

HONGMEI ZHANG**University Address**

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Education

2003	Ph.D.	Statistics	Iowa State University, Ames, IA
2001	M.S.	Statistics	Iowa State University, Ames, IA
1999	M.S.	Mathematics	Truman State University, Kirksville, MO
1997	M.S.	Electronic Engineering	Nanjing Research Institute of Technology, Nanjing, China

Professional Experience

2017 – present	Professor (tenured) and Bruns Endowed Professor Division of Epidemiology, Biostatistics, and Environmental Health Sciences, University of Memphis, Memphis, TN
2016 – present	Division Director, Division of Epidemiology, Biostatistics, and Environmental Health Sciences, University of Memphis, Memphis, TN
2013 – present	Program Coordinator (Biostatistics), Division of Epidemiology, Biostatistics, and Environmental Health Sciences, University of Memphis, Memphis, TN
2017 – present	Professor, Department of Mathematical Sciences, University of Memphis, TN (affiliated faculty)
2017– present	Professor, Bioinformatics in the Department of Biology, University of Memphis, TN (affiliated faculty)
2013 – 2017	Associate Professor (tenured) Division of Epidemiology, Biostatistics, and Environmental Health Sciences, University of Memphis, Memphis, TN
2013 – 2017	Associate Professor, Department of Mathematical Sciences, University of Memphis, TN (affiliated faculty)
2013 – 2017	Associate Professor, Bioinformatics in the Department of Biology, University of Memphis, TN (affiliated faculty)
2012 – 2013	Associate Professor (tenured) Department of Epidemiology and Biostatistics, University of South Carolina, Columbia, SC
2007 – 2012	Assistant Professor Department of Epidemiology and Bio-statistics, University of South Carolina, Columbia, SC
2003 – 2007	Assistant Professor Department of Mathematics and Statistics, University of West Florida

2003 – 2007	Pensacola, FL Statistical consultant Department of Mathematics and Statistics, University of West Florida Pensacola, FL
2001– 2002	Research Assistant, Laurence H. Baker Center in Biological Statistics Ames, IA
1999 – 2001	Research Assistant, Statistical Computing Section, Department of Statistics, Iowa State University, Ames, IA.
1990 – 1994	Technician, Nanjing Research Institute of Electronic Technology, Nanjing, China

Recent Memberships and Professional Services

Memberships

1999 – present	American Statistical Association (ASA) (2021: Fellow) Citation: <i>For outstanding service and leadership in biostatistics education; for extensive collaborative efforts in epidemiological and medical research; and for notable contributions to variable selection and clustering methods and practice</i>
2020 – present	Selected as senior member of Sigma Xi Honor Society
2004 – 2005	Mathematical Association of America (MAA)

Professional Services

2021 – present	2022 Chair-Elect, Risk Analysis Section, ASA
2020	Nominated as the Chair-elect of the ASA Risk Analysis section
2020 – present	President of the ASA West Tennessee Chapter Officers
2017 – 2019	Supervise newly elected ASA West Tennessee Chapter Officers
2009 – 2013	Secretary/Treasurer of the ASA South Carolina Chapter
2007	Vice president of the ASA Florida Chapter
2005 – 2007	Secretary/Treasurer of the ASA Florida Chapter
2016 – 2017	Funder and Organizer of the Division of Epidemiology, Biostatistics, and Environmental Health Colloquium. University of Memphis, Memphis, TN
2014	Section Chair of the “Bayesian Nonparametric Methods and Some Applications” at the 2014 Joint Statistical Meeting, Boston MA
2012	Organizer of the ASA South Carolina Chapter 2013 Meeting
2007 – 2010	Organizer of the BIOS Forum, University of South Carolina
2007	Chair of the ASA Florida Chapter 2005 Meeting organizing committee
2006	Section Chair of the “Bayesian Statistics” at the International Conference, Statistics, Mathematics, and Related fields, Hawaii
2005	Section Chair of the “DNA Data and Microarray Measurements” at the 2005 Joint Statistical Meeting, Minneapolis, Minnesota.

Referee/Reviewer for funding agencies

2016 – present	NIH/NIEHS P30 review panel (standing member)
	NIH/NIEHS Training grants review panel (standing member)
2016 – 2018	NIH KNOD Research Initiative review panel (temporary)
	NIH/NICHHD P01 review panel (temporary)
	NIH/NHLDB secondary data analyses review panel (R21) (temporary)
2015	NIH/ Children’s Environmental Health & Disease Prevention Research Centers (Special panel)

2015 NIH KNOD Research Initiative review panel (temporary)
2013 NIH/NIAID IRAP Research Initiative review panel (temporary)
2012 Health Effects Institute, USA
2011 Medical Research Council (MRC), United Kingdom
2008 Reviewer for the 2008 Arnold School of Public Health Seed Grant Applications

Reviewer for Journals

Journals in Statistics/Biostatistics: Biometrics; Biostatistics; Journal of Agricultural, Biological, and Environmental Statistics (JABES); Computational Statistics and Data Analysis; Statistics in Medicine; Contemporary Clinical Trials; American Journal of Biostatistics; Environmental and Ecological Statistics, JRSS-C; Journal of Applied Statistics.

Journals in genetic/epigenetic statistics: Mathematical Biosciences; Briefings in Bioinformatics; Bioinformatics; BMC in Bioinformatics; GENE; Journal of Genetics; Proceedings of the National Academy of Sciences (PNAS); Journal of Genetica; The Journal of Applications in Genetics and Molecular Biology; Journal of Evolutional Biology; PLoSOne; Epigenomics; Epigenome.

