Arman Oganisian
Assistant Professor of Biostatistics

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Education

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

Employment

Academic

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

Industry

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

Awards

2022	**Salomon Faculty Research Award**
	$10,784 grant funding proposal for "Bayesian Machine Learning for Sequential Decision-Making with Incomplete Information." Awarded by Office of the Vice President for Research (OVPR), Brown University.
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.

Funding

Working and Published Papers

Working

Ji, H. & **Oganisian, A.** (2023). causalBETA: An R package for bayesian semiparametric casual inference with event-time outcomes. doi:`10.48550/arXiv.2310.12358`

Oganisian, A., Girard, A., Steingrimsson, J. A. & Moyo, P. (2023). A bayesian framework for causal analysis of recurrent events with timing misalignment. doi:`10.48550/arXiv.2304.03247`

Statistical Methodology

Oganisian, A., Getz, K. D., Alonzo, T. A., Aplenc, R. & Roy, J. A. (2023). Bayesian semiparametric model for sequential treatment decisions with informative timing. *Biostatistics (In press).* doi:`10.1093/biostatistics/kxad035`

Oganisian, A., Mitra, N. & Roy, J. (2022). Hierarchical bayesian bootstrap for heterogeneous treatment effect estimation. *The International Journal of Biostatistics*. doi:`10.1515/ijb-2022-0051`

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. doi:`10.1353/obs.2021.0005`

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

Li, Y., Vader, D. T., **Oganisian, A.,** Boge, C. L. K., Hayes, M., Newman, A., ... Fisher, B. T. (2023). Effect of cytomegalovirus infection on post-transplant hospitalization days among children undergoing allogeneic hematopoietic cell transplantation: A marginal structural model approach. *Pediatric Transplantation*, e14526. doi:`https://doi.org/10.1111/petr.14526`

Huang, A. W., Haslberger, M., Coulibaly, N., Galárraga, O., **Oganisian, A.**, Belbasis, L. & Panagiotou, O. A. (2022). Multivariable prediction models for health care spending using machine learning: A protocol of a systematic review. *Diagnostic and Prognostic Research*, *6*(1), 1–5.

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`

Invited Talks

12/2023	**Computational and Methodological Statistics (CMstatistics) 2023. Berlin, Germany.** *Bayesian semiparametric models for dynamic treatment rules with incomplete time-varying covariates*
11/2023	**University of Massachusetts at Amherst, Department of Mathematics & Statistics. Amherst, MA.** *Bayesian Semiparametric Causal Inference for Sequential Treatment Decisions with Incomplete Information*
08/2023	**Joint Statistical Meetings (JSM) 2023. Toronto, Canada.** *Bayesian Semiparametric Models for Sequential Treatments Strategies with Informative Timing*
07/2023	**Econometrics & Statistics (EcoSta) 2023. Tokyo, Japan.** *Bayesian semiparametric models for informatively timed, dynamic treatments with incomplete covariate trajectories*
05/2023	**University of Minnesota, Institute for Research in Statistics and Applications (IRSA). Minneapolis, MN.** *Bayesian Modeling and Computation in Causal Inference – Applications in Sequential Decision-Making*
03/2023	**Eastern North American Region (ENAR) 2023. Nashville, TN.** *Bayesian Semiparametric Model for Sequential Treatment Decisions in with Informative Timing*
01/2023	**International Conference on Health Policy Statistics (ICHPS) 2023. Phoenix, AZ.** *Bayesian Semiparametric Model for Sequential Treatment Decisions in with Informative Timing*

Invited Talks (continued)

12/2022   **Computational and Methodological Statistics (CMstatistics) 2022. London, United Kingdom.**
Bayesian Semiparametric Model for Sequential Treatment Decisions in with Informative Timing

10/2022   **BIO-PhRMA Workshop on Advancing Analytical Methodologies for Unmeasured Confounders in RWE. Virtual.**
Bayesian Methods for Causal Inference: Using Priors to assess Sensitivity to Unmeasured Confounding

10/2022   **International Biometrics Society (IBS) Journal Club. Virtual.**
Discussion of "Zero-Inflated Beta Distribution Regression Modeling" (invited discussant)

08/2022   **Joint Statistical Meetings (JSM) 2022. Washington DC, USA.**
Cultural fit of Nonparametric Bayes (invited panel discussion)

07/2022   **International Society for Bayesian Analysis (ISBA) 2022. Montreal, Canada.**
Bayesian Semiparametric Model for Sequential Treatment Decisions in with Informative Timing

07/2022   **International Biometrics Conference (IBC) 2022. Riga, Latvia.**
Bayesian Semiparametric Model for Sequential Treatment Decisions in with Informative Timing

06/2022   **Statistical Society of Canada (SSC) 2022 annual meeting. Virtual.**
Hierarchical Bayesian Bootstrap for Heterogenous Treatment Effect Estimation

02/2022   **Center for Causal Inference, University of Pennsylvania. Virtual.**
Bayesian Semiparametric Model for Sequential Treatment Decisions in Continuous Time

01/2022   **Department of Biostatistics, Vanderbilt University. Virtual.**
Hierarchical Bayesian Bootstrap for Heterogeneous Treatment Effect Estimation

12/2021   **Computational and Methodological Statistics (CMstatistics) 2021. London, UK.**
Hierarchical Bayesian Bootstrap for Heterogeneous Treatment Effect Estimation

05/2021   **Novartis - Advanced Methods and Data Science Forum. Virtual.**
Bayesian Estimation of Causal Effects: Parametric and Nonparametric Approaches

01/2021   **University of Washington, Department of Biostatistics. Virtual.**
A Bayesian nonparametric model for zero-inflated outcomes: prediction, clustering, and causal inference.

