Arman Oganisian
Assistant Professor of Biostatistics

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Education

2021	**University of Pennsylvania** Ph.D. in Biostatistics Advisors: Nandita Mitra and Jason Roy Committee: Russell Shinohara, Dylan Small, Edward I. George	Philadelphia, PA
2018	**University of Pennsylvania** M.S. in Biostatistics	Philadelphia, PA
2013	**Providence College** B.A. in Quantitative Economics, *summa cum laude* Minor in Mathematics Liberal Arts Honors Program.	Providence, RI

Employment

Academic

2021-pres.	**Brown University** Assistant Professor, Tenure Track. Department of Biostatistics.	Providence, RI
2017-2021	**University of Pennsylvania** Associate Fellow, Leonard Davis Institute for Health Economics.	Philadelphia, PA

Industry

2015-2016	**Analysis Group** Senior Analyst. Health economics and outcome research (HEOR) practice.	Boston, MA
2013-2015	**Analysis Group** Analyst. HEOR practice.	Boston, MA

Awards

2021	**Saul Winegrad Award for Outstanding Dissertation** Awarded by University of Pennsylvania, Biomedical Graduate Studies.
2020	**ENAR Distinguished Student Paper Award** Awarded by International Biometric Society Eastern North American Region's (ENAR) at 2020 ENAR Spring Meeting in Nashville, TN.
2020	**ICHPS Travel Award** Awarded by International Conference on Health Policy Statistics (ICHPS) during the 2020 meeting in San Diego, CA.

Publications and Working Papers

Working

Li, Y., **Oganisian**, **A.**, Boge, C. L., Hayes, M., Newman, A. & Fisher, B. T. (2020). Marginal structural model to estimate the effect of cytomegalovirus infection on hospitalization among children undergoing allogeneic hematopoietic cell transplantation (*Under Review*).

Oganisian, **A.**, Mitra, N., Ko, E. & Roy, J. (2020). Bayesian nonparametric cost-effectiveness analyses: Causal estimation and adaptive subgroup discovery. *Under Revision*. arXiv: 2002.04706 (stat.ME)

Oganisian, **A.**, Mitra, N. & Roy, J. (2020). Hierarchical bayesian bootstrap for heterogeneous treatment effect estimation. *Under Review*. arXiv: 2009.10839 [stat.ME]

Statistical Methodology

Oganisian, **A.**, Mitra, N. & Roy, J. A. (2021). A bayesian nonparametric model for zero-inflated outcomes: Prediction, clustering, and causal estimation. *Biometrics*, *77*(1), 125–135. doi:10.1111/biom.13244

Oganisian, **A.** & Roy, J. A. (2021a). A practical introduction to bayesian estimation of causal effects: Parametric and nonparametric approaches. *Statistics in Medicine*, *40*(2), 518–551. doi:10.1002/sim.8761

Oganisian, **A.** & Roy, J. A. (2021b). Nonparametric bayes: A bridge between cultures. *Observational Studies*, *7*(1), 175–178. % https://muse.jhu.edu/article/799730/pdf

Oganisian, **A.** & Roy, J. A. (2020). Invited discussion - bayesian regression tree models for causal inference: Regularization, confounding, and heterogeneous effect. *Bayesian Analysis*. 998–1006. doi:10.1214/19-BA1195

Hubbard, R. A., Huang, J., Harton, J., **Oganisian**, **A.**, Choi, G., Utidjian, L., … Chen, Y. (2019). A bayesian latent class approach for ehr-based phenotyping. *Statistics in Medicine*, *38*(1), 74–87. doi:10.1002/sim.7953

Oganisian, **A.** (2019). Chirp: Chinese restaurant process mixtures for regression and clustering. *The Journal of Open Source Software*, *4*, 1287. doi:10.21105/joss.01287#