Journals in the applied field (allergy, asthma, and immunology): The Journal of Allergy and Clinical Immunology (JACI).

Reviewer for publishers

2017 – present CRC Press, LCC

Editorial Board

American Journal of Biostatistics (member), Computational and Mathematical Methods in Medicine (guest editor)

Awards and Honors

2018	PI Millionaire University of Memphis, Memphis, TN
2010	Promising Investigator Research Award University of South Carolina, Columbia, SC
2006	Collaborative Research Award University of West Florida, Pensacola, FL
2006	University Summer Research Award University of West Florida, Pensacola, FL
2004	University Summer Research Award University of West Florida, Pensacola, FL
2003	The George W. Snedecor Award in Statistics Iowa State University, Ames, IA
2003	Vince Sposito Computing Excellence Award, Iowa State University, IA
2002	Vera David Fellowship, Iowa State University, IA

Research grant applications

Funded projects (sorted by starting year and ending year):

Active grants:

- 1) Title: Does epigenetic methylation explain the gender-switch in adolescent asthma?
PI: Hongmei Zhang

Funding Source: NIAID/NIH
Amount funded: \$3,036,427
Duration: 01/01/2016 – 12/31/2021
Role and % effort: PI (20%)

- 2) Title: Effect of Prenatal Compounds on Adult Lung Function via Neonatal DNA
PI: Wilfried Karmaus
Funding Source: NHLBI/NIH
Amount funded: \$3,282,776
Duration: 09/01/2016 – 08/31/2021
Role and % effort: Co-I (10% on average)

- 3) Title: Epigenome-wide association study of childhood asthma
PIs: Arshad, Peters, Vijay
Funding Source: NIAID/NIH
Amount funded: \$3,875,019
Duration: 09/01/2016 – 08/31/2021
Role and % effort: Co-I (5%)

- 4) Title: Epigenetics of severe asthma
PIs: Arshad, Peters, Vijay
Funding Source: NHLBI/NIH
Amount funded: \$2,712,390
Duration: 04/01/2017 – 03/31/2022
Role and % effort: Co-I (3%)

- 5) Title: Single exosome protein profiling with surface enhanced Raman scattering imaging
PIs: Huang, Hoang
Funding Source: NIH/NCI
Amount funded: \$300,000
Duration: 4/1/2020 – 3/30/2023
Role and % effort: Co-I (5%)

Completed grants:

- 1) Title: Examining Resilience in Youth Exposed to Maternal Intimate Partner Violence
Substance Use, and HI
PI: Howell
Funding Source: NICHD/NIH
Amount funded: \$416,009
Duration: 3/2017 – 2/2020
Role and % effort: Co-I (5%)
- 2) Title: Joint patterns of multi-genetic/epigenetic factors via non-parametric clustering and their
association with allergic diseases
PI: Meredith Ray
Funding Source: NIAID/NIH
Amount funded: \$140,000
Duration: 01/2018 – 12/31/2019
- 3) Title: Does epigenetic methylation explain the gender-switch in adolescent asthma?
PI: Hongmei Zhang
Funding Source: Asthma and Allergy Foundation of America
Amount funded: \$40,000

Duration: 08/07/2015 – 08/06/2017

Role and % effort: PI (10%)

- 4) Title: Patterns of infant feeding and child's health at six years of age

PI: Wilfried Karmaus

Funding Source: CDC HRSA R40

Amount funded: \$100,000

Duration: 04/01/2016 – 03/31/2017

Role and % effort: Co-I (5%)

- 5) Title: Phenomics: Joint clustering to associate changes in allergy and asthma over time (R21)

PI: Hongmei Zhang

Funding Source: NIAID/NIH

Amount funded: \$372,111.00

Duration: 1/15/2013 – 1/14/2016 (no cost extension)

Role and % effort: PI (25%)

- 6) Title: Transgenerational epigenetic inheritance of allergy in a multigenerational cohort (R01)

PI: Wilfried Karmaus

Funding Source: NIAID/NIH

Amount funded: \$2,676,923.00

Duration: 1/2011–12/2015

Role and % effort: Co-I and lead statistician (20% with a support of graduate assistants for all years and a Post-Doc for years 3 to 5)

- 7) Title: Vitamin D and Related Genes, Race, and Prostate Cancer Aggressiveness

PI: Susan Steck

Funding Source: DOD

Amount funded: \$713,828

Duration: 1/2011–12/2015 (no cost extension)

Role and % effort: Co-I and lead statistician (7% on average. The 3rd year is no-cost extension)

- 8) Title: South Carolina Cancer Disparities Community Network – II

PI: James Hebert

Funding Source: NIH

Amount funded: \$4,778,222.00

Dates: 07/2010 – 06/2015

Role and % effort: Co-I and lead statistician (5% on years 1 to 4, and 15% on year 5)

- 9) Title: Data analysis on sleep disruption as a risk factor of cancer among veterans

PI: Hongmei Zhang

Funding source: Department of Veteran's Affairs, Health Services Research & Development

Amount funded: \$35,000.00

Duration: 09/01//2012 – 08/31/2013

Role and % effort: PI (10%)

- 10) Title: Use of a Community-University Partnership to Eliminate Environmental Stressors (P50)

PI: Sacoby Wilson

Funding source: NIH

Amount funded: 1,215,541.00

Duration: 9/2009 – 6/2013

Role and % effort: Co-I and lead statistician (10%)

- 11) Title: Sleep Disruption among Veterans: Implications for Cancer Risk

PI: Jim Burch

Funding source: Department of Veteran's Affairs, Health Services Research & Development

Amount funded: \$99,529.00

Duration: 03/2011 – 02/2012

Role and % effort: Co-I and lead statistician (10%)

