Joseph Lawrence Antonelli, Ph.D.

CONTACT INFORMATION	University of Florida Department of Statistics 206 Griffin-Floyd Hall, P.O. Box 118545 Gainesville, FL 32611-8545	Mobile phone: 352-359-8037 jantonelli111@gmail.com Citizenship: United States

CURRENT POSITION	Assistant Professor, Department of Statistics University of Florida, Gainesville, FL	2018 - present

EDUCATION	Ph.D. Biostatistics, Harvard University *Thesis:* Statistical methods for analyzing complex spatial and missing data *Advisors:* Professors Francesca Dominici and Brent Coull	2015
	M.A. Biostatistics, Harvard University	2013
	B.S. Statistics, The University of Florida *Summa Cum Laude*	2011

RESEARCH AND PROFESSIONAL EXPERIENCE	Postdoctoral Research Fellow, Department of Biostatistics Harvard T.H. Chan School of Public Health, Boston, MA	2015 - 2018
	Statistical Consultant, Brigham and Women's Hospital Boston, MA	2015 - 2018
	Decision Support Analyst Intern, Google Inc. Mountain View, CA	2013
	Environmental Statistics Trainee, National Institutes of Health Boston, MA	2011 - 2015
	Statistical Programming Intern, Department of Pharmaceutical Outcomes and Policy Gainesville, FL	2010 - 2011
	Actuarial Intern, Tower Hill Insurance Company Gainesville, FL	2009

TEACHING EXPERIENCE	Professor, University of Florida Department of Statistics *Course:* Introduction to Probability	2018
	Course Developer, Harvard Department of Biostatistics *Course:* Applied Bayesian Methodology	2016
	Teaching Assistant, Harvard Department of Biostatistics *Course:* Advanced Topics in Clinical Trials	2014
	Teaching Assistant, Harvard Department of Biostatistics *Course:* Bayesian Methodology in Biostatistics.	2013 - 2014
	Teaching Assistant, Harvard Department of Biostatistics *Course:* Statistical Programming in R	2012

Teaching Assistant, Harvard Department of Biostatistics 2012
Course: Introduction to Python

ADVISING EXPERIENCE	Armando Turchetta, Masters student (Co-advisor) 2017

HONORS AND AWARDS

2017 JSM Biometrics section young investigators award for "Doubly robust matching estimators for high dimensional confounding adjustment"

2016 International Society for Bayesian Analysis (ISBA) young investigator travel award

2015 Harvard Biostatistics award for excellence in teaching

2015 International Conference on Health Policy Statistics (ICHPS) student travel award

2014 ENAR distinguished student paper award for "Mitigating bias in generalized linear mixed models: The case for Bayesian nonparametrics"

Recipient of Harvard scholarship to attend a course on environmental genetics in Cyprus, 2012

Phi Beta Kappa, 2010

REFEREED JOURNAL PUBLICATIONS

Antonelli JL Daniels, M. Invited discussion of "Penalized spline of propensity methods for treatment comparison". *Journal of the American Statistical Association.* To appear.

Antonelli JL, Parmigiani G, Dominici F. High dimensional confounding adjustment using continuous spike and slab priors. *Bayesian Analysis.* 2018.

Antonelli JL, Cefalu M, Palmer N, Agniel D. Doubly robust matching estimators for high dimensional confounding adjustment. *Biometrics.* 2018.

Antonelli JL, Han B, Cefalu M. A synthetic estimator for the efficacy of clinical trials with all-or-nothing compliance. *Statistics in Medicine.* 36.29 (2017): 4604-4615.

Makar M, **Antonelli JL* (Co-first author)**, Di Q, Cutler D, Schwartz J, Dominici F. Estimating the causal effect of low levels of fine particulate matter on hospitalization. *Epidemiology.* 28.5 (2017): 627-634.

Antonelli JL, Zigler CM, Dominici F. Guided Bayesian imputation to adjust for confounding when combining heterogeneous data sources in comparative effectiveness research. *Biostatistics.* 2017

Antonelli JL, Schwartz J, Kloog I, Coull B. Spatial multiresolution analysis of the effect of $PM_{2.5}$ on birth weights. *The Annals of Applied Statistics* 2017; 11.2: 792-807.

Antonelli JL, Cefalu M, Bornn L. The positive effects of preferential sampling in environmental epidemiology. *Biostatistics* 2016; 17(4): 764-778.

