

Ruiyan Luo

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EDUCATION

- PhD **University of Wisconsin–Madison**, Statistics, 2007.
- MS **Tianjin University, China**, Applied Mathematics, 2002.
- BS **Tianjin University, China**, Applied Mathematics, 2000.

EXPERIENCE

- Associate Professor, School of Public Health, Georgia State University. Spring 2017 – present.
- Assistant Professor, School of Public Health, Georgia State University. Fall 2012 – Spring 2017.
- Assistant Professor, Department of Mathematics and Statistics, Georgia State University. Fall 2010 – Summer 2012.
- Postdoctoral Associate, Department of Epidemiology and Public Health, Yale University. Fall 2007– Spring 2010.
- Research Assistant, Department of Statistics, University of Wisconsin–Madison. Fall 2003 – Spring 2007.
- Teaching Assistant, Department of Statistics, University of Wisconsin–Madison. Fall 2002 – Spring 2003.

PEER REVIEWED PUBLICATIONS ⁺Graduate student

1. **Ruiyan Luo** and Xin Qi. Functional regression with multivariate responses. (submitted)
2. **Ruiyan Luo** and Xin Qi. (Accepted) Interaction model and model selection for function-on-function regression. *Journal of Computational and Graphical Statistics*.
3. Jason Stout, Yanjue Wu, Christine Ho, April Pettit, Pei-Jean Feng, Dolly Katz, Smita Ghosh, Thara Venkatappa, **Ruiyan Luo**, Tuberculosis Epidemiologic Studies Consortium. (2018) Evaluating Latent Tuberculosis Infection Diagnostics Using Latent Class Analysis. *Thorax*. DOI: 10.1136/thoraxjnl-2018-211715
4. Xin Qi and **Ruiyan Luo**. (Accepted) Nonlinear functional regression with functional response and multiple functional predictors. *Statistica Sinica*. DOI: 10.5705/ss.202017.0249
5. Christine Stauber, Ellis Adjei Adams, Richard Rothenberg, Dajun Dai, Ruiyan Luo, Scott Weaver, Amit Prasad, Megumi Kano, John Heath. (2018) Measuring the impact of environment on the health of large cities. *Int. J. Environ. Res. Public Health*. **15(6)**, 1216. DOI: 10.3390/ijerph15061216
6. Kristina Theis, Douglas Roblin, Charles Helmick, **Ruiyan Luo** (2018) Employment Exit and Entry among U.S. Adults with and without Arthritis during the Great Recession, a Longitudinal Study: 2007-2009: NHIS/MEPS. *WORK*. DOI: 10.3233/WOR-2739
7. Xin Qi, and **Ruiyan Luo**. (2018) Function on function regression with thousands of predictive curves. *Journal of Multivariate Analysis*. **163(C)**: 51-66.
8. **Ruiyan Luo**, and Xin Qi (2017) Signal extraction approach for sparse multivariate response regression. *Journal of Multivariate Analysis*. **153**: 83-97.
9. **Ruiyan Luo**, and Xin Qi (2017) Asymptotic optimality of sparse linear discriminant analysis with arbitrary number of classes. *Scandinavian Journal of Statistics*. **44(3)**: 598-616.
10. **Ruiyan Luo**, and Xin Qi (2017) Function-on-function linear regression by signal compression. *Journal of American Statistical Association*. **112(518)**:690-705.
11. +David Melton, **Ruiyan Luo**, Brett Wong, Ivan Spasojevic, Lynne Wagenknecht, Ralph D'Agostino, Dora Il'yasova (2017) Urinary F2-Isoprostanes and the Risk of Hypertension. *Annals of Epidemiology*. **27(6)**: 391-396.
12. Dajun Dai, Richard Rothenberg, **Ruiyan Luo**, Scott Weaver, and Christine Stauber (2017) Improvement of Geographic Disparities: Amelioration or Displacement? *Journal of Urban Health*. 94(3):417-428. Doi:10.1007/s11524-017-0151-4