- 12) Title: Multiple Modes of Infant Feeding and Trajectories Influencing Infant Health
PI: Wilfried Karmaus
Funding Source: HSRA
Amount funded: \$100,000.00
Duration: 02/2010 – 01/2011
Role and % effort: Co-I and lead statistician (10%)
- 13) Title: Joint Clustering Methods Through Quantile Regression
PI: Hongmei Zhang
Funding Source: Office of Research and Graduate Education, University of South Carolina
Amount funded: \$10,000.00
Duration: 4/2010 – 7/2011
Role and % effort: PI (10%, no salary support but with student and local travel support)
- 14) Title: Measuring gene expression in epithelial duct cells collected from breast milk
PI: Wilfried Karmaus
Funding Source: USC Medical School - The Interdisciplinary Conference on Pregnancy and the Health of Women and Children
Total Amount: \$3,000
Dates: 01/2009 – 04/2009
Role and % effort: Co-I and lead statistician (no salary release)
- 15) Title: Epidemiology of asthma: risk & prognosis in a cohort from birth to adolescence
PI: Wilfried Karmaus (USC subcontract)
Funding source: NIH
Amount funded: \$236,000.00
Duration: 6/2009 – 5/2012
Role and % effort: Co-I and lead statistician (20% with support of graduate assistants for all years)
- 16) Title: Evaluate Micronutrient Effect to The Prevention of South Carolina Neural Tube Defect Accommodating Measurement Errors and Bias
PI: Hongmei Zhang
Funding Source: Research Opportunity Program, University of South Carolina
Amount funded: \$9,000.00
Duration: 05/2008 – 08/2009
Role and % effort: PI (10%, no salary support but with student and local travel support)
- 17) Title: Summer Research on False Positive Quad Screening Tests
PI: Hongmei Zhang
Funding Source: USC Medical School - The Interdisciplinary Conference on Pregnancy and the Health of Women and Children
Total Amount: \$3,000
Dates: 05/2008 – 8/2008
Role and % effort: PI (10%, no salary support but with student support)
- 18) Title: The Influence of Gender on Molecular Signatures of Fibrotic Lung Disease
PI: Hongmei Zhang (MPI with Tara Sabo-Attwood)
Funding Source: NIH
Amount funded: \$140,040.00
Duration: 9/2008 – 8/2010 (extended to 8/2011)
Role and % effort: PI (10%)
- 19) Title: Stress, endocrine disruption, and adverse pregnancy outcomes
PI: Wilfried Karmaus
Funding source: GEAR, EPSCoR/IDeA
Amount funded: \$36,000.00
Duration: 12/2008 – 04/2009

Role and % effort: Co-I and lead statistician (2.5%)

20) Title: Combinatorial and Statistical Problems in Genomics

Co-PI: Hongmei Zhang, Rohan Hemasinha

Funding Source: NSF

Total Amount: \$110,000.00

Dates: 05/2007 – 08/2008

Role and % effort: Co-PI (10%)

21) Title: Sampling Design in Biological Area and Phylogenetic Analysis in Genetics

PI: Hongmei Zhang

Funding Source: University of West Florida

Amount funded: \$6,250.00

Duration: 05/2006 – 11/2006

Role and % effort: PI (20%)

22) Title: Future Sampling Plan for Unseen Species with Finite Population

PI: Hongmei Zhang

Funding Source: University of West Florida

Amount funded: \$6,250.00

Duration: 05/2004 – 11/2004

Role and % effort: PI (20%)

Publications

Book:

H Zhang. Analyzing High-dimensional Gene Expression and DNA Methylation Data with R. CRC Press; 2020 May 14. ISBN-13: 978-0367495169. ISBN-10: 0367495163.

**: co-authors are students/post-docs under my supervision, or I was the corresponding author. Other students/Post-docs as the first author or a co-author are underlined.*

Article accepted or in press

Statistical Applications:

1. S Sunny*, **H Zhang***, C Relton, S Ring, L Kadalayil, F Mzayek, S Ewart, J Holloway, H Arshad. *Sex-specific longitudinal association of DNA methylation with lung function*. ERJ Open Research. **2021**; in press (<https://doi.org/10.1183/23120541.00127-2021>).

Article published

Statistical methods:

2. X Huang, **H Zhang**. *Tests for differential Gaussian Bayesian networks based on quadratic inference functions*. Computational Statistics & Data Analysis. **2021** Jul 1;159:107209.
3. X Huang, **H Zhang**. *Corrected score methods for estimating Bayesian networks with error-prone nodes*. Statistics in Medicine. 40: 2692– 2712. <https://doi.org/10.1002/sim.8925>, **2021**.
4. J Wang*, S Han, **H Zhang***. *A Nested Clustering Method to Detect and Cluster Transgenerational DNA Methylation Sites Via Beta Regressions* in Modern Statistical Methods for Health Research, edited by Y Zhao, D Chen, Springer, **2021**.

