire, PIs. Project grant, Friends of a Healthy Uganda. Co-investigator. Lead statistician in charge of design of network-based randomized trial.

ACADEMIC SERVICE

DEPARTMENT OF BIostatISTICS

Awards committee, 2018-present

Admissions committee, 2022-23

Hiring committee, 2014-2016

Department retreat planning committee, 2018

Organizer, Causal Inference Working Group, 2013-present

PhD mentoring:

- Youjin Lee
- Bonnie Smith
- Trang Nguyen
- Brian Gilbert
- Shiyao (Jennifer) Xu

MSc and MHS mentoring:

- Oliver Chen
- Caroline Epstein
- Kathryn Risher

- Qifang Bi
- Yunwen Xu

BLOOMBERG SCHOOL OF PUBLIC HEALTH

Faculty Senate representative, 2019-2021

PRESENTATIONS (* upcoming)

SCIENTIFIC MEETINGS

- 2022* Joint Statistical Meetings. August 8-11. Vancouver, Canada.
- 2022* Eastern North American Regional International Biometrics Society Conference. March 20-22. Nashville TN.
- 2022 CMStatistics. December 17-21. London, UK.
- 2022 Institute for Mathematical International Conference on Statistics and Data Science. December 13-16. Florence, Italy.
- 2022 Joint Statistical Meetings. August 10. Washington, DC.
- 2022 EcoSta. June 5. Kyoto, Japan.
- 2022 American Causal Inference Conference. May 23-26. Berkeley, CA. (discussant)
- 2022 EcoSta. June 5. Kyoto, Japan.
- 2022 CIFAR panel discussion at CLear. April 11-13. Eureka, CA.
- 2022 ENAR. March 30. Houston, TX.
- 2022 Workshop on Foundations of Stable, Generalizable and Transferable Statistical Learning, Mathematical Sciences Research Institute. March 7-10. Berkeley, CA.
- 2021 CMStatistics. December 19-21. London, UK.
- 2021 IMS Causal Inference With Big Data. December 16-22. Online, hosted by Singapore University.

- 2021 Session on From Health Disparity to Health Fairness - Stories Told, Lessons Learn, and Science Forward, JSM. August 12. Online (Discussant)
- 2021 Session on Causality for Complex Data, JSM. August 11. Online.
- 2021 The Neglected Assumptions in Causal Inference. ICML Workshop. July 23. (Panelist)
- 2021 Frontiers in Causal Inference. University of Pennsylvania. May 26. (Discussant)
- 2021 Women in Data Science Conference. University of Pennsylvania. February 8-12.
- 2020 Pacific Causal Inference Conference. September 26-27, online.
- 2020 International Society for Environmental Epidemiology. August 24-27, online.
- 2020 JSM. August 1-6, online.
- 2020 ENAR. March 25, online.
- 2020 Workshop on the Frontiers in Data Science. January 18, Keio University, Tokyo, Japan.
- 2019 Computational and Methodological Statistics. December 14-16, London, UK.
- 2019 Workshop on Causal Inference with Interactions. December 12-13, Centre for Micro-data Methods and Practice, London, UK.
- 2019 SAMSI Opening Workshop on Causal Inference. December 9-11, Durham, NC.
- 2019 Joint Statistical Meetings. July 27 - August 1, Denver, CO.
- 2019 Atlantic Causal Inference Conference. May 22-24, Montreal, Canada.
- 2019 Causal Inference and Data Science Conference, University of Minnesota. May 2-4, Minneapolis, MN.
- 2018 Computational and Methodological Statistics. December 14-16. University of Pisa, Italy.
- 2018 International Society for Bayesian Analysis. June 24-29. Edinburgh, Scotland.
- 2018 Network Science. June 11-15. Paris, France
- 2018 Atlantic Causal Inference Conference, Carnegie Mellon University. May 21-23, Pittsburgh, PA.
- 2017 Joint Statistical Meetings. July 31-August 3, Baltimore, MD.
- 2017 European Meeting of Statistics. July 24-27, Helsinki, Finland.

