Georgia Papadogeorgou

Phone: (857) 206 9302
Email: gpapadogeorgou@ufl.edu
Website: https://gpapadogeorgou.netlify.com

Education

2013–2018	Ph.D., Biostatistics, Harvard University Thesis Title: Causal Inference Methods in Air Pollution Research Advisors: Francesca Dominici, Corwin M. Zigler
2013-2015	M.A. Biostatistics, Harvard University
2009–2013	B.Sc., Mathematics, National and Kapodistrian University of Athens

Employment

Aug 2020–*present*	**Assistant Professor** **University of Florida, Department of Statistics**
Jul 2018 – Aug 2020	**Postdoctoral Associate** **Duke University, Department of Statistical Science** Mentors: David Dunson, Fan Li
May – Aug 2015	**Decision Support Intern** **Google:** Geo Data Analytics Team Supervisor: Angela Schoergendorfer

Publications

Published

[1] **Papadogeorgou G**, Zhang Z, Dunson DB (2021). Soft Tensor Regression. *Journal of Machine Learning Research*, 22(219): 1-53. arXiv:1910.09699

[2] Li F, Tian Z, Bobb J, **Papadogeorgou G**, Li F. Clarifying Selection Bias in Cluster Randomized Trials. *Clinical Trials*, Forthcoming. arXiv:2107.07967

[3] **Papadogeorgou G**. Discussion of the manuscript: Spatial+ a novel approach to spatial confounding. *Biometrics*, Forthcoming. arXiv:2107.01644

[4] Yang S, Lorenzi E, **Papadogeorgou G**, Wojdyla DM, Li F, Thomas EL (2021). Propensity Score Weighting for Causal Subgroup Analysis. *Statistics in Medicine*, 40(19): 4294-4309. arXiv:2010.02121

[5] Zigler CM and **Papadogeorgou G** (2021). Bipartite causal inference with interference. *Statistical Science*, 36(1): 109-123. arXiv:1807.08660

[6] **Papadogeorgou G** and Dominici F (2020). A Causal Exposure Response Function with Local Adjustment for Confounding. *Annals of Applied Statistics*, 14(2): 850-871. arXiv:1806.00928

[7] **Papadogeorgou G** and Li F (2020). Discussion of "Bayesian Regression Tree Models for Causal Inference: Regularization, Confounding, and Heterogeneous Effects" by Hahn, Murray and Carvalho. *Bayesian Analysis*, 15(3): 1007-1013.

[8] Antonelli JL, **Papadogeorgou G** and Dominici F (2020) Causal inference in high dimensions: A marriage between Bayesian modeling and good frequentist properties. *Biometrics*. Forthcoming. arXiv:1805.04899

[9] Schnell P and **Papadogeorgou G** (2020) Mitigating Unobserved Spatial Confounding when Estimating the Effect of Supermarket Access on Cardiovascular Disease Deaths. *Annals of Applied Statistics*, 14(4): 2069-2095. arXiv:1907.12150.

[10] **Papadogeorgou G**, Mealli F and Zigler CM (2019). Causal inference for interfering units with cluster and population level treatment allocation programs. *Biometrics*, 75(3): 778-787. arXiv:1711.01280

[11] **Papadogeorgou G** and Li F (2019). Discussion of "Penalized Spline of Propensity Methods for Treatment Comparison". *Journal of the American Statistical Association*, 114(525): 32-35.

[12] **Papadogeorgou G**, Kioumourtzoglou M, Braun D, Zanobetti A (2019). Low Levels of Air Pollution and Health: Effect Estimates, Methodological Challenges, and Future Directions. *Current Environmental Health Reports*, 6(3): 105-115.

[13] **Papadogeorgou G**, Choirat C, Zigler CM (2018). Adjusting for Unmeasured Spatial Confounding with Distance Adjusted Propensity Score Matching. *Biostatistics*, 20(2): 256-272. arXiv:1610.07583v3

Other manuscripts

[1] **Papadogeorgou G**, Bello C, Ovaskainen O, Dunson DB. Covariate-informed latent interaction models: Addressing geographic & taxonomic bias in predicting bird-plant interactions. *In revisions.* arXiv:2103.05557

[2] **Papadogeorgou G**, Imai K, Lyall J and Li F. Causal inference with spatio-temporal data: Estimating the effects of airstrikes on insurgent violence in Iraq. *In revisions.* arXiv:2003.13555.