5. **H Zhang**, X Huang, ..., JW Holloway. *Gaussian Bayesian network comparisons with graph ordering unknown*. Computational Statistics and Data Analysis. <https://doi.org/10.1016/j.csda.2020.107156>, **2020**.
6. MA Ray*, D Bowman, R Csontos, RV Arsdale, **H Zhang**. *A Matrix-Variate Dirichlet Process to Model Earthquake Hypocenter Temporal Patterns*. Statistical Modeling: an International Journal. <https://doi.org/10.1177/1471082X20939767>, **2020**.
7. J Ren, F Zhou, X Li, Q Chen, **H Zhang**, S Ma, Y Jiang, C Wu. *Semi-parametric Bayesian variable selection for gene-environment interactions*. Statistics in Medicine. DOI:10.1002/sim.8434. **2019**.
8. Y Jiang, **H Zhang***, SV Andrews, H Arshad, S Ewart, JW Holloway, MD Fallin, KM Bakulski, W Karmaus. *Estimation of Eosinophil Cells in Cord Blood with References Based on Blood in Adults via Bayesian Measurement Error Modeling*. Bioinformatics. <https://doi.org/10.1093/bioinformatics/btz839>, **2019**.
9. S Han*, **H Zhang**, W Sheng & H Arshad. *The nested joint clustering via Dirichlet process mixture model*, Journal of Statistical Computation and Simulation, 89:5, 815-830, DOI: 10.1080/00949655.2019.1572756. **2019**.
10. M Ray*, J Kang, and **H Zhang**, *Detecting Spatial Clusters via a Mixture of Dirichlet Processes*, Journal of Probability and Statistics, vol. 2018, Article ID 3506794, 12 pages, **2018**. <https://doi.org/10.1155/2018/3506794>.
11. **H Zhang**, Y Zou*, W Terry*, W Karmaus, H Arshad. *Joint clustering with correlated variables*, *The American Statistician*, DOI: 10.1080/00031305.2018.1424033. **2018**.
12. A Kaushal*, **H Zhang**, W Karmaus, M Ray, MA Torres, AK Smith, S Wang. *Comparison of different cell type correction methods for genome-scale epigenetics studies*. BMC Bioinformatics. Vol. 18, 216. **2017**.
13. W Terry*, **H Zhang**, A Maity, H Arshad, W Karmaus. *Unified Variable Selection in Semi-parametric Models*. Statistical Methods in Medical Research. **2017** Dec;26(6):2821-31.
14. S Han*, **H Zhang**, W Karmaus, G Roberts, H Arshad. *Adjusting background noise in cluster analyses of longitudinal data*. Computational Statistics and Data Analysis. DOI: 10.1016/j.csda.2016.11.009. **2016**.
15. M Ray*, X Tong*, GA Lockett, **H Zhang**, W Karmaus. *An efficient approach to screening epigenome-wide data*. BioMed Research International. Vol. 2016, Article ID 2615348, 16 pages. **2016**.
16. S Han*, **H Zhang**, R Homayouni, W Karmaus. *An efficient Bayesian approach for Gaussian Bayesian network structure learning*. Communications in Statistics - Simulation and Computation. 10.1080/03610918.2016.1143103. **2016**.
17. M Ray*, J Kang, **H Zhang**, *Identifying Activation Centers with Spatial Cox Point Processes Using FMRI Data*, in IEEE/ACM Transactions on Computational Biology and Bioinformatics, Vol. 13, 1130-1141. **2016**.
18. **H Zhang**, X Huang, J Gan*, W Karmaus, T Sabo-Attwood. *A Two-component G-prior for Variable Selection*. Bayesian Analysis. Vol. 11: 353-80. **2016**.
19. **H Zhang**, A Maity, H Arshad, J Holloway, W Karmaus. *Variable selection in semi-parametric models*. Statistical Methods in Medical Research. **2016** Aug;25(4):1736-52.
20. S Han*, **H Zhang**, G Lockett, N Mukherjee, J Holloway, W Karmaus, *Identifying heterogeneous transgenerational DNA Methylation Sites via Clustering in Beta Regression*. Annals of Applied Statistics. Vol. 9: 2052-2072. **2015**.
21. X Huang, **H Zhang**. *Variable selection in linear measurement error models via penalized score functions*. Journal of Statistical Planning and Inference. Vol. 143: 2101-2111. **2013**.
22. B Omolo, **H Zhang**, W Karmaus. *Cautions of Using Allele-Based Tests Under Heterosis*. International Journal of Statistics in Medical Research. Vol. 2: 47-54. **2013**.
23. **H Zhang**, J Gan*. *A reproducing kernel-based spatial model in Poisson regression*. International Journal of Biostatistics. Vol. 8, pages 28. **2012**.