Collaborative

Harrigan, J. J., Abdallah, H., Clarke, E. L., **Oganisian**, **A.**, Roy, J. A., Lautenbach, E., … Kelly, B. J. (2021). Respiratory microbiome disruption and risk for ventilator-associated lower respiratory tract infection. *Clinical Infectious Diseases*. ciab678. doi:10.1093/cid/ciab678

Takvorian, S. U., **Oganisian**, **A.**, Mamtani, R., Mitra, N., Shulman, L. N., Bekelman, J. E. & Werner, R. M. (2020). Association of Medicaid Expansion Under the Affordable Care Act With Insurance Status, Cancer Stage, and Timely Treatment Among Patients With Breast, Colon, and Lung Cancer. *JAMA Network Open*, *3*(2). doi:10.1001/jamanetworkopen.2019.21653

Harrison, J. M., **Oganisian**, **A.**, Grande, D. T., Mitra, N., Chhabra, M. & Chaiyachati, K. H. (2020). Economic outcomes of insurer-led care management for high-cost medicaid patients. *The American journal of managed care*, *26*(7), 310–316. doi:10.37765/ajmc.2020.43769

Singh, P., Forman, H., Adamson, A. S., Mostaghimi, A., Ogdie, A. R., **Oganisian**, **A.** & Barbieri, J. S. (2019). Impact of industry payments on prescribing patterns for tumor necrosis factor inhibitors among medicare beneficiaries. *Journal of General Internal Medicine*, *34*(2), 176–178. doi:10.1007/s11606-018-4698-x

Grandhi, N., Mohiuddin, J., **Oganisian**, **A.**, Manjunath, S., Mitra, N., Plastaras, J., … Wojcieszynski, A. (2019). Association of radiation dose with local failure in hepatocellular carcinoma (hcc). *International Journal of Radiation Oncology*Biology*Physics*, *105*(1, Supplement), E219–E220. doi:10.1016/j.ijrobp.2019.06.1970

Vekeman, F., Pina-Garza, J. E., Cheng, W. Y., Tuttle, E., Giguere-Duval, P., **Oganisian, A.,** ... Isojarvi, J. (2019). Development of a classifier to identify patients with probable lennox-gastaut syndrome in health insurance claims databases via random forest methodology. *Current Medical Research and Opinion*, *35*(8), 1415–1420. doi:10.1080/03007995.2019.1595552

Wan, J., **Oganisian**, **A.,** Spieker, A. J., Hoffstad, O. J., Mitra, N., Margolis, D. J. & Takeshita, J. (2019). Racial/ethnic variation in use of ambulatory and emergency care for atopic dermatitis among us children. *Journal of Investigative Dermatology*, *139*(9), 1906–1913.e1. doi:10.1016/j.jid.2019.02.024

Presentations

2021

Aug	**Joint Statistical Meetings 2021. Virtual.**
	Hierarchical Bayesian Bootstrap for Heterogeneous Treatment Effect Estimation
May	**(Invited) Novartis - Advanced Methods and Data Science Forum. Virtual.**
	Bayesian Estimation of Causal Effects: Parametric and Nonparametric Approaches
Jan	**(Invited) University of Washington, Department of Biostatistics. Virtual.**
	A Bayesian nonparametric model for zero-inflated outcomes: prediction, clustering, and causal inference.
Jan	**(Invited) Brown Univerisity, Department of Biostatistics. Virtual.**
	A Bayesian nonparametric model for zero-inflated outcomes: prediction, clustering, and causal inference.