13. ⁺Kristina Theis, Doug Roblin, Charles Helmick, **Ruiyan Luo**. (2017) Prevalence and Causes of Work Disability among Working-Age U.S. Adults, 2011-2013, NHIS. *Disability and Health Journal*. DOI: 10.1016/j.dhjo.2017.04.010
14. Haley DF, Linton S, **Ruiyan Luo**, Hunter-Jones J, Adimora AA, Wingood GM, Bonney L, Ross Z, Cooper HLF. (2017) Public Housing Relocations and Relationships of Changes in Neighborhood Disadvantage and Transportation Access to Unmet Need for Medical Care. *J Health Care Poor Underserved* 28(1):315-28. doi: 10.1353/hpu.2017.0026
15. **Ruiyan Luo**, and Xin Qi (2016) Functional wavelet regression for function-on-function linear models. *Electronic Journal of Statistics*. **10(2)**: 3179-3216.
16. Praveen Mannam, Navin Rauniyar, TuKiet T. Lam, **Ruiyan Luo**, Patty J Lee, Anup Srivastava. (2016) MKK3 influences mitophagy and is involved in cigarette smoke induced COPD. *Free Radical Biology and Medicine*. <http://www.sciencedirect.com/science/article/pii/S0891584916304452>
17. Hannah LF Cooper, Loida Bonney, **Ruiyan Luo**, Danielle F. Haley, Sabriya Linton, Josalin Hunter-Jones, Zev Ross, Gina M. Wingood, Adaora A. Adimora, and Richard Rothenberg (2016) Public Housing Relocations and Partnership Dynamics in Areas with High Prevalences of Sexually Transmitted Infections. *Sexually Transmitted Diseases*. **43(4)**: 222-230.
18. Sabriya L. Linton, Hannah LF Cooper, **Ruiyan Luo**, Conny Karnes, Kristen Renneker, Danielle F. Haley, Emily F. Dauria et al. (2016) Changing places and partners: associations of neighborhood conditions with sexual network turnover among African American adults relocated from public housing. *Archives of Sexual Behavior*. 1-12.
19. Shuzhao Li, Andrei Todor, and **Ruiyan Luo**. (2016) Blood transcriptomics and metabolomics for personalized medicine. *Computational and Structural Biotechnology Journal*. **14**: 1-7.
20. Sabriya L. Linton, Hannah LF Cooper, **Ruiyan Luo**, Conny Karnes, Kristen Renneker, Danielle F. Haley, Josalin Hunter-Jones, Zev Ross, Loida Bonney, and Richard Rothenberg. (2016) People and places: relocating to neighborhoods with better economic and social conditions is associated with less risky drug/alcohol network characteristics among African American adults in Atlanta, GA. *Drug and Alcohol Dependence*. **160**: 30-41.
21. **Ruiyan Luo**, and Xin Qi (2015) Sparse wavelet regression for multiple predictive curves. *Journal of Multivariate Analysis*. **134**: 33-49.

22. Xin Qi, and **Ruiyan Luo** (2015) Sparse principal component analysis in Hilbert space. *Scandinavian Journal of Statistics*. **42**: 270-289.
23. Xin Qi, **Ruiyan Luo**, Raymond J. Carroll, and Hongyu Zhao (2015) Sparse regression by projection and sparse discriminant analysis. *Journal of Computational and Graphical Statistics*. **24(2)**: 416-438.
24. Meiyong Zhu, Jiang Li, Zhiyuan Li, Wei Luo, Dajun Dai, Scott R. Weaver, Christine Stauber, **Ruiyan Luo**, and Hua Fu (2015) Mortality rates and the causes of death related to diabetes mellitus in Shanghai Songjiang District: an 11-year retrospective analysis of death certificates. *BMC Endocrine Disorders*: 15:45. [DOI: 10.1186/s12902-015-0042-1]
25. Zhengjia Chen, +Ye Cui, Taofeek K Owonikoko, Zhibo Wang, Zheng Li, **Ruiyan Luo**, Michael Kutner, Fadlo R Khuri, Jeanne Kowalski (2014) Escalation with Overdose Control using All Toxicities and Time to Event Toxicity Data in Cancer Phase I Clinical Trials. *Contemporary Clinical Trial*. **37(2)**: 322-332.
26. Xin Qi, **Ruiyan Luo** and H. Zhao (2013) Sparse principal component analysis by choice of norm. *Journal of Multivariate Analysis*. **114**: 127-160.
27. Anita M. Nucci, Caitlin Sundby Russell, **Ruiyan Luo**, Vijay Ganji, Flora Olabopo, Barbara Hopkins, Michael F. Holick, and Kumaravel Rajakumar (2013) The Effectiveness of a Short Food Frequency Questionnaire in Determining Vitamin D Intake in Children. *Dermato-Endocrinology*. **5(1)**: 1-6.
28. **Ruiyan Luo** and Hongyu Zhao (2012) Protein quantitation using iTRAQ: review on the sources of variations and analysis of nonrandom missingness. *Statistics and Its Interface*. **5(1)**: 99-107.
29. **Ruiyan Luo** and Hongyu Zhao (2011) Bayesian hierarchical modeling for signaling pathway inference from single cell interventional data. *Annals of Applied Statistics*. **5(2A)**: 725-745.
30. Alberto Davalos, Carlos Fernandez-Hernando, Grzegorz Sowa, Behrad Derakhshan, Michelle I. Lin, Ji Y. Lee, Hongyu Zhao, **Ruiyan Luo**, Christopher Colangelo, and William C. Sessa (2010) Quantitative proteomics of caveolin-1 regulated proteins: Characterization of PTRF/Cavin-1 in endothelial cells. *Molecular & Cellular Proteomics*. **9(10)**: 2109-2124.
31. **Ruiyan Luo**, Christopher M. Colangelo, William C. Sessa, and Hongyu Zhao (2009) Bayesian analysis of iTRAQ data with nonrandom missingness: identification of differentially expressed proteins. *Statistics in Biosciences*. **1(2)**: 228-245.