24. H He*, **H Zhang**, A Maity, Y Zou, J Hussey, W Karmaus. *Power of a reproducing kernel-based method for testing the joint effect of a set of single-nucleotide polymorphisms*. *Genetica*. DOI 10.1007/s10709-012-9690-5. **2012**.
25. **H Zhang**, K Ghosh, and P Ghosh. *Sampling designs via a multivariate hypergeometric-Dirichlet process model for a multi-species assemblage with unknown heterogeneity*. *Computational Statistics and Data Analysis*. Vol. 56: 2562-2573. **2012**.
26. D Rahardja, Y Zhao, and **H Zhang**. *Bayesian credible sets for a binomial proportion based on one-sample binary data subject to one type of misclassification*. *Journal of Data Science*. Vol. 10: 51-59. **2012**.
27. J Gan*, **H Zhang**, R Best. *Mixture of measurement errors and their impact on parameter Inferences*. *Journal of Statistical Computing and Simulation*. Vol. 83: 613-626. **2011**.
28. **H Zhang**, W Karmaus, J Gan*, W Bao*, Y Zhao, D Rahardja, J Holloway, M Scott, and SH Arshad. *Adjusting wheal size measures to correct atopy misclassification*. *International Journal of General Medicine*. Vol. 4: 597-606, **2011**.
29. M Dey, H Stern, and **H Zhang**. *Information Content in Small and Large Trades*. *Economic Notes*. Vol. 40: 45-74, **2011**.
30. D Rahardja, Y Zhao, and **H Zhang**. *Maximum Likelihood Estimation of Odds Ratios in Misclassified Binary Data with a Validation Substudy*. *Model Assisted Statistics and Applications*. Vol. 6: 121-125, **2011**.
31. **H Zhang**¹, and J Zhang². *A Semiparametric Bayesian Estimation Method of the Accelerated Failure Time Model*. *Advances and Applications in Statistical Sciences*, Vol. 1: 125-143, **2010**.
^{1,2}Equal contribution.
32. **H Luo**¹, **H Zhang**², RA Long, and R Benner. *Depth Distributions of Alkaline Phosphatase and Phosphonate Utilization Genes in the North Pacific Subtropical Gyre*. *Aquatic Microbial Ecology*. Vol. 62: 61–69, **2010**. ^{1,2}Equal contribution
33. **H Zhang**, R Hemasinha, X Gu. *A Statistical Model and Algorithm for Genome Phylogeny Accommodating Lateral Gene Transfer*, *The International Journal of Systems and Synthetic Biology*. Vol. 1: 241-253, **2010**.
34. **H Zhang**. *Designing sampling plans to capture rare objects*. *Canadian Journal of Statistics*, Vol. 37: p417-434, **2009**.
35. **H Zhang**, H Stern. *Sample size calculation for finding unseen species*. *Bayesian Analysis*, Vol. 4: 763 – 792, **2009**.
36. **H Zhang**, Y Zhong, B Hao, and X Gu. *A Simple Method for Phylogenomic Inference Using the information of Gene-Content of Genomes*, *Gene*, 441: p163-8. doi:10.1016/j.gene.2008.07.008, **2009**.
37. **H Zhang** and H Stern. *Inferences for genotyping error rate in ancestry identification from simple sequence repeat marker profiles*, *JABES*, Vol. 14: p170-187, **2009**.
38. **H Zhang**. *Inferences on the Number of Unseen Species and the Number of Abundant/Rare Species*, *Journal of Applied Statistics*, Vol. 34: 725-40, **2007**.
39. **H Zhang** and H Stern. *Assessment of ancestry probabilities in the presence of genotyping errors*. *Theoretical and Applied Genetics*, Vol. 112: 472-482, **2006**.
40. **H Zhang** and H Stern. *An investigation of a generalized multinomial model for species data*, *J. Statistical Computing and Simulation*, Vol. 75: 347-362, **2005**.
41. X Gu and **H Zhang**. *Genome Phylogenetic Analysis Based on Extended gene contents*. *Molecular Biology and Evolution*, Vol. 21: 1401-1408, **2004**.
42. **H Zhang** and X Gu. *Maximum Likelihood for Genome Phylogeny on Gene Content*. *Statistical Applications in Genetics and Molecular Biology*, Vol. 3: Article 31, **2004**.
43. **H Zhang**, A Nitzman, and T Royappa. *Statistical Modeling and Sizing Determination Guidelines*. *J. TAPPI*, Vol. 3: 3-8, **2004**.

Statistical applications:

44. Y Lee*, **H Zhang***, Y Jiang, L Kadalayil, W Karmaus, SL Ewart, SH Arshad, JW Holloway. *Epigenome-scale comparison of DNA methylation between blood leukocytes and bronchial epithelial cells*. Epigenomics. **2021** Mar;13(07):485-98.
45. J Wang*, **H Zhang***, FI Rezwan, C Relton, SH Arshad, JW Holloway. *Pre-adolescence DNA methylation is associated with BMI status change from pre- to post-adolescence*. Clinical Epigenetics. **2021** Dec;13(1):1-1.
46. L Han*, A Kaushal*, **H Zhang***, ..., S Wang, *DNA Methylation at birth is associated with childhood serum Immunoglobulin E levels*. Epigenetic Insights. Han and Kaushal equally contributed. **2021** Apr;14:25168657211008108.
47. Y Mallisetty, N Mukherjee, Y Jiang, S Chen, S Ewart, SH Arshad, JW Holloway, **H Zhang**, W Karmaus. *Epigenome-Wide Association of Infant Feeding and Changes in DNA Methylation from Birth to 10 Years*. Nutrients. **2021** Jan;13(1):99.
48. SK Sunny*, **H Zhang***, F Mzayek, CL Relton, S Ring, AJ Henderson, S Ewart, JW Holloway, SH Arshad. *Pre-adolescence DNA methylation is associated with lung function trajectories from pre-adolescence to adulthood*. Clinical Epigenetics. **2021** Dec;13(1):1-8.
49. JL Min, G Hemani, E Hannon, KF Dekkers, J Castillo-Fernandez, R Luijk, ..., **H Zhang**, ... & CL Relton. *Genomic and phenomic insights from an atlas of genetic effects on DNA methylation*. **2020**. medRxiv (pre-print of Nature Genetics).
50. Vehmeijer FO, Küpers LK, Sharp GC, Salas LA, Lent S, Jima DD, Tindula G, Reese S, Qi C, Gruzieva O, Page C, ..., **Zhang H**, ..., Felix JF. *DNA methylation and body mass index from birth to adolescence: meta-analyses of epigenome-wide association studies*. Genome medicine. **2020** Dec;12(1):1-5.
51. R Patel*, F Solatikia*, **H Zhang***, A Wolde, L Kadalayil, W Karmaus, S Ewart, R Arathimos, C Relton, S Ring, AJ Henderson, SH Arshad, JW Holloway. *Sex-specific associations of asthma acquisition with changes in DNA methylation during adolescence*. Clinical and Experimental Allergy, **2020** Nov 4.
52. SH Arshad, C Hodgekiss, JW Holloway, ..., **H Zhang**, G Roberts. *Association of asthma and smoking with lung function impairment in adolescence and early adulthood: the Isle of Wight Birth Cohort Study*. Eur Respir J. **2020**;55(3).
53. N Mukherjee, R Arathimos, S Chen, PK Rahimabad, L Han, **H Zhang**, J Holloway, CL Relton, AJ Henderson, S Arshad, S Ewart. *DNA methylation at birth is associated with lung function development till age 26 years*. European Respiratory Journal, **2020** Oct 14.
54. SH Arshad, R Kurukulaaratchy, **H Zhang**, C Hodgekiss, W Karmaus, J Holloway, G Roberts. *Assessing small airway function for early detection of lung function impairment*. European Respiratory Journal, **2020** Jul 1;56(1).
55. WB Sherwood, DM Kothalawala, L Kadalayil, S Ewart, **H Zhang**, W Karmaus, SH Arshad, J Holloway, F Rezwan. *Epigenome-wide association study reveals duration of breastfeeding is associated with epigenetic differences in children*. International Journal of Environmental Research and Public Health, **2020** Jan;17(10):3569.
56. A Rathod*, J Duan*, **H Zhang***, JW Holloway, S Ewart, SH Arshad, W Karmaus. *Interweaving between genetic and epigenetic studies on asthma*. Epigenetic Insights, **2020** Jul;13:2516865720923395. A Rathod and J Duan equally contributed to the work.
57. SK Sunny*, **H Zhang***, FI Rezwan, CL Relton, AJ Henderson, SK Merid, E Melén, J Hallberg, SH Arshad, S Ewart, JW Holloway. *Changes of DNA methylation are associated with changes in lung function during adolescence - an epigenome-wide study*. Respiratory Research, **2020** Dec;21:1-4.
58. SK Merid, ..., **H Zhang**, ..., E Melén. *Epigenome-wide meta-analysis of blood DNA methylation in newborns and children identifies numerous loci related to gestational age*. Genome Medicine, **2020** Dec;12(1):1-7.