01/2021   **Brown Univerisity, Department of Biostatistics. Virtual.**
A Bayesian nonparametric model for zero-inflated outcomes: prediction, clustering, and causal inference.

11/2020   **Center for Causal Inference, University of Pennsylvania. Virtual.**
Hierarchical Bayesian Bootstrap for Heterogeneous Treatment Effect Estimation

08/2020   **Stan Conference (StanCon). Virtual.**
Bayesian Causal Inference in Stan: Partial Pooling and Sensitivity Analysis

06/2020   **Department of Population Health Science and Policy. Icahn School of Medicine at Mt. Sinai. Virtual.**
Bayesian Nonparametric Causal Estimation with Zero-Inflated Outcomes

01/2020   **International Conference on Health Policy Statistics (ICHPS). San Diego, CA.**
An all-in-one Bayesian nonparametric model for medical cost prediction, clustering, and causal estimation

Teaching and Advising

Course Instruction at Brown University

Fall, 2021-2023   PHP2515: Fundamentals of Probability and Statistical Inference.

Spring 2024   PHP2530: Bayesian Statistical Methods

Teaching and Advising (continued)

Summer Institutes and Short Courses

2019   Center for Causal Inference Summer Institute, UPenn.
Instructor; instrumental variables computing session at annual summer institute hosted by Center for Causal Inference.

Advising

Esteban Fernandez, PhD Biostatistics, 2027.

Tova Ibbotson, ScM Biostatistics, 2024.

Zihan Zhou, ScM Biostatistics, 2024.

Anthony Girard, ScM Biostatistics, 2023.

Nancy Liu, ScM Biostatistics, 2023.

PhD Dissertation Committee

Gauri Kamat, Department of Biostatistics, 2024.

Meghan Cupp, Department of Epidemiology, 2024

Blake Hansen, Department of Biostatistics, 2024

Guest Lectures

2022   PHP2610 Causal Inference and Missing Data, Brown.
Lecture title: Bayesian Inference for Causal effects of Dynamic Treatment Rules.

2020   BSTA790 Causal Inference in Biomedical Research, UPenn
Lecture title: Overview of Bayesian Methods for Causal Inference.

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

Academic Service

Reviewer

Biometrics

Biostatistics

Statistics in Medicine

Journal of the American Statistical Association

Journal of the Royal Statistical Society: Series C

International Journal of Biostatistics

Observational Studies

Journal of Causal Inference

American Journal of Epidemiology

Econometrics and Statistics

School and Departmental Service

2023-   Faculty search committee. Department of Epidemiology, Brown University.

Faculty search committee. Department of Biostatistics, Brown University.

2022-   Masters in Public Health (online) Admission Committee. Brown School of Public Health.

2021-   Academic Programs Committee, Department of Biostatistics, Brown University.

2021-   PhD Admission Committee, Department of Biostatistics, Brown University.

2022-   Social Media Faculty Coordinator, Department of Biostatistics, Brown University.

Academic Service (continued)

Conference Committees

Chair, Student Committee. International Conference on Health Policy Statistics (ICHPS) 2025.

Scientific Committee. Bayesian Young Statisticians Meeting (BAYSM) 2023.

Student Paper Award Committee. Eastern North American Region (ENAR) 2024.

Student Poster Award Committee. New England Statistical Symposium (NESS) 2022.

Outreach Committee. International Conference on Health Policy Statistics (ICHPS) 2023.

Program Committee. NeurIPS2021 Workshop "Your Model is Wrong: Robustness and misspecification in probabilistic modeling"

Program Committee. ICML2021 Workshop "The Neglected Assumptions In Causal Inference"

Program Committee. NeurIPS2020 Workshop "Consequential Decision Making in Dynamic Environments"

Organized Conference Sessions

12/2023   Invited Session Organizer and Chair for "Bayesian Nonparametrics and Machine Learning Methods for Causal Inference". Computational and Methodological Statistics (CMStatistics) 2023.

12/2022   Invited Session Organizer and Chair for "Bayesian nonparametrics for causal inference: Part II". Computational and Methodological Statistics (CMStatistics) 2022.

07/2022   Invited Session Organizer and Chair for "Recent Developments in Probabilistic Machine Learning Methods for Causal Inference". International Biometrics Conference (IBC) 2022.

05/2021   Co-organizer. "Frontiers of Causal Inference in Data Science: Perspectives from Leaders in Tech and Academia". University of Pennsylvania.

12/2021   Session Organizer. "Causal inference challenges in health policy decision making". CMStatistics.

10/2020   Session Chair, "Causal Inference Methods for Health Policy Research. International Conference on Health Policy Statistics". San Diego, CA.

Other Committee/Board Memberships

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

Professional Memberships

2017-pres.   American Statistical Association

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