- 2017 Network Science. June 21-22, Indianapolis, IN.
- 2017 Time and Causality in the Sciences. June 6-9, Stevens Institute of Technology, Hoboken, NJ. (Keynote)
- 2017 Atlantic Causal Inference Conference. May 23-25, UNC, Chapel Hill, NC. (Discussant)
- 2017 Interagency Modeling and Analysis Group 10th Anniversary Meeting. March 22-24, NIH, Bethesda, MD.
- 2017 Network Science X. January 14-18, Tel Aviv, Israel.
- 2015 Joint Statistical Meetings. August 8-13, Seattle, WA.
- 2015 Workshop on Advances in Causal Inference, Uncertainty and Artificial Intelligence Conference. July 16, Amsterdam, The Netherlands.
- 2015 Atlantic Causal Inference Conference. May 20-21, Philadelphia, PA.
- 2015 United Kingdom Causal Inference Meeting. April 15-17, Bristol, UK.
- 2014 Joint Statistical Meetings. August 2-7, Boston, MA. (Topic Contributed)
- 2014 International Biometric Conference. July 5-7, Florence, Italy. (Contributed)
- 2014 SAMSI Computational Methods for the Social Sciences Transition Workshop. May 5-7, Research Triangle Park, NC.
- 2014 Eastern North American Regional meeting of the International Biometric Society. March 16-19, Baltimore, MD.
- 2013 SAMSI Computational Methods for the Social Sciences Opening Workshop. August 20-23, Research Triangle Park, NC.
- 2013 Joint Statistical Meetings, August 3-8, Montreal, Canada. (Topic Contributed)
- 2013 Society for Epidemiologic Research. June 18-21, Boston, MA.
- 2013 Atlantic Causal Inference Conference. May 20-21, Cambridge, MA.
- 2013 Causality in Networks Conference. May 9-10, Chicago, IL.
- 2012 International Society of Environmental Epidemiology. August 26-30, Columbia, SC.
- 2012 Joint Statistical Meetings. July 28-August 2, San Diego, CA. (Discussant)
- 2012 Joint Statistical Meetings, July 28-August 2, San Diego CA. (Topic Contributed)

- 2012 Atlantic Causal Inference Conference, May 24-25, Baltimore MD. (Poster)
- 2012 North American Regional meeting of the International Biometric Society. April 1-4, Washington, DC.
- 2012 Frontiers in the Analysis of Causal Mechanisms. March 2, Cambridge, MA. (Discus-
sant)
- 2011 Graybill Conference on Nonparametric Statistics, June 23-24, State College CO. (Poster;
Student award winning paper)
- 2011 Society for Epidemiologic Research, June 21-24, Montreal QC.
- 2011 Eastern North American Regional meeting of the International Biometric Society, March
20-23, Miami FL. (Poster)
- 2010 Eastern North American Regional meeting of the International Biometric Society, March
21-24, New Orleans LA. (Contributed)

 INVITED SEMINARS

- 2023* Networks and Causal Inference for Public Health and Education Research Lab, Uni-
versity of Rhode Island, Providence RI. March 10.
- 2023* Department of Statistics, University of Washington, Seattle WA. February 10.
- 2023* Center for Statistics in the Social Sciences, University of Washington, Seattle WA.
February 8.
- 2022 Causal Inference Group, Harvard University, Cambridge MA. December 1.
- 2022 Department of Statistics, Duke University, Durham NC. November 4.
- 2022 Department of Biostatistics, New York University, New York NY. October 27.
- 2022 Department of Statistics, Public University of Navarre, Spain. May 6. Online.
- 2022 Program on Causality, Simons Institute for Theoretical Computer Science. April 19.
Berkeley, CA.
- 2022 Department of Biostatistics, Columbia Mailman School of Public Health. March 3.
- 2022 Columbia University / National Institute of Environmental Health Sciences P30 Sem-
inar. February 24. Online.

- 2022 Department of Statistics, University of Michigan. February 11.
- 2022 Department of Statistics, University of Florida. January 27.
- 2021 Department of Statistics, University of Wisconsin. November 10.
- 2021 Department of Biostatistics, University of North Carolina. September 30.
- 2021 MINDS, Johns Hopkins University. September 28.
- 2021 Lyft Data Science Group. July 16.
- 2021 Università Cattolica del Sacro Cuore, Milan, Italy. June 11.
- 2021 Quantitative Methods Workshop, Department of Politics, NYU. April 9.
- 2021 École Polytechnique Fédérale de Lausanne (EPFL). March 5.
- 2021 Department of Statistics, University of Pennsylvania. February 12.
- 2021 University of Maryland Statistics Seminar. February 11.
- 2021 Department of Statistics, Ohio State University. February 4.
- 2020 Columbia University Political Methodology Group. November 13.
- 2020 Discussant for Online Causal Inference Seminar. Stanford University. November 10. [Slides](#), [Video](#).
- 2020 Department of Mathematics and Statistics, UMass Amherst. October.
- 2020 Department of Biostatistics, Vanderbilt University. October.
- 2020 Ethics and Practice Committee Faculty of Pharmaceutical Medicine Royal Colleges of Physicians. August 20, online.
- 2020 Vivli Center for GlobalClinical Research Data. July 9, online.
- 2020 Data Science Initiative, Brown University. May 8, online.
- 2020 Online Causal Inference Seminar. Stanford University. April 20. [Slides](#), [Video](#).
- 2019 Department of Statistical Science, Temple University. September 27, Philadelphia, PA.
- 2019 Department of Economics Seminar in Econometrics, Northwestern University. September 24, Evanston, IL.
- 2019 Econometrics and Statistics Colloquium, The University of Chicago Booth School of Business. June 6, Chicago, IL.