59. **Y Shen, H Zhang**, Y Jiang, F Mzayek, H Arshad, W Karmaus. *Maternal Birth Weight and BMI Mediate the Transgenerational Effect of Grand-Maternal BMI on Grandchild's Birth Weight*. *Obesity*, **2020** Mar;28(3):647-54.
60. **L Li*, H Zhang***, JW Holloway, AJ Henderson, S Ewart, CL Relton, SH Arshad, W Karmaus. *Pubertal onset with adulthood lung function mediated by height growth in adolescence*. *European Respiratory Journal Open Research*. **2020** Oct 1;6(4). DOI: 10.1183/23120541.00535-2020.
61. X Yu, J Duan, Y Jiang, **H Zhang**. *Distinctive trajectories of COVID-19 epidemic by age and gender: a retrospective modeling of the epidemic in South Korea*. *International Journal of Infectious Diseases*. <https://doi.org/10.1016/j.ijid.2020.06.101>. **2020**.
62. S Chen, H Refaey, N Mukherjee, F Solatikia, Y Jiang, SH Arshad, S Ewart, JW Holloway, **H Zhang**, W Karmaus. *Age at onset of different pubertal signs in boys and girls and differential DNA methylation at age 10 and 18 years: an epigenome-wide follow-up study*. *Hum Reprod Open*. **2020** Mar 12.
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159. M P Chopra, **H Zhang**, AP Kaiser, JA Moye, MD Llorente, DW Oslin, A Spiro III. *PTSD Is A Chronic, Fluctuating Disorder Affecting The Mental Quality Of Life In Older Adults*. The American Journal of Geriatric Psychiatry. PMID: 23060314. October 10. **2012**.
160. J Ritchey, W Karmaus, T Sabo-Attwood, S Steck, **H Zhang**. *A Cross-Sectional Study of the Association of Age, Race and Ethnicity, and Body Mass Index with Sex Steroid Hormone Marker Profiles among Men in the National Health and Nutrition Examination Survey (NHANES III)*. BMJ Open. Vol. 2(5). DOI: 10.1136/bmjopen-2012-001315. **2012**.
161. G Roberts, **H Zhang**, W Karmaus, A Raza, M Scott, S Matthews, R Kurukulaaratchy, T Dean, SH Arshad. *Trends in cutaneous sensitization in the first 18 years of life: results from the 1989 Isle of Wight birth cohort study*. Clinical & Experimental Allergy. Vol. 42:1501-1509. **2012**.
162. AH Ziyab, W Karmaus, M Yousefi, S Ewart, E Schaubberger, JW Holloway, **H Zhang**, SH Arshad. *Interplay of Filaggrin Loss-of-Function Variants, Allergic Sensitization, and Eczema in a Longitudinal Study Covering Infancy to 18 Years of Age*. PLoS ONE. Vol. 7: e32721. **2012**.
163. SH Arshad, W Karmaus, A Raza, RJ Kurukulaaratchy, SM Matthews, JW Holloway, A Sadeghnejad, **H Zhang**, G Roberts, SL Ewart. *The effect of parental allergy on childhood allergic diseases depends on the sex of the child*. Journal Allergy and Clinical Immunology. Vol. 130: 427-434. **2012**.
164. N Soto-Ramirez, W Karmaus, M Yousefi, **H Zhang**, J Liu, and V Gangur. *Maternal immune markers in serum during gestation and in breast milk and the risk of asthma-like symptoms at ages 6 and 12 months: a longitudinal study*. Allergy, Asthma and Clinical Immunology. Vol.8, doi:10.1186/1710-1492-8-11. **2012**.