32. **Ruiyan Luo** and Bret Larget (2009) Modeling substitution and indel processes for AFLP marker evolution and phylogenetic inference. *Annals of Applied Statistics*. **3(1)**: 222-248.
33. **Ruiyan Luo**, Andrew L. Hipp, and Bret Larget (2007). A Bayesian model of AFLP marker evolution and phylogenetic inference. *Statistical Applications in Genetics and Molecular Biology*. **6**, Article 11.
34. Xiaoguang Yang, **Ruiyan Luo**, and Zhiping Feng (2007) Using amino acid and peptide composition to predict membrane protein types. *Biochemical and Biophysical Research Communications*. **353(1)**: 164-169.
35. **Ruiyan Luo**, Zhiping Feng, and Jiakun Liu. (2002) Prediction of protein structural class by amino acid and polypeptide composition. *European Journal of Biochemistry*. **269**: 4219-4225.

PAPERS UNDER WORK ⁺Graduate student

1. **Ruiyan Luo** and Xin Qi. Functional regression for highly densely observed spiky functional data.
2. ⁺Israel Hora, and **Ruiyan Luo**. Estimating county-level diabetes prevalence in Florida using Bayesian Hierarchical Model.
3. ⁺Tracy Ayers, **Ruiyan Luo**, Omore R, Ochieng B, Farag TH, Nasrin D, Panchalingam S, Nataro JP, Kotloff KL, Levine MM, Oundo J, Parsons MB, Bopp C, Laserson K, Stauber CE, Breiman RF, Mintz E, O'Reilly CE1 and Hoekstra RM. Comparing model selection methods for assessing etiologies associated with moderate-to-severe diarrhea in children <5 years old, rural western Kenya 2008-2012. (In CDC clearance process)

HANDBOOK AND EVALUATION REPORTS

- Christine Stauber, Dajun Dai, Rich Rothenberg, Scott Weaver, **Ruiyan Luo**. Comparison of Cities using the Urban Health Index: An Analysis of Demographic and Health Survey Data from 2003-2013. Report submitted to the World Health Organization–Kobe Centre for Health Development. (2015).
- Scott R Weaver, Dajun Dai, Christine Stauber, **Ruiyan Luo**, Richard Rothenberg. (2014) The Urban Health Index: A handbook for its calculation and use. ISBN: 9789241507806. http://www.who.int/kobe_centre/publications/UHI_Handbook.pdf.

PRESENTATIONS

- “Interaction and Model Selection for Function-On-Function Regression” at JSM, Baltimore, MA, August 1, 2017.
- “Function-on-function regression for highly densely observed spiky functional data” at Chinese Academy of Science, Beijing China, June 19, 2017.
- “Function-on-function regression for highly densely observed spiky functional data” (Invited) at EcoSta 2017, Hongkong, China, June 15, 2017.
- “Function-on-function regression for highly densely observed spiky functional data” at Nankai University, Tianjin China, June 12, 2017.
- “Function-on-function regression with thousands of predictive curves” at Tianjin Medical University School of public health, Tianjin China, June 12, 2017.
- “Function-on-function regression with thousands of predictive curves” at Center for statistical science at Peiking University, Beijing China, May 25, 2017.
- “Function-on-function regression for highly densely observed spiky functional data” at the Department of Mathematics and Statistics, Auburn University, November 18, 2016.
- “Scalars-on-function linear regression with large number of functional predictors” at JSM, Chicago, IL, August 1, 2016.
- “Nonlinear function on function regression with multiple prediction curves” at JSM, Chicago, IL, August 1, 2016.
- “Function on function regression with thousands of predictive curves.” at ICSA 2016 symposium, Atlanta, GA, June, 2016.
- “Functional Regression with Functional Response by Signal Compression” at the Department of Mathematics and Statistics, GSU, Atlanta, January 2015.
- “Functional Regression with Functional Response by Signal Compression” at 2015 JSM, Seattle, WA, August 11, 2015.
- “Functional Regression with Functional Response by Signal Compression” at ICDSA 7, Atlanta, GA, May 30, 2015.
- “A Sparse Linear Discriminant Analysis Method with Asymptotic Optimality for Multiclass Classification” at 2014 ICSA-KISS Applied Statistics Symposium, Portland, OR, June 17, 2014.

