Alexander Volfovsky
Department of Statistical Science, Duke University
Phone: (301) 275 6079
E-mail: av136@duke.edu

I am interested in theory and methodology for network analysis, causal inference and statistical/computational tradeoffs and in applications in the social sciences.

Current Position:	**Assistant Professor** of Statistics, Duke University, 2016-
Previous Positions:	Scholar in Residence, Duke University, 2015-2016 National Science Foundation Mathematical Sciences Postdoctoral Research Fellow, 2014-2016 Statistics Department, Harvard University
Education	**University of Washington**, Seattle, WA Ph.D. in Statistics, August 2013 Dissertation: Statistical inference using Kronecker structured covariance PhD Committee: Peter Hoff (advisor), Mathias Drton, Michael Perlman **University of Chicago**, Chicago, IL B.S. with Honors in Mathematics and M.S. in Statistics, June 2009 Paper: The failure of the bootstrap for a parameter on the boundary of the parameter space
Experience: Research	**Research Assistant**, Statistics Department, University of Washington, 2010 - 2013 Supervisor: Prof. Peter Hoff Development of testing and estimation methodology for matrix and array variate data.
Experience: Teaching	**Instructor** for Graduate Topics in Advanced Probability (Harvard Stat 210b), Spring 2015 **Teaching Assistant** for Bayesian Methods (UW-STAT 564), Spring 2010, Spring 2011
Experience: Non-academic	**Summer Intern**, Summer 2008 Constellation Energy Commodities Group, Baltimore, MD Design of statistical models for prediction of natural gas demand in different sectors
Fellowships and Honors	2006-2009 Dean's list, University of Chicago 2009-2010 VIGRE Fellowship, University of Washington 2009-2010 Dean's Supplemental Fellowship 2015 Economic Graph Challenge (LinkedIn) winner. 2014-2016 NSF Mathematical Research Postdoctoral Research Fellowship
Service	Graduate Student Representative, 2010-2011 New Researchers Group at the IMS, founding chair 2015- Atlantic Causal Inference Conference organizing committee, 2016
Presentations	8/12 Hierarchical array priors for ANOVA decompositions, JSM, San Diego, CA 3/13 Networks and separable covariance structures, Harvard Lab for Applied Stat. Method. 8/13 Testing for nodal correlation in relational data, JSM, Montreal, Canada 6/14 Likelihoods for fixed rank nomination networks, AddHealth Users Conference, Bethesda, MD 8/14 Characterization of finite group invariant distributions, NRC, Boston, MA 8/14 Characterization of finite group invariant distributions, JSM, Boston, MA 3/15 Computational and statistical tradeoffs: a framework, SIAM CSE, Salt Lake City, UT 5/15 Testing and estimation in relational data matrices, SIAM NS, Snowbird, UT 5/15 Causal inference for ordinal outcomes, ACIC, Philadelphia, PA 8/15 Causal inference for ordinal outcomes, JSM, Seattle, WA 9/15 Testing and estimation for relational data, Department of Statistics and Data Sciences, UT Austin 2/16 Duke Network Analysis Center, Durham, NC 3/16 MaxPoint Interactive, Inc., Morriseville, NC 5/16 Atlantic Causal Inference Conference, NYU, NYC 6/16 ISBA, Sardinia, Italy 8/16 JSM, Chicago, IL 9/16 Causal Inference Research Group, UNC School of Public Health, Chapel Hill, NC 12/16 9th International Conference on Computational and Methodological Statistics, Seville, Spain

Manuscripts

Jagadeesan, R., Pillai, N. and **Volfovsky, A**. "Design and Analysis of Randomized Experiments in Networks with Interference" (in preparation).

Toulis, P. and **Volfovsky, A**. "Causal inference in observational studies with unobserved covariates and propensity score misspecification" (in preparation)

Feldberg, A. and **Volfovsky, A**. "Evidence of the Tokenism Eclipse: Differences in Skill Presentation among Demographic Minorities in the Legal Profession" (in preparation).

Wang, T., Roy, S., Rudin, C., and **Volfovsky, A**. "Fast-Almost-Matching-Exactly: A Causal Analysis Technique that Leverages the Speed of Database Queries" (in preparation).

Volfovsky, A. and Hoff, P. "Covariance estimation for relational data". (in preparation)

Hollenbach, F. Bojinov, I., Minhas, S., Metternich, N., Ward, M., and **Volfovsky, A**. "Principled Imputation Made Simple: Multiple Imputation Using Gaussian Copulas" (under review)

Basse, G., **Volfovsky, A**., and Airoldi, E. "Observational studies with unknown time of treatment" (2015) arXiv:1601.04083

Volfovsky, A., Airoldi, E. and Rubin, D. "Causal inference for ordinal non-numeric data". arXiv:1501.01234

Sussman, D., **Volfovsky, A**. and Airoldi, E. "Analyzing statistical and computational tradeoffs of estimation procedures". arXiv:1506.07925

Ogburn, E. and **Volfovsky, A**. "Statistics for networks and causal inference". Handbook on Big Data. Ed: Buhlman, P., Kane, M., Drineas, P. and van der Laan, M. (2016).

Volfovsky, A. and Airoldi, E. "Sharp total variation bounds for finitely exchangeable arrays". Statistics & Probability Letters 114, 54-59, 2016.

Volfovsky, A. and Hoff, P.D. "Testing for nodal correlation in relational data". Accepted *Journal of the American Statistical Association*, 2014.

Volfovsky, A. and Hoff, P. D. "Hierarchical array priors for ANOVA decompositions of cross-classified data". *Annals of Applied Statistics*, 8(1):19–47, 2014.

Hoff, P. D., Fosdick, B., **Volfovsky, A.** and Stovel, K. "Likelihoods for fixed rank nomination networks". *Network Science*, 1(3):253–277, 2013.

R Packages

amen: Additive and multiplicative effects modeling of networks and relational data.