[3] **Papadogeorgou G**, Mealli F, Zigler CM, Dominici F, Wasfy J, Choirat C. Causal Impact of the Hospital Readmissions Reduction Program on Hospital Readmissions and Mortality. arXiv:1809.09590

Collaborative publications

[1] Antar H, *et al* (including **Papadogeorgou G**) (2019). Analysis of Neuroretinal Rim by Age, Race, and Gender Using High-Density Three-Dimensional Spectral Domain Optical Coherence Tomography. *Journal of Glaucoma*, 28(11): 979:988.

[2] Liu Y, *et al* (including **Papadogeorgou G**) (2019). Diagnostic Capability of 3D Peripapillary Retinal Volume for Glaucoma Using Optical Coherence Tomography Customized Software. *Journal of Glaucoma*, 28(8): 708–717.

[3] Verticchio Vercellin AC, *et al* (including **Papadogeorgou G**) (2018). Diagnostic Capability of Three-Dimensional Macular Parameters for Glaucoma Using Optical Coherence Tomography Volume Scans. *Investigative Ophthalmology & Visual Science*, 59(12): 4998-5010.

[4] Poon LYC, *et al* (including **Papadogeorgou G**) (2018). Effects of Age, Race, and Ethnicity on the Optic Nerve and Peripapillary Region Using Spectral-Domain OCT 3D Volume Scans. *Translational Vision Science & Technology*, 7(6): 12.

[5] Khoueir Z, *et al* (including **Papadogeorgou G**) (2017). Diagnostic Capability of Peripapillary Three-dimensional Retinal Nerve Fiber Layer Volume for Glaucoma Using Optical Coherence Tomography Volume Scans. *American Journal of Ophthalmology*, 182, 180-193.

Funding

[1] National Science Foundation; Algorithm for Threat Detection Program; DMS-2124124. Title: *ATD: Collaborative Research: Causal Inference with Spatio-Temporal Data on Human Dynamics in Conflict Settings.* Role:

Principal Investigator (with Kosuke Imai and Jason Lyall). 9/1/2021 – 8/31/2024. $285,343 (Total amount: $485,340).

[2] 2021 University of Florida Global Fellowship. $5,000.

Honors and Awards

Jan 2019	UF Statistics Winter Workshop Travel Award, Gainesville FL, January 18-19, 2019.
Apr 2018	Young investigator oral presentation award. European Causal Inference Meeting, Florence Italy, April 11-13, 2018.
Fall 2016	Certificate of Distinction in Teaching. Applied Bayesian Analysis. Fall semester 2016.
Nov 2016	Rose Traveling Fellowship. Funding for travel to Florence, Italy to work with Dr. Fabrizia Mealli.
Aug 2016	Student Paper Award. *2016 Joint Statistical Meeting* - Health Policy Statistics Section, Chicago IL, July 30-Aug 4, 2016.
Jun 2016	Poster Award Winner. *ISBA 2016 World Meeting*-EnviBayes, Sardinia Italy, June 13-17, 2016.
Spring 2016	Certificate of Distinction in Teaching. Statistical Inference I. Spring semester 2016.
Spring 2016	The Derek Bok Center Distinction in Teaching award. Statistical Inference I. Spring semester 2016.
Oct 2015	Student Travel Award. Poster presentation at the 2015 *International Conference of Health Policy Statistics*, Providence, Oct 7-9, 2015.
2011-2012	Honorary title from the State Scholarship Foundation for 2nd best GPA (9.7/10) among the third year students of the Department of Mathematics, University of Athens.
2010-2011	Honorary title from the State Scholarship Foundation for 2nd best GPA (9.8/10) among the second year students of the Department of Mathematics, University of Athens.
2009-2010	Honorary title from the State Scholarship Foundation for 3rd best GPA (9.7/10) among the first year students of the Department of Mathematics, University of Athens.

Teaching Experience

University of Florida

STA 4322: Introduction to Statistical Theory. Professor. Undergraduate level.	Spring 2021, Fall 2021
STA 4321: Introduction to Probability. Professor. Undergraduate level.	Fall 2020, Fall 2021

Harvard University

Applied Bayesian Analysis. Teaching Assistant. Master's level.	Fall 2016, Fall 2017
Operational Math. Instructor. PhD level.	Summer 2017
Statistical Inference I. Teaching Assistant. PhD level.	Spring 2015, Spring 2016

Student Advising

Jiayuan (Patrick) Zhou, Research assistant & PhD thesis committee member	Fall 2021
Lingxiao Zhou, Research assistant	Fall 2021
Srijata Samanta, Research assistant	Fall 2021

Yutong Shi, Undergraduate student, independent study	Spring 2021, Fall 2021
Shiyu Li, Master's student, Master's thesis committee member	2021
Deborah Rozum, Master's student, Master's thesis committee member	2021
Trace Myers, Undergraduate student, independent study	Summer 2021
Alexander Theophilopoulos, Undergraduate student, independent study	Fall 2020

Invited Presentations

[1] Cluster randomized trials: Assumptions, estimands, and estimation in the presence of post-randomization selection. *CMStatistics*, December 18-20, 2021.