- “Introduction to Bayesian Statistics” at CDC, Atlanta, GA, May 20, 2013.
- “Sparse regression by projection” at the 27th New England Statistical Symposium, University of Connecticut, April 27, 2013.
- “Biological Network Inference from Genomics Data ” at ICSA 2012 symposium, Boston, MA, June 25, 2012.
- “Inference and analysis of biological networks” at the Department of Mathematics and Statistics, Georgia State University, Atlanta, GA, February 13, 2012.
- “Sparse PCA and PLS by choice of norm” at the Department of Biostatistics and Bioinformatics, Emory University, Atlanta, GA, October 20, 2011.
- “Bayesian hierarchical modeling for signaling pathway inference” at the Department of Biostatistics and Bioinformatics (Bioinformatics group meeting), Emory University, Atlanta, GA, April 22, 2011.
- “Bayesian hierarchical models in proteomics studies” at the Department of Mathematics and Statistics, Georgia State University, Atlanta, GA, September 3, 2010.
- “Bayesian hierarchical modeling for signaling pathway inference” at the Department of Mathematics and Statistics, Georgia State University, Atlanta, GA, May 25, 2010.
- “Bayesian hierarchical modeling for signaling pathway inference” at the Department of Mathematics and Statistics, University of New Mexico, Albuquerque, NM, May 3, 2010.
- “Bayesian hierarchical modeling for signaling pathway inference” at the Department of Statistics, Kentucky University, Lexington, KY, January 26, 2010.
- “Bayesian analysis of iTRAQ data with nonrandom missing” at the Joint Statistical Meetings, Washington DC, August 4, 2009.
- “Bayesian analysis of iTRAQ data with nonrandom missing: Identification of differentially expressed proteins” at the 13th NHLBI Proteomics Investigator Meeting, Texas, April 16, 2009.
- “Sub-ID: A model of AFLP evolution and its use in Bayesian estimation of phylogenies” at the Department of Epidemiology and Public Health, Yale University, April 3, 2007.
- “Sub-ID: A model of AFLP evolution and its use in Bayesian estimation of phylogenies” at the Department of Statistics, Chicago University, January, 2007.

- “A model of AFLP Evolution and its use in Bayesian estimation of phylogenies” at the Joint Statistical Meetings, Seattle, August 9, 2006.
- “Bayesian modelling of AFLP data for phylogenetic inference” at the Department of Botany, University of Wisconsin–Madison, March 30, 2006.
- “A Bayesian modeling of AFLP data and phylogenetic inference” at the Joint Statistical Meetings, Minneapolis, August 11, 2005.

LECTURES, POSTERS and ABSTRACTS ⁺Graduate student

- ⁺Alexandria R. Mitchell, Melissa Coughlin, Matthew Hayat, **Ruiyan Luo**, Paul A. Rota, Bettina Bankamp, “Evaluating a Measles and Rubella Multiplex Bead Assay for countries in the WHO Global LabNet using a Multilevel Modeling Framework” at the 15th Southeastern Regional Virology Conference, Atlanta, GA, March 16-18, 2018.
- Matt Hayat, Betty Lai, **Ruiyan Luo**, Scott Weaver, Katherine Masyn, “Guidelines for assessment and instruction in statistics education (GAISE): Extending GAISE into public health education” at the Center for Instructional Effectiveness 6th Annual Conference on Scholarly Teaching, Atlanta, GA, 2016.
- Dajun Dai, **Ruiyan Luo**, “Examining Progress of Urban Disparities in Social Determinants of Health – A Case Study of Atlanta, Georgia” at the Workshop on Health, Wellbeing and Geography, Hong Kong, May 19, 2015.
- Sophia Linton, Hannah Cooper, **Ruiyan Luo**, Conny Karnes, Kristen Renneker, Danielle Haley, Josalin Hunter-Jones, Zev Ross, Loida Bonney, Rich Rothenberg. “People and places: relocating to neighborhoods with better economic and social conditions is associated with less risky drug/alcohol network characteristics among adults in Atlanta, GA”. 48th meeting of the Society for Epidemiologic Research (2015). Denver, CO.
- Sabriya Linton, Hannah Cooper, **Ruiyan Luo**, Conny Karnes, Kristen Renneker, Danielle Haley, Emily Dauria, Josalin Hunter-Jones, Zev Ross, Wingood G, Adimora A, Loida Bonney, Rich Rothenberg. “Relationships between improvements in neighborhood conditions and sexual network dynamics among adults relocating from public housing”. 8th Conference on HIV Pathogenesis, Treatment Prevention of the International AIDS Society (2015). Vancouver, BC, Canada.
- ⁺Kristina A. Theis, Douglas Roblin, C.G. Helmick, **Ruiyan Luo**. “Sex differences and similarities in reporting musculoskeletal conditions as common causes of work disability”. The 2015 Work, Stress, and Health Conference. Atlanta, GA (2015)

- ⁺Sophia A. Banton, **Ruiyan Luo**, Shuzhao Li. “Epidemiological analysis of mixed chemical exposure using structural equation models”. NIEHS Workshop Statistical Approaches for Assessing Health Effects of Environmental Chemical Mixtures in Epidemiology Studies, July 13–14, 2015; NIEHS Main Campus, Rodbell A, B, C, Research Triangle Park, North Carolina, USA.
- Christine Stauber, MS Natividade, Scott Weaver, Dajun Dai, **Ruiyan Luo**, Rich Rothenberg, M, Kano, A. Prasad, ML Barreto, EA Mota. “Examining Social Determinants of Health in Salvador, Bahia, Brazil”. Presentation at International Symposium on Minority Health and Health Disparities (ISMHHD), National Harbor, Maryland. (2014)
- ⁺Ye Cui, Zhengjia Chen, Zhibo Wang, **Ruiyan Luo**, and FR Khuri. “Time-to-Event Dose Escalation with Overdose Control Method using Continuous Toxicity Scores”. Workshop on 2nd Biostatistics and Bioinformatics, Department of Mathematics and Statistics, GSU, 2013.
- ⁺Yichao Yin, and **Ruiyan Luo** “Identification of Differential Gene Pathways with Sparse Principal Component Analysis”. 2nd Workshop on Biostatistics and Bioinformatics, Department of Mathematics and Statistics, GSU, 2013.