Antonelli JL, Trippa L, Haneuse S. Mitigating bias in generalized linear mixed models: The case for Bayesian nonparametrics. *Statistical Science* 2016; 31.1: 80-95.

PUBLICATIONS UNDER REVIEW

Antonelli JL, Mazumdar M, Bellinger D, Christiani D, Wright R, Coull B. Estimating the health effects of environmental mixtures using Bayesian semiparametric regression and sparsity inducing priors. *arXiv:1711.11239.* Under revision. *The Annals of Applied Statistics.*

Antonelli JL, Dominici F. A Bayesian semiparametric framework for causal inference in high-dimensional data. *arXiv: 1805.04899.* Under revision. *Biometrics.*

Bai R, Moran G*, **Antonelli JL* (Co-first author)**, Chen Y, Boland M. Spike-and-slab group lassos for grouped regression and sparse generalized additive models. *arXiv: 1903.01979.* Under revision. *Journal of the American Statistical Association*

Antonelli, JL, Claggett B* (Co-first author), Henglin M, Watrous J, Demler O, Hushcha P, Demler O, Mora S, Pereira A, Jain M, Cheng S. Statistical methods and workflow for analyses of high-throughput metabolomics data. *arXiv:1710.03436*. Under revision. *Metabolites*.

Henglin M, Niiranen T, Watrous J, Lehmann K, **Antonelli JL**, Claggett B, Demosthenes E, Von Jeinsen B, Ramachandran V, Larson M, Jain M, Cheng S. A single visualization technique for displaying multiple metabolite-phenotype associations. *arXiv:1710.04687*. Under revision. *Metabolites*.

Antonelli JL, Cefalu M. Averaging causal estimators in high dimensions. *arXiv: 1906.09303*.

Claggett B, **Antonelli JL* (Co-first author)**, Henglin M, Watrous J, Lehmann K, Musso G, Correia A, Jonnalagadda S, Demler O, Ramachandran V, Larson M, Jain M, Cheng S. Quantitative comparison of statistical methods for human disease trait association with mass spectrometry based metabolomics data. *arXiv:1710.03443*.

Kurtz S, **Antonelli JL**, Persia T, Lehmann L. A national survey of physician assistants attitudes on assisted dying.

Nittrouer S, Lowenstein J, **Antonelli JL**. Parental language input to children with hearing loss: does it matter in the end?

INVITED TALKS

Invited conference speaker: "A Bayesian semiparametric framework for causal inference in high-dimensional data.' 'Atlantic Causal Inference Conference (ACIC). Montreal, Canada. 2019.

Invited seminar speaker. "Estimating the health effects of environmental mixtures using Bayesian semiparametric regression and sparsity inducing priors". University of Tampa Department of Mathematics. 2019.

Invited conference speaker: "A Bayesian semiparametric framework for causal inference in high-dimensional data.' 'Eastern North American Regional (ENAR) Biometrics Conference. Philadelphia, PA. 2019.

Invited seminar speaker. "Estimating the health effects of environmental mixtures using Bayesian semiparametric regression and sparsity inducing priors". University of Athens Department of Mathematics. 2018.

Invited seminar speaker. "Estimating the health effects of environmental mixtures using Bayesian semiparametric regression and sparsity inducing priors". University of Florida Department of Biostatistics. 2018.

Invited seminar speaker: "Bayesian variable selection for multi-dimensional semiparametric regression models." Boston Bayesians. 2018.

Invited conference speaker: "A Bayesian semiparametric framework for causal inference in high-dimensional data.". International Indian Statistical Association Conference. Florida. 2018.

Invited seminar speaker: "Bayesian variable selection for multi-dimensional semiparametric regression models." Yale University. 2017.

Invited seminar speaker: "Bayesian variable selection for multi-dimensional semiparametric regression models." McGill University. 2017.

Invited seminar speaker: "Bayesian variable selection for multi-dimensional semiparametric regression models." University of Florida. 2017.

Invited seminar speaker: "Bayesian variable selection for multi-dimensional semiparametric regression models." New York University. 2017.

Invited conference speaker: "High dimensional confounding adjustment using continuous spike and slab priors". CMStatistics. London. 2017.

Topic contributed talk: "Doubly robust matching estimators for high dimensional confounding adjustment." Joint Statistical Meetings. Baltimore, MD. 2017.

Webinar: "Estimating the causal effect of low levels of fine particulate matter on hospitalization". EPA STAR Webinar. 2017.