- 2019 Department of Statistics, Carnegie Mellon University. April 29, Pittsburgh, PA.
- 2019 Department of Statistics, University of Pennsylvania. March 20, Philadelphia, PA.
- 2018 Department of Statistics, Columbia University. November 28, New York, NY.
- 2018 Department of Biostatistics, University of Michigan. April 5, Ann Arbor, MI.
- 2017 Causal Inference Research Group, University of North Carolina. November 3, Chapel Hill, NC.
- 2017 Department of Biostatistics, University of North Carolina. November 2, Chapel Hill, NC.
- 2017 Center for Demography & Ecology and Center for Demography of Health & Aging, University of Wisconsin. October 24, Madison, WI.
- 2017 Office of Naval Research meeting on “Predictive and Causal Modeling - Bridging the Gap,” MIT. September 21-22, Cambridge, MA.
- 2016 Kavli Frontiers of Science Symposium, National Academy of Sciences. November 4-6, Irvine, CA. [Video](#).
- 2016 Department of Statistics, Duke University. February 19, Durham, NC.
- 2016 Computational Social Science Institute, University of Massachusetts. February 12, Amherst MA.
- 2016 Institute for Statistical Mathematics. January 6, Tokyo, Japan.
- 2015 Department of Biostatistics and Epidemiology, University of Pennsylvania. December 1, Philadelphia, PA.
- 2015 Department of Biostatistics, Brown University. November 23, Providence, RI.
- 2015 Department of Statistics, Carnegie Mellon University. November 16, Pittsburgh, PA.
- 2015 Department of Biostatistics, University of Washington. May 7, Seattle, WA.
- 2015 Fred Hutchinson Cancer Research Center. May 6, Seattle, WA.
- 2015 Royal Statistical Society Journal Club. February 24, webinar.
- 2015 Department of Biostatistics, Rochester University. February 12, Rochester, NY.
- 2015 Causal Inference Seminar, McGill University. January 21, Montreal, Canada.

- 2014 Grand Rounds, Department of Biostatistics, Johns Hopkins University. September 8, Baltimore, MD.
- 2014 Department of Biostatistics, University of Pennsylvania. September 4, Philadelphia, PA.
- 2014 Institut National de la Santé et de la Recherche Médicale. June 19, Paris, France.
- 2014 Department of Politics, New York University. May 2, New York, NY.
- 2013 Department of Statistics and Biostatistics, Rutgers University. October 9, Piscataway, NJ.
- 2013 Department of Political Science, Yale University. September 19, New Haven, CT.
- 2013 Department of Statistics, Columbia University. February 4, New York, NY.
- 2013 Department of Statistics, The Wharton School, University of Pennsylvania. January 23, Philadelphia, PA.
- 2013 Department of Biostatistics, Yale University. January 15, New Haven, CT.
- 2012 Johns Hopkins Bloomberg School of Public Health. December 17, Baltimore, MD.
- 2012 EMPH Seminar, Columbia University Mailman School of Public Health. November 13, New York, NY.
- 2012 Causal inference group, Johns Hopkins Bloomberg School of Public Health. October 18, Baltimore, MD.
- 2011 Causal Inference Group, University of Pennsylvania. November 14, Philadelphia, PA.

DIDACTIC LECTURES

- 2021 Data Science in the Social and Behavioral Sciences SAMSI workshop, January.
- 2020 Causality in Clinical Research: What, Why, When & How. University of Pennsylvania. December 3-4.

WORKSHOP PARTICIPATION (* upcoming)

- 2022 Simons Institute Program on Causality. University of California, Berkeley, CA.
- 2019-20 Workshop on Causal Inference. SAMSI. Research Triangle Park, NC.

- 2015-16 Workshop on Collective Problem Solving hosted by the MacArthur Foundation's Research Network on Opening Governance.
- 2016 DARPA ISAT What If? Machine Learning for Causal Inference Workshop. MIT and Harvard University. February 11-12, Cambridge, MA.
- 2013-14 Workshop on Computational Methods in Social Science. SAMSI. Research Triangle Park, NC.