SCHOLARLY PRODUCTS: SOFTWARE

Available on web page <http://sites.gsu.edu/rluo/software/>

- **Ruiyan Luo**, Xin Qi. R package: FRegSigComp: signal compression for function-on-function regression models. <https://cran.r-project.org/web/packages/FRegSigComp/index.html>
- **Ruiyan Luo**, Xin Qi. R package: SiER: signal extraction for multivariate linear regression models. <https://cran.r-project.org/web/packages/SiER/index.html>
- **Ruiyan Luo**, Xin Qi. wSigComp: wavelet-based signal compression for function-on-function regression models (2016)
- Scott R Weaver, Dajun Dai, Christine Stauber, **Ruiyan Luo**, Richard Rothenberg. (2014) Calculating the Urban Health Index (UHI).
- **Ruiyan Luo**, Hongyu Zhao. Bayesian hierarchical modeling for signaling pathway inference (2010)
- **Ruiyan Luo**, Hongyu Zhao. Bayesian analysis of iTRAQ data (2009)

- **Ruiyan Luo**, Bret Larget. AFLP marker evolution and phylogenetic inference: general and restricted definitions for loci (2007)

GRANTS

- Funded
 1. Co-Investigator, *Effects of Resistance Exercise Training in Community-Dwelling Older Chinese Americans*, \$7,000, from Lewis College Intramural Grant Program. PI: Mei-Lan Chen.
 2. Co-Investigator, *Effectiveness of functional strength training in virtual reality games for improving arm function in children with cerebral palsy – A pilot Sequential Multiple Assignment Randomized Trial (SMART) Design*, \$25,000, from the Healthcare Innovation Program in collaboration with the Atlanta Clinical & Translational Science Institute and Georgia State University (HIP-ACTSI-GSU Seed Grant). PI: Yuping Chen. 2/1/2016 – 1/31/2017
 3. Co-PI, *Establish a tripartite collaboration between Georgia State, Hong Kong Baptist University and the University of Cape Town, South Africa*, \$10,000, from Georgia State University Tripartite Collaboration (Hong Kong, South Africa). PI: Richard Rothenberg. 12/15/2014–6/15/2015.
 4. Co-Investigator, *Urban Health Index Mega-City Project*, \$50,000, from World Health Organization, Center for Health Development, Kobe, Japan. PI: Christine Stauber. 8/18/2014-5/31/2015.
 5. Co-Investigator, *Public housing relocations: Impact on HIV risk and drug use*, \$2,953,708, from NIH-R01 (DA029513-04). PI: Hannah Cooper. Subcontract: The construct and interpret analytic models that test hypotheses about the relationships of changes in neighborhood and network characteristics to changes in sexual health and substance use (S507907), \$80,249. 6/1/2014–5/30/2015.
 6. Co-Investigator, *Development of an Urban Health Index Toolkit*, \$25,000, from the World Health Organization, Center for Health Development, Kobe, Japan. PI: Scott Weaver. 12/15/2013–6/30/2014.
 7. Co-Investigator, *Evaluation of nutrition strategies to achieve enteral autonomy in children with short bowel syndrome*, from Georgia State University. PI: Anita M Nucci. 11/01/2013-06/30/2014.
 8. Co-Investigator, *Transnational comparison of Urban Health Indicators and Indices*, \$84,000, from Georgia State University Research initiation cities grant. PI: Richard Rothenberg. 07/01/2013-06/30/2014.

9. Principal Investigator, *Hierarchical model for identification of condition-specific networks*, \$7,000, from the Cleon C. Arrington Research Initiation Grant Program (URSA Internal Grants). 07/01/2011–06/30/2012.

- Pending

1. PI, *Regression on functional data of complex structure*, \$421,593 from NSF. 6/1/2018–5/31/2021.
2. Co-I,
3. Co-I, *Effect of a socially interactive robot with serious games for arm function for children with cerebral palsy*, 2,375,000 from Depart of Health and Human Services (PI: Yu-Ping Chen). 10/1/2018–9/30/2023.
4. Co-I, *Novel alternative approach to studying ENDS fetal newborn toxicity* (PI: Dora Il'yasova), \$1,191,616 from NIH. 9/1/2018–8/31/2020.
5. Co-I, *The impact of design characteristics on the modification of electronic nicotine delivery systems* (PI: David Ashley), from NIH/FDA.
6. Co-I, *Validating kicking parameters to enable early diagnosis of infants at risk for cerebral palsy* (PI: Yu-Ping Chen), \$414,474 from NIH. 9/1/2018–8/31/2020. *Elderly first-generation immigrants health study of culturally tailored SMS messages for the prevention of metabolism syndrome* (PI: Ike Okosun), \$483,950 from NIH. 9/1/2018–8/31/2020.