Invited seminar speaker: "Spatial multiresolution analysis of irregularly spaced grids with application to the effect of PM2.5 on birth weights". Georgetown University. 2017.

Invited lecture: "Using wavelets to decompose air pollution surfaces". Georgetown University. 2017.

Webinar: "Estimating the causal effect of lowering particulate matter levels below the United States standards on hospitalization and death: An observational study using an open cohort". Health Effects Institute Webinar Series. 2016.

Invited seminar speaker: "A synthetic estimator for the efficacy of clinical trials with all-or-nothing compliance" RAND corporation. Los Angeles, CA, 2016.

Invited seminar speaker: "Spatial multiresolution analysis of irregularly spaced grids with application to the effect of PM2.5 on birth weights." Harvard University Department of Biostatistics Environmental Health Seminar, 2014.

CONTRIBUTED TALKS	Contributed poster: "Bayesian Distributed Lag Interaction Models Using Spike and Slab Priors". NIEHS PRIME Program Meeting. Durham, NC. 2019.

Contributed talk: "Nonparametric Bayes models for doubly robust causal inference for high-dimensional data". European Causal Inference Conference. Florence, Italy. 2018

Contributed poster: "A flexible, tensor regression approach to estimating the health effects of chemical mixtures.". IMS New Researchers Conference. Baltimore, MD. 2017

Contributed poster: "A flexible, tensor regression approach to estimating the health effects of chemical mixtures.". Bayesian Nonparametric Conference. Paris, France. 2017

Contributed poster: "High dimensional confounding adjustment using continuous spike and slab priors". Atlantic Causal Inference Conference. Raleigh, NC. 2017

Contributed talk: "High dimensional confounding adjustment using continuous spike and slab priors". Eastern North American Region Conference. Washington DC. 2017

Contributed talk: "Guided Bayesian imputation to adjust for confounding when combining heterogeneous data sources in comparative effectiveness research." Joint Statistical Meetings. Chicago, IL, 2016.

Contributed poster: "Guided Bayesian imputation to adjust for confounding when combining heterogeneous data sources in comparative effectiveness research." International society for Bayesian Analysis Conference. Sardinia, Italy, 2016.

Contributed talk: "Guided Bayesian imputation to adjust for confounding when combining heterogeneous data sources in comparative effectiveness research." Eastern North American Region Conference. Austin, Texas, 2016.

Contributed poster: "Guided Bayesian imputation to adjust for confounding when combining heterogeneous data sources in comparative effectiveness research." International Conference on Health Policy Statistics. Providence, RI, 2015.

Contributed talk: "Spatial multiresolution analysis of irregularly spaced grids with application to the effect of PM2.5 on birth weights." Joint Statistical Meetings. Seattle, WA, 2015.

Contributed talk: "Mitigating bias in generalized linear mixed models: The case for Bayesian nonparametrics." Eastern North American Region Conference. Miami, FL, 2015.

Contributed poster: "The positive effects of preferential sampling in environmental epidemiology." New England Statistics Symposium. Boston, MA, 2014.

SOFTWARE

DoublyRobustHD: An R package for doubly robust estimation of causal effects in high dimensions (available at `github.com/jantonelli111/DoublyRobustHD`)

SSGL: An R package to implement the spike and slab group lasso model (available at `github.com/jantonelli111/SSGL`)

HDconfounding: An R package for high-dimensional confounding adjustment for continuous or binary exposures (available at `github.com/jantonelli111/HDconfounding`)

NLinteraction: An R package for flexible Bayesian estimation of interaction models (available at `github.com/jantonelli111/NLinteraction`)

Irregular2dWavelets: An R package for two-dimensional wavelet decompositions on unequally spaced grids (available at `github.com/jantonelli111/Irregular2dWavelets`)

JOURNAL REFEREE

Journal of the American Statistical Association; *Biometrics*; *Annals of Applied Statistics*; *Journal of the Royal Statistical Society Series A*; *Biostatistics*; *Journal of Causal Inference*; *Statistics in Medicine*; *Statistical Methods in Medical Research*; *Journal of Behavioral and Educational Statistics*; *Epidemiology*; *International Journal of Environmental Science and Technology*; *Multivariate Behavioral Research*; *Medical Decision Making*

DEPARTMENTAL SERVICE

University of Florida Department of Statistics PhD Curriculum Committee	2018 - present
Harvard Biostatistics Environmental Statistics Seminar organizer	2016 - 2017
Harvard Biostatistics Computing Committee	2015 - 2016