Arman Oganisian

Biostatistics PhD Candidate

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https://stablemarkets.netlify.app
https://github.com/stablemarkets

Education

2016-pres. **PhD, Biostatistics** Philadelpha, PA
University of Pennsylvania
Co-advisors: Nandita Mitra and Jason Roy
Committee: Dylan Small, Edward I. George, Russell Taki Shinohara (chair)

2016-2018 **MS, Biostatistics** Philadelpha, PA
University of Pennsylvania

2016-2018 **BA, Quantitative Economics** Providence, RI
Providence College
Minor: Mathematics; Liberal Arts Honors Program; *summa cum laude*

Academic Appointments

2016 – Pres. **Associate Fellow**
Leonard Davis Institute for Health Economics, University of Pennsylvania.

Industry Experience

2015-2016 **Senior Analyst** Boston, MA
Analysis Group
Worked primarily in the health economics and outcome research (HEOR) practice. Led team of Analysts conducting statistical and econometric analyses. Supervised Analysts, lead client calls, drafted study designs and manuscripts. Extensive experience with causal methods for observational data (matching, regression adjustment, propensity scores, etc).

2013-2015 **Analyst** Boston, MA
Analysis Group

Computing Skills

Statistical	R, Matlab, SAS.
General Purpose	C++/Rcpp, Python.
Other	Git/GitHub, Bash, MySQL, LaTeX.

Awards

2020 **ENAR 2020 Distinguished Student Paper Award**
International Biometric Society Eastern North American Region's (ENAR) Distinguished Student Paper Award for the 2020 ENAR Spring Meeting in Nashville, TN.

2020 **ICHPS 2020 Travel Award**
International Conference on Health Policy Statistics (ICHPS) travel award for 2020 meeting in San Diego, CA.

Research Publications

Working

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

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

Oganisian, **A.** & Roy, J. A. (2020a). A practical introduction to bayesian estimation of causal effects: Parametric and nonparametric approaches. (*Under Revision*). arXiv: 2004.07375 [stat.ME]

Spieker, A. J., **Oganisian**, **A.**, Ko, E. M., Roy, J. A. & Mitra, N. (2017). A causal approach to analysis of censored medical costs in the presence of time-varying treatment. *arXiv*. https://arxiv.org/pdf/1705.08742.pdf

Statistical Methodology

Oganisian, **A.**, Mitra, N. & Roy, J. A. (2020). A bayesian nonparametric model for zero-inflated outcomes: Prediction, clustering, and causal estimation. *Biometrics*. doi:10.1111/biom.13244

Oganisian, **A.** & Roy, J. A. (2020b). Invited discussion - bayesian regression tree models for causal inference: Regularization, confounding, and heterogeneous effect. *Bayesian Analysis. (forthcoming)*.

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 Papers

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

2020 **Joint Statistical Meetings. Virtual.**
Bayesian Nonparametric Cost-Effectiveness Analysis: Causal Estimation and Adaptive Subgroup Discovery

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

2020 **I-HDS Seminar Series. Icahn School of Medicine at Mt. Sinai. New York, NY. (Invited)**
Bayesian Nonparametric Causal Estimation with Zero-Inflated Outcomes

2020 **International Biometrics Conference. Seoul, South Korea.**
Nonparametric Bayesian Causal Inference and Adaptive Subgroup Discovery in Cost-Effectiveness

2020 **Causal Inference Learning Group, Department of Biostatistics, Columbia University (Invited)**
Bayesian Nonparametric Cost-Effectiveness Analysis: Causal Inference and Adaptive Subgroup Discovery

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

2019 **Joint Statistical Meetings. Denver, CO. (Invited)**
Bayesian nonparametric model for zero-inflated outcomes.

2018 **Joint Statistical Meetings. Vancouver, BC, Canada.**
A Bayesian Nonparametric Method for Zero-Inflated Data with Applications to Medical Costs

2017 **Joint Statistical Meetings. Baltimore, MD.**
A Parametric Bayesian Approach to Estimating Causal Treatment Effect on Medical Costs.

Teaching

Summer Institutes and Short Courses

2019 CCI Causal Inference Summer Institute
Invited to teach computing session on instrumental variables at annual summer institute. Hosted by Center for Causal Inference run jointly by University of Pennsylvania and Rutgers University.

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

2019-20 BSTA670 Programming and Computation for Biomedical Data Science
PhD-level biostatistics course. Lecture title: Bayesian Computation: MCMC Sampling, Integration, and Approximation Methods.

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

Teaching Assistantships

2018 HPR604 - Introduction to Statistics for Health Policy,
Masters in Health Policy course, Perelman School of Medicine, University of Pennsylvania

2018 BSTA660 - Design of Observational Studies
PhD-level biostatistics course, Department of Biostatistics, Epidemiology, and Informatics, University of Pennsylvania

Professional Service

2020- pres. Reviewer, *Biometrics*.

Professional Service (continued)

2020-pres.	Reviewer, *Statistics in Medicine*.
2020-pres.	Reviewer, *International Journal of Biostatistics*.
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.
2017-19	Student representative, biostatistics PhD/MS curriculum committee.