- Not funded

1. PI, *Functional regression for complex functional data and image data*, \$388,116 from NSF. 6/1/2017–5/31/2020.
2. Co-PI, *Smart Interactive Systems for Longitudinal Diagnosis and Intervention for Children at-risk of Cerebral Palsy*, \$110,584, subcontract from NSF SCH:INT: Smart, Interactive Measurement Systems to Support Diagnosis and Longitudinal Intervention for Children at Risk of Cerebral Palsy (PI: Patricio A Vela). 8/1/2017–7/31/2021.
3. Co-PI, *DNA methylation epigenetic signatures of high blood pressure in West African Descent Populations*, from NIH R21. PI: Ike Okosun. 7/1/2017–6/30/2019.
4. Co-Investigator, *Effect of e-cigarettes on Endothelial Progenitor Cells: Cell-Based Study in a Population of Newborns*, \$2,942,781, from NIH. PI: Dora Il'yasova. 4/2017–4/2022.
5. Co-Investigator, *Variability Of Responses To Metabolic Disruptors In Human Newborns*, \$403,202, from NIH. PI: Dora Il'yasova. 4/1/2017–3/31/2019.

6. Co-Investigator, *Comparing the Effects of In-home Therapy Games to Improve Arm Function in Children with Cerebral Palsy*, \$420,551, from NIH. PI: Yu-ping Chen. 4/2017-6/2019.
7. Co-Investigator, *Mitochondrial dysfunction as an indicator of environmental perinatal toxicity*, from NIH R21. PI: Dora Il'yasova.
8. Co-PI, *Local Methods For Parametric And Nonparametric Estimation In Differential-algebraic Equations*, \$ 519,545, from NSF. PI: Xin Qi. 8/16/2014-8/15/2017.
9. Co-Investigatort Biostatistician, *Metabolic Disparities Underlying Racial Differences In Urinary F2-isoprostanes: A Step Toward Targeted Interventions*, from NIH. PI: Dora Il'yasova.
10. Co-Investigator Biostatistician, *Feasibility Study Of Home-based Locomotor Intervention In Young Children With Down Syndrome*, from NIH R03. PI: Jianhua Wu. 12/1/2015-11/30/2017.
11. Co-Investigator Biostatistician, *Feasibility Study Of Bone Mineral Accrual In Boys With Down Syndrome: A Longitudinal Design*, \$150,000, from NIH . PI: Jianhua Wu. 4/1/2015-3/31/2018.
12. Co-Investigator Biostatistician, *An Adaptive Intervention For Retention In HIV Care*, \$7,106,159, from NIH/NIDA. PI: Richard Rothenberg. 1/1/2016-12/31/2021.
13. Co-Investigator Biostatistician, *Expansion and refinement of an Urban Health Index*, \$100,000, from World Health Organization. PI: Richard Rothenberg. 6/2015-6/2016.
14. Co-Investigator, *Systems immunology models and application to acute lung injury*, 63,243, from NIH R01. PI: Shuzhao Li. 4/1/2015-3/31/2018.
15. Co-Investigator, *Prospective Examination Of Nutrition And Feeding Problems In Premature Infants*, from NIH. PI: Anita M Nucci.
16. Co-Investigator, *An Us-UK-China Trilateral Partnership To Study The Health Effects Of Environmental Pollution*, \$250,000, from US Department Of State. PI: Richard Rothenberg. 2014-2015.
17. Co-PI, *Sparse regression by projection and its application in high-dimension statistics*, \$148,447, from NSF. PI: Xin Qi. 08/16/2013—08/15/2016.
18. Co-PI, *SUNCOR-sparse uncorrelated components for dimension reduction in high-dimensional problems*, \$137,991, from NSF. PI: Xin Qi. 08/16/2012—08/15/2014.
19. Co-Investigator, *Impact of exercise intervention in adults with Down syndrome*, \$144,500, from NIH. PI: Jianhua Wu. 07/01/2012—06/30/2014.

20. Co-Investigator, *National health disparities data and research coordinating center (NHDDRCC)*, \$5,176,844, from NIH. PI: Richard Rothenberg. 09/01/2011—08/31/2016.
21. Co-Investigator, *Bone mineral accrual in children and adolescents with Down syndrome*, \$289,000, from NIH. PI: Jianhua Wu. 09/01/2011—08/31/2013.
22. PI, *Joint modeling multiple graphs for causal network inference and studies of condition-specific interactions*, \$56,817, from NSF. 06/16/2011—06/15/2013.

TEACHING ACTIVITIES

(22 courses taught since 2010. ** NEW course in SPH)