[2] Two approaches to unmeasured spatial confounding. *Florida State University, Department of Statistics*, October 29, 2021.

[3] Causal inference with spatio-temporal data: Estimating the effects of airstrikes on insurgent violence in Iraq. *University of Texas at Austin, Department of Statistics and Data Sciences*, October 1, 2021.

[4] Two approaches to unmeasured spatial confounding. *University of Florida, Department of Biostatistcs*, August 27, 2021.

[5] Causal inference in high dimensions: A marriage between Bayesian modeling and good frequentist properties. *ISBA*, June 28-July 2, 2021.

[6] Causal inference with spatio-temporal data. *Extreme Value Analysis*, June 28-July 2, 2021.

[7] Two approaches to unmeasured spatial confounding. *UMass Amherst*, April 16, 2021.

[8] Causal inference with spatio-temporal data. *Causal inference group, UC Berkeley*, April 14, 2021.

[9] Two approaches to unmeasured spatial confounding. *BLAST and Causal Inference working groups, Johns Hopkins University*, March 3, 2021.

[10] Discussion of "Causal mediation analysis for sparse and irregular longitudinal data," *Online causal inference seminar*, February 23, 2021.

[11] Causal inference in spatio-temporal settings. *CMStatistics*, December 20, 2020.

[12] Causal inference with spatio-temporal data. *University of Pittsburgh*, October 6, 2020.

[13] Discussion. Session on "Spatial and spatio-temporal confounding in biometrical applications," *International Biometric Conference*, August 4, 2020.

[14] Causal inference with spatio-temporal data: estimating the effects of airstrikes on insurgent violence in Iraq. *Online Causal Inference Seminar*, July 28, 2020.

[15] Causal inference with spatio-temporal treatment and outcomes. Public Health Modeling unit, *Yale School of Public Health*, New Haven, CT, February 7, 2020.

[16] Adjusting for unmeasured spatial confounding with distance adjusted propensity score matching. *Universidad Pública de Navarra*, Pamplona, Spain, December 19, 2019.

[17] Mitigating Unobserved Spatial Confounding Bias with Mixed Models. *SAMSI, Program on Causal Inference, Opening workshop*, Durham, NC, December 9-11,2019.

[18] Causal inference with spatio-temporal treatment and outcomes: Evaluating the effects of airstrikes on insurgent violence in Iraq. *École Polytechnique Fédérale de Lausanne*, Lausanne, Switzerland, November 28, 2019.

[19] Adjusting for unmeasured spatial confounding with distance adjusted propensity score matching. *Bayesian Causal Inference Workshop*, Ohio State University, Columbus, OH, June 2-4, 2019.

[20] Mitigating Unobserved Spatial Confounding Bias with Mixed Models. *Atlantic Causal Inference Conference*, Montreal, Canada, May 22-24, 2019.

[21] Unmeasured spatial confounding in air pollution studies. *The University of Texas at Austin*, May 10, 2019.

[22] A comparative effectiveness study of power plant NO_x emission reduction strategies accounting for spatial confounding and interference. *U.S. Environmental Protection Agency*, Feb 28, 2019.

[23] Spatial Statistics and Causal Inference: Spatial Confounding and Interference in Air Pollution Research. Environmental Epidemiology seminar, *University of North Carolina*, Feb 8, 2019.

[24] Spatial Statistics and Causal Inference: Spatial Confounding and Interference in Air Pollution Research. Online presentation, *SAMSI*, Jan 19, 2018.

[25] Adjusting for Unmeasured Spatial Confounding with Distance Adjusted Propensity Scores. *International Conference on Health Policy Statistics*, Charleston SC, Jan 10-12, 2018.

[26] Statistical challenges in air pollution research: from spatial confounding to interference. Invited seminar at the *University of Minnesota, Department of Biostatistics*, Minneapolis MN, Oct 25, 2017.

Workshops

[1] Workshop title: Bayesian Causal Inference for Experimental and Observational Studies.
Section title: Bayesian Adjustment for Confounding with Continuous Treatments: Introduction and Code.
Speakers: Fabrizia Mealli, Fan Li, Laura Forastiere, Georgia Papadogeorgou.
Atlantic Causal Inference Conference, Montreal, Canada, May 22-24, 2019.