165. K Hanjansit, W Karmaus, P Dimitrov, **H Zhang**, J Burch, S Tzolova, V Batuman. *The role of a parental history of Balkan endemic nephropathy in the occurrence of BEN: a prospective study*. International journal of nephrology and renovascular disease. Vol. 5: 61-68. **2012**.
166. LW Chu, R Ritchey, SS Devesa, SM Quraishi, **H Zhang**, and AW Hsing. *Prostate Cancer Incidence Rates in Africa*. Prostate Cancer. doi:10.1155/2011/947870. **2011**.
167. EM Schauburger, SL Ewart, SH Arshad, M Huebner, W Karmaus, JW Holloway, KH Friderici, J Ziegler, **H Zhang**, MJ Rose-Zerilli, SJ Barton, ST Holgate, JR Kilpatrick, JB Harley, S Lajoie-Kadoch, ITW Harley, Q Hamid, RJ Kurukulaaratchy, MA Seibold, PC Avila, W Rodriguez-Citron, JR Rodriguez-Santana, D Hu, C Gignoux, I Romieu, SJ London, EG Burchard, C Langefeld, and M Wills-Karp. *Identification of ATPAF1 as a Novel Candidate Gene for Asthma in Children*. Journal Allergy and Clinical Immunology. Vol. 128: 753-760. **2011**.
168. M Wirth, J Burch, J Violanti, C Burchfiel, D Fekedulegn, M Andrew, **H Zhang**, DM Miller, JR Hebert, and J Vena. *Shiftwork Duration and the Awakening Cortisol Response among Police Officers*. Chronobiology International. Vol. 28: 446-457, **2011**.
169. JE Arruda, HA McGee, **H Zhang**, and C Stanny. *The Effects of EEG Data Transformations on the Solution Accuracy of Principal Component Analysis*. Psychophysiology. DOI: 10.1111/j.1469-8986.2010.01067.x, **2010**.
170. IU Ogbuanu, W Karmaus, **H Zhang**, T Sabo-Attwood, S Ewart, G Roberts, and SH Arshad. *Birth Order Modifies the Effect of IL13 Gene Polymorphisms on Serum IgE at Age 10 and Skin Prick Test at Ages 4, 10 and 18: a Prospective Birth Cohort Study*, Allergy, Asthma & Clinical Immunology. Vol. 6, No. 1, 6 pages, **2010**.
171. A Ziyab, A Raza, W Karmaus, N Tongue, **H Zhang**, S Matthews, SH Arshad, and G Roberts. *Trends in eczema in the first 18 years of life: results from the Isle of Wight 1989 birth cohort study*. Clinical and Experimental Allergy. Vol. 40, No. 12, 1776-1784, **2010**.
172. JE Arruda, **H Zhang**, RT Amoss, KL Coburn, and WR Aue. *Rhythmic oscillations in quantitative EEG measured during a continuous performance task*. Applied Psychophysiology and Biofeedback, 34:7-16, DOI 10.1007/s10484-008-9071-0, **2009**.
173. J Guess, J Burch, K Ogoussan, C Armstead, **H Zhang**, S Wagner, JR Hebert, P Wood, SD Youngstedt, LJ Hofseth, UP Singh, D Xie, and WJM Hrushesky. *Circadian Disruption, Per3, and Human Cytokine Secretion*, Integrative Cancer Therapies. Vol.8, 329-336, **2009**.
174. IU Ogbuanu, **H Zhang**, and W Karmaus. *Can we apply the Mendelian randomization methodology without considering epigenetic effects?* Emerging Themes in Epidemiology, 6:3, **2009**.
175. M Lott, M Manning, J Singh, **H Zhang**, H Singh, and D Marcus. *23-Gauge Vitrectomy in 100 Eyes: Short-term Visual Outcomes and Complications*, Journal of Retinal and Vitreous Diseases, Vol. 28, No. 9, p1193-1200, doi: 10.1097/IAE.0b013e31817c5a28, **2008**.
176. J Wei, R Randy, and **H Zhang**. *Life Cycle Pattern Study on Malicious Codes*, International Journal of Information Privacy and Security, Vol 2: p26-41, **2008**.
177. J Wei, J Zhuo, and **H Zhang**. *Development of a Mobile Learning Model for Online Education*, International Journal of Mobile Learning and Organization. Vol. 2: p28-44, **2008**.

Statistical software:

178. M Ray*, X Tong*, **H Zhang**. *ttScreening: Genome-wide DNA methylation sites screening by use of training and testing samples*. R Core Team. R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL: <http://www.R-project.org>. **2014**.
179. W Bao*, X Tong*, M Ray*, **H Zhang**. *RegClust: Cluster analysis via regression coefficients*. R Core Team. R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL: <http://www.R-project.org>. **2014**.
180. X Gu, W Huang, D Xu, and **H Zhang**. *GeneContent: Software for Whole-Genome Phylogenetic Analysis*, Bioinformatics. Vol. 21: 1713-1714, **2004**.

Advising

Post-doctoral fellow

2019 – present Yu-Sheng Lee
2013 – 2015 Shengtong Han

Students (Ph.D.)