Term	Course Number	Course Title	Students
	<i>20 courses completed</i>		<i>700</i>
Fall 2016	PH7027	Fundamental of Biostatistics II	25
Fall 2016	PH8820	Categorical data & Generalized linear models	20
Spring 2016	PH7027	Fundamental of Biostatistics II	25
Spring 2016	PH7027	Fundamental of Biostatistics II	20
Fall 2015	PH7027 **	Fundamental of Biostatistics II	21
Fall 2015	PH8820	Generalized linear models	12
Spring 2015	PH7029	Categorical data analysis	16
Fall 2014	PH7028	Topics of inference in Biostatistics	6
Fall 2014	PH8027	Biostatistics II	21
Spring 2014	PH7029 **	Categorical data analysis	24
Spring 2014	PH8170	Applied correlation & regression	18
Fall 2013	PH7028 **	Topics of inference in Biostatistics	11
Fall 2013	PH8027	Biostatistics II	20
Spring 2013	PH7017	Public health Biostatistics	27
Spring 2013	PH8170 **	Applied correlation & regression	11
Fall 2012	PH8027 **	Biostatistics II	12
Spring 2012	MATH1070 (3 sections)	Elementary Statistics	47/47/46
Fall 2011	MATH4751/6751	Mathematical Statistics	30/8
Fall 2011	STAT8090	Applied multivariate Statistics	30
Spring 2011	MATH1070 (3 sections)	Elementary Statistics	47/47/46
Spring 2011	MATH4751/6751	Mathematical Statistics	26/12
Fall 2010	MATH4544/6544, BIOL4744/6744	Biostatistics	1/2 17/5

Additional Teaching Activities

- Directed reading (PH8910)
 - Statistical programming with R in Summer 2010.
 - Using classification methods for analysis of public health data in Fall 2014.
- Guest lecture
 - Introduction to Bayesian Statistics
 - Introduction to high dimensional data analysis

THESIS/DISSERTATION SUPERVISION

(15 committee chairs, 20 committee members)

- Chair for the dissertation committee (Department of Mathematics and Statistics):
 1. David Yankey (2011 Fall-2018 Spring): “An Estimation of County-Level Vaccination Coverage for Human Papillomavirus Vaccine Among Adolescents Aged 13-17 Years in South Eastern United States of America Using Bayesian and Spatial Effects Models”.
 2. Israel Hora (2011 Fall-2017 Spring): “Estimation of County-level Diabetes Prevalence using Bayesian Hierarchical Model”.
 3. Ye Cui (2013 Spring): “Advanced Designs of Phase I and Phase II Cancer Clinical Trials”. Awarded Dissertation Grant of FY 2013 at Georgia State University.
- Chair for the thesis committee (School of Public Health):
 1. Circe McDonald (2017 Spring): “Preprocessing strategies for multiplex bead assay data for use in quantitative trait loci analysis”.
 2. Nerline Jacques (2017 Spring): “Effects of family history on glucose metabolism among mild cognitive impaired patients: a longitudinal study”. Zainab Salah (2017 Spring): “Predicting Alzheimer disease status using high-dimensional MRI data based on Lasso constrained generalized linear models”.
 3. Tejal Vashi (2017 Spring): “Predicting Alzheimer disease status based on MRI brain scans using sparse principal component analysis”.
 4. Aastha Vashist (2016 Fall): “Genetic differentiation of oral and oropharyngeal carcinoma based on Human Papillomavirus Status and Race”.

5. Garrett W. Mahon (2016 Fall): “Analysis of Suicides across Geographical and Spatial Differences: A comparison of suicide rates between Urban and Rural populations in Georgia”.
 6. Nicholas Johnson (2016 Spring): “ Modeling non-linear relationships between DNA methylation and age: the application of regularization methods to predict human age and the implication of DNA methylation in immunosenescence”.
 7. Zanju Wang (2015 Spring): “Latent Tuberculosis Infection among Immigrant and Refugee Children Aged 2-14 Years Who Arrived in the United States in 2008-2012”.
 8. Sophia Banton (2015 Summer): “Pathway group lasso for integrating metabolomics and transcriptomics”.
 9. Yanjue Wu (2014 Fall): “Asthma Related with Vog Exposure in Schoolchildren on Hawaii Island”.
 10. David Yankey (2014 Fall): “Study of human papillomavirus vaccination status in US”.
 11. Everett Allen (2013 Spring): “An Investigation of Perceived Stress on Cardiovascular Health over time measured by Ultrasound Carotid IMT”.
- Chair for the thesis committee (Department of Mathematics and Statistics):
 1. Benjamin Fredua (2015 Spring), “Multinomial logistic regression analysis of varicella vaccination-2011 national immunization survey (NIS) – teen survey data”.
 2. Yichao Yin (2013 Spring), “Identification of differential gene pathways with sparse principal component analysis”.
 3. Laura Vezquez (2012 Spring), “Sparse uncorrelated canonical correlation analysis”.
 - Dissertation committee member (School of Public Health):
 1. Payal S. Shah (2017-present), “Hypoglycemia Investigation, Intervention, and Prevention Operation (HIIPO): Screening for Risk Factors for Hypoglycemia using the HIPO System: A Randomized Control Trial”.
 2. Tracy L Ayers (2016 Spring), “Machine learning approaches for assessing moderate-to-severe diarrhea in children < 5 years of age, rural western Kenya 2008-2012”.
 3. Kristina A. Theis (2014 Fall), “Arthritis Impact on Employment Participation among U.S. Adults: A Population-Based Perspective”.
 - Dissertation committee member (Department of Mathematics and Statistics):