Contributed Posters and Presentations

[1] Soft Tensor Regression. Oral presentation at *CMStatistics*, London, UK, December 14–16, 2019.

[2] Soft Tensor Regression. Poster presentation at the *CRCNS2019 PI Meeting*, Austin, TX, September 2–4, 2019.

[3] Causal Inference with Interfering Units for Cluster and Population Level Treatment Allocation Programs. Topic contributed presentation at the *2019 Joint Statistical Meeting* at Denver, CO, July 27–August 1, 2019.

[4] Soft Tensor Regression. Poster presentation at the *21st Meeting of New Researchers in Statistics and Probability*, Fort Collins, CO, July 24–27, 2019.

[5] Causal Inference for Interfering Units for Cluster and Population Level Treatment Allocation Programs. Poster presentation at the UF Statistics Winter Workshop, Gainesville FL, January 18-19, 2019.

[6] Causal Inference for Interfering Units for Cluster and Population Level Intervention Programs. Oral presentation at the ENAR Spring Meeting, Atlanta GA, March 25-28, 2018.

[7] A Causal Inference Approach for Estimating Health Effects at Low Air Pollution Levels. Oral presentation at the *2017 Joint Statistical Meeting*, Baltimore MD, July 29-August 3, 2017.

[8] Causal Inference for interfering units under treatment regimes that incorporate covariate information in the counterfactual treatment assignment. Poster presentation at the *2017 Atlantic Causal Inference Conference*, Chapel Hill NC, May 23-25, 2017.

[9] Estimating Health Effects at Low Pollution Levels. Poster presentation at the *2017 Sisbayes meeting*, Rome Italy, Feb 7-8, 2017.

[10] Spatial Confounding Adjustment with Propensity Score Matching. Oral presentation at the *2016 Joint Statistical Meeting*, Chicago IL, Jul 29-Aug 3, 2016.

[11] A Causal Inference Approach for Estimating an Exposure Response Curve: Estimating Health Effects at Low Pollution Levels. Poster presentation at the *ISBA 2016 World Meeting*, Sardinia Italy, Jun 13-17, 2016.

[12] A Causal Inference Approach for Estimating an Exposure Response Curve: Estimating Health Effects at Low Pollution Levels. Oral presentation at the 2016 *ENAR Spring Meeting*, Austin TX, Mar 6-9, 2016.

[13] Controlling for Unobserved Spatially Correlated Confounders in Observational Studies. Poster presentation at the 2015 *International Conference of Health Policy Statistics*, Providence, Oct 7-9, 2015.

[14] Estimating the Causal Effect of Coal Burning Power Plants on CO_2 Emissions. Oral presentation at the 2015 *ENAR Spring Meeting*, Miami, Mar 15-18, 2015.

Other Posters and Presentations

[1] Papadogeorgou, G., Dominici, F. (2016). A Causal Inference Approach for Estimating Health Effects at Low Air Pollution Levels. *Environmental Statistics Seminar*. Harvard University.

[2] Papadogeorgou, G., Zigler, C. (2016) Unmeasured spatial confounding. *Environmental Statistics Seminar*. Harvard University.

[3] Papadogeorgou, G., Dominici, F., Zigler, C. (2014). Estimating the Causal effect of switching from coal to natural gas as primary fuel of power plants on CO_2 emissions. Interactive poster presentation at the *HSPH Poster Day*, Harvard T.H. Chan School of Public Health, Boston, Nov 7, 2014.

Professional Service

Organizer

[1] Online Causal Inference Seminar (June 2021 – present) — https://sites.google.com/view/ocis/

[2] University of Florida Winter Workshop 2022 on *Algorithm Fairness and Bias in AI*

[3] University of Florida Statistics seminar series (2021–2022)

Editorial Activity

The American Statistician, Associate Editor, Dec 2021–present

Journal Referee

Journal of the American Statistical Association
Biometrika
Annals of Applied Statistics
Biometrics
Biostatistics
Journal of the Royal Statistical Society: Series A, B & C
Epidemiology
American Journal of Epidemiology
Journal of Causal Inference
Statistics in Medicine
Statistical Methods in Medical Research
PLOS One
Journal of Clinical Epidemiology

Spatial Economic Analysis
Environment International
Methods in Ecology and Evolution

Student competition judge

ASA – Section on Bayesian Statistical Science Student Paper Competition 2019 & 2022

Grant Reviewer

Wellcome Trust
Harvard Chan – NIEHS Center for Environmental Health

Interests

Running, (European) handball, rock climbing, traveling.

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