Students under supervision at the University of Memphis

2018 – present Liang Li (Epidemiology)
2018 – present Rutu Patel (Epidemiology)
2018 – present Aniruddha Rathod (Epidemiology)
2018 – present Jiajing Wang (Statistics)
2018 – 2020 Farnaz Solatikia (Statistics)
2017 – 2021 Shadia Khan Sunny (Epidemiology)
2016 – present Luhang Han (Statistics)
2014 – 2017 Akhilesh Kaushal (Epidemiology)

Students under supervision at the University of South Carolina

2012 – 2014 Meredith Ray
2011 – 2014 Xin Tong
2010 – 2013 Yubo Zou
2007 – 2010 Jianjun Gan

Students (MS or MPH)

Students under supervision at the University of Memphis

2018 – 2021 Jiasong Duan (Biostatistics, MS)
2018 – 2019 Farnaz Solatikia (Biostatistics, MS)
2015 – 2016 Lee Curbo (Biostatistics concentration, MPH)
2014 – 2015 Bilal Mohammed Quraishi (Biostatistics concentration, MPH)
2013 – 2015 Will Terry (Statistics, MS)
2013 – 1/2014 Elliott Cole (Biostatistics concentration, MPH)

Students under supervision at the University of South Carolina (Biostatistics, MSPH)

2011 – 2012 Genevieve Ray
2010 – 2012 Hong He
2010 – 2011 Xin Tong
2008 – 2010 Weichao Bo

Students under supervision at the University of West Florida (Statistics, MS)

2007 Joshua Kelly
2005 Chirstel Chancey
2005 Sue Dickerson

Research Staff supervisions

Research supervision at the University of Memphis

2013 – 2014 Meredith Ray
2013 – 1/2014 Wenhui Sheng

Graduate Assistant (GA) supervisions (Hired graduate research assistants. Most were funded by research grants)

GA supervision at the University of South Carolina

2011 – 2013	Ashok Varma Samantapudi
2012 – 2013	Meredith Ray
5/2011 – 2012	Genevieve Ray
2010 – 2013	Xin Tong
2010 – 2011	Yubo Zou
2010 – 2011	He Hong
2007 – 2010	Jianjun Gan
2008 – 2010	Weichao Bao
Fall 2007	Ju Qiu

GA supervision at the University of Memphis

2021 – present	Yojitha Dasari
2018 – 2021	Jiasong Duan (Biostatistics, MS)
2018 – present	Liang Li (Epidemiology)
2018 – present	Rutu Patel (Epidemiology)
2018 – present	Aniruddha Rathod (Epidemiology)
2018 – 2020	Farnaz Solatikia (Statistics)
2017 – 2021	Shadia Khan Sunny (Epidemiology)
2016 – 2020	Luhang Han (Statistics)
2014 – 2017	Akhilesh Kaushal (Epidemiology)
2013 – 2015	Will Terry (Statistics, MS)

Academic supervisions (Academic Advisor)

Academic supervision at the University of Memphis

2018 – present	Liang Li, Rutu Patel, Aniruddha Rathod
2018 – 2021	Jiasong Duan
2017 – 2021	Shadia Sunny
2015 – 2016	Lee Curbo
2014 – 2015	Sohely Perven

Academic supervision at the University of South Carolina

2010 – 2014	Meredith Ray
2010 – 2013	Yubo Zou
2009 – 2012	Hong He
2008 – 2010	Jianjun Gan

Abstracts/Presentations

The first author is the presenter. Only conferences, at which I was the presenter or students under my supervision were the presenters, were included. Presentations, which I was involved as a co-author but I did not participate in the conference, are not included.

Conference/Workshop presentations:

- | | |
|---------|--|
| 08/2020 | J Wang, H Zhang, J Holloway, SH Arshad, W Karmaus. A Nested Clustering Method to Detect and Cluster Transgenerational DNA Methylation Sites via Beta Regressions. JSM, Online. |
| 06/2020 | A Rathod, J Duan, H Zhang, JW Holloway, S Ewart, SH Arshad, W Karmaus. Interweaving between genetic and epigenetic studies on asthma. EAACI, 2020, Online |

- 05/2020 A Rathod, H Zhang, SH Arshad, S Ewart, W Karmaus, JW Holloway. DNA Methylation at Birth is Associated with Asthma Acquisition from Pre- to Post-Adolescence Mediated by Atopy. American Thorax Society, 2020, Online
- 05/2020 R. Patel, F Solatikia, H. Zhang, A Wolde, W Karmaus, SL Ewart, C Relton, S Ring, J Henderson, SH Arshad, JW Holloway, The Association of Asthma Acquisition with DNA Methylation Changes During Adolescence Is Gender-Specific, A Genome-Wide Epigenetic Study. American Thorax Society, 2020, Online
- 05/2020 R Patel, H Zhang, W Karmaus, S Ewart, SH Arshad, JW Holloway. Association of BMI trajectory at earlier childhood with lung function at adulthood is mediated by DNA methylation. American Thorax Society, 2020, Online
- 08/2019 J Wang, H Zhang, J Holloway, SH Arshad, W Karmaus. A Bayesian method to identify CpG sites exhibiting transgenerational effects on DNA methylation and their heterogeneity via nested clustering in Beta regression. JSM, July 27-August 1st, 2019, Denver, CO.
- 08/2019 M Ray, L Sobral, SH Arshad, J Holloway, W Karmaus, H Zhang. Identifying patterns of multi-genetic/epigenetic factors via non-parametric clustering. JSM, July 27-August 1st, 2019, Denver, CO.
- 02/2019 J Wang, H Zhang et al., *DNA Methylation Predicts BMI Status Change from Pre-Adolescence to Post-Adolescence*, AAAAI, San_Francisco.
- 07/2018 H Zhang, *Differential Bayesian Network Testing*. ICSA-Qingdao.
- (Invited)
- 12/2017 H Zhang. *From variable selection to differential Bayesian networks*. American Statistical Association Western TN Chapter meeting. Memphis, TN.
- (Invited)
- 08/2017 H Zhang, S Han, W Sheng, W Karmaus, H Arshad. *The joint clustering via Dirichlet process mixture model