2020

Nov	**(Invited) Center for Causal Inference Working Group. Virtual.**
	Hierarchical Bayesian Bootstrap for Heterogeneous Treatment Effect Estimation
Aug	**Joint Statistical Meetings. Virtual.**
	Bayesian Nonparametric Cost-Efficacy Analysis: Causal Estimation and Adaptive Subgroup Discovery
Aug	**International Biometrics Conference. Virtual.**
	Nonparametric Bayesian Causal Inference and Adaptive Subgroup Discovery in Cost-Effectiveness
Aug	**Stan Conference (StanCon). Virtual.**
	Bayesian Causal Inference in Stan: Partial Pooling and Sensitivity Analysis
Jun	**(Invited) I-HDS Seminar Series. Icahn School of Medicine at Mt. Sinai. Virtual.**
	Bayesian Nonparametric Causal Estimation with Zero-Inflated Outcomes
Feb	**(Invited) Causal Inference Learning Group, Department of Biostatistics, Columbia University**
	Bayesian Nonparametric Cost-Effectiveness Analysis: Causal Inference and Adaptive Subgroup Discovery
Jan	**(Invited) International Conference on Health Policy Statistics. San Diego, CA.**
	An all-in-one Bayesian nonparametric model for medical cost prediction, clustering, and causal estimation

2019

Jul	**(Invited) Joint Statistical Meetings. Denver, CO.**
	Bayesian nonparametric model for zero-inflated outcomes.

2018

Jul	**Joint Statistical Meetings. Vancouver, BC, Canada.**
	A Bayesian Nonparametric Method for Zero-Inflated Data with Applications to Medical Costs

2017

Jul	**Joint Statistical Meetings. Baltimore, MD.**
	A Parametric Bayesian Approach to Estimating Causal Treatment Effect on Medical Costs.

Teaching Experience

Courses taught at Brown University

Fall 2021   PHP2515: Fundamentals of Probability and Statistical Inference

Summer Institutes and Short Courses

2019   Center for Causal Inference Summer Institute (UPenn)
Taught instrumental variables computing session at annual summer institute hosted by Center for Causal Inference.

2018   Short course at JSM 2018: Introduction to Bayesian Nonparametric Methods for Causal Inference. Interactive Dirichlet Process tutorial with R Shiny. `https://stablemarkets.shinyapps.io/dpmixapp/`.

Guest Lectures

2020   BSTA790 Causal Inference in Biomedical Research, UPenn
PhD-level biostatistics course. Lecture title: Overview of Bayesian Methods for Causal Inference.

2020   BSTA670 Programming and Computation for Biomedical Data Science, UPenn
PhD-level biostatistics course. Lecture title: Bayesian Computation: Metropolis Hastings Samplers and Monte Carlo Integration.

2019   BSTA670 Programming and Computation for Biomedical Data Science, UPenn
PhD-level biostatistics course. Lecture title: Bayesian Computation: MCMC Sampling, Integration, and Approximation Methods.

2018   BSTA622 Statistical Inference II, UPenn
PhD-level biostatistics course. Lecture title: Bayesian Motivations of Penalized Regression and the EM Algorithm.

Academic Service

Referee

American Journal of Epidemiology

Biometrics

Biostatistics

International Journal of Biostatistics

Journal of the American Statistical Association

Journal of the Royal Statistical Society: Series C

Observational Studies

Statistics in Medicine

Conferences

2021   Program Committee, ICML2021 Workshop "The Neglected Assumptions In Causal Inference"

2021   Co-organizer. Frontiers of Causal Inference in Data Science: Perspectives from Leaders in Tech and Academia. University of Pennsylvania.

2021   Session Organizer. Causal inference challenges in health policy decision making. CMStatistics.

2020   Program Committee, NeurIPS2020 Workshop "Consequential Decision Making in Dynamic Environments"

2020   Session Chair, Causal Inference Methods for Health Policy Research. International Conference on Health Policy Statistics. San Diego, CA.

2019   Session Chair, Bayesian Approaches to High Dimensional Data. Contributed Papers. Eastern North American Region. Philadelphia, PA.

2017   Session Chair, New Ideas in Causal Inference. Poster Session. Eastern North American Region. Washington, D.C.

Committee and Board Memberships

2021-2022   Stan Governing Body (elected to 1-year term). `https://mc-stan.org/`.

2017-2019   Student representative, biostatistics PhD/MS curriculum committee, UPenn.

Professional Memberships

2017-pres.   American Statistical Association

2017-pres.   International Biometric Society, Eastern North American Region (ENAR)