1. Jenny Jeyarajah (2016 Fall), “Constructing empirical likelihood confidence intervals for medical cost data with censored observations”.
 2. Jing Wang (2016 Fall), “Functional principal component analysis for discretely observed functional data & Sparse Fisher’s discriminant analysis with thresholded linear constraints”.
 3. Chenxue Li (2016 Summer), “Some novel statistical inferences”.
 4. Xiaoyuan Wang (2014 Fall), “Data mining analysis of the parkinson’s disease”.
 5. Yanhong Wang (2013 Fall), “Clustering, classification, and factor analysis in high dimensional data analysis”.
 6. Haochuan Zhou (2011 Fall), “Statistical inferences for the Youden index”.
- Thesis committee member (School of Public Health):
 1. Oluwadamilola Ode-Martins (2018 Spring), “Estimation of Excess Mortality Associated with Influenza and Pneumonia in Mexico from 2010-2016”.
 2. Zakaria Robow (2018 Spring), “Spatial & Temporal Modelling of Tuberculosis in Mexico, Impact of Socioeconomic Status, Over the Last Decade”.
 3. Purva Bulsara (2018 Spring), “The prevalence of physical activity among female cancer survivors in the United States”.
 4. Alexandria Mitchell (2018 Spring), “Evaluating a Measles and Rubella Multiplex Bead Assay for countries in the WHO Global Laboratory Network using Hierarchical Models”.
 5. Pranusha Dubbaka (2018 Spring), “Comparative analysis of co-morbid conditions and driving status among older adults”.
 6. Yeong-Ruey Chu (2016 Fall), “Estimation of the annual rates of glioma in the general population of Taiwan adults”.
 7. Noreen Kloc (2015 Fall), “Insulin Dynamic Measures and Weight Change”.
 8. David Melton (2014 Fall), “Oxidative status and hypertension: an examination of the prospective association between urinary F2-Isoprostanes and hypertension”.
 - Thesis committee member (Department of Mathematics and Statistics):
 1. Yan Qian (2014 Summer), “MRI signal intensity analysis of novel protein-based MRI contrast agents”.
 2. Yanan Yin (2013 Fall), “Jackknife empirical likelihood-based confidence intervals for low income proportions with the missing data”.

3. Chenxue Li (2013 Fall), “Generalized confidence intervals for partial Youden Index and its corresponding optimal cut-off point”.
4. Wen Zhou (2013 Fall), “Classification for 2011-2012 Bangladesh integrated household survey by iterative clustering technique”.
5. Yunfeng Tie (2013 Spring), “Antiretroviral regimens in HIV-infected adults receiving medical care in the united states: medical monitoring project, 2009”.
6. Fang-di Yang (2012 Fall), “Racial differences in the prevalence of depressive disorders among US adult population”.
7. Zhengbo Ma (2011 Spring), “Jackknife empirical likelihood for U-statistics”.
8. Gabriella Reizer (2011 Spring), “Stability selection of the number of clusters”.
9. Yueheng An (2010 Fall), “Empirical likelihood confidence intervals for ROC curves with missing data”.

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

The American Statistical Association (ASA)

DEPARTMENT SERVICE

- Member of Biostatistics Faculty recruit committee in SPH (2018 Spring)
- member of MPH admission committee in SPH (2018 Spring)
- Member of Faculty Award committee in SPH (2017 Spring, 2018 Spring)
- Member of Student Tech Fee committee in School of Public Health (2016 Fall)
- Member of Ad Hoc Biostatistics Committee in School of Public Health (2014 Fall–2016 Fall)
- Prepare and grade biostatistics problems in SPH comprehensive exam for PhD students (2012-2016)
- Member of TT and NTT Biostatistics Faculty Search Committee in School of Public Health (2013 Fall–2014 Spring)
- Member of the Admission Committee in Institute of Public Health (2013 Spring, 2014 Spring, 2016 Spring)

- Member of the Academic Affair Committee in Institute of Public Health (2012 Fall – 2016 Spring)
- Member of Admission Committee in the Department of Mathematics and Statistics (2011 – 2012)
- Member of Visiting Lecturer Hiring Committee (2011 Spring).
- Committee member of PhD students (Statistics) qualify exams in 2010 Fall and 2011 Spring.
- Committee member of Statistics Graduate Committee in the Department of Mathematics and Statistics (2010 – 2012)

PROFESSIONAL SERVICE

- Journal Reviewer:
Journal of the American Statistical Association, Annals of Applied Statistics, Statistica Sinica, Biometrics, Computational Statistics and Data Analysis, Technometrics, Mathematical Biosciences, Plantcell, Statistical Papers, Journal of Statistical Education, Journal of Applied Statistics.
- Conference Organizer or Chair:
 - Session Organizer, International Chinese Statistical Association 2016 Symposium, Atlanta, Georgia. (June 2016).
 - Session Chair, International Chinese Statistical Association 2016 Symposium, Atlanta, Georgia. (June 2016).
 - Session Chair, 2015 Joint statistical meetings, Seattle, Washington. (August 2015).
 - Session Chair, 3rd Biostatistics and Bioinformatics, Atlanta, Georgia. (May 9, 2014 - May 11, 2014).
 - Session Chair, 2nd Biostatistics and Bioinformatics, Atlanta, Georgia. (May 10, 2013 - May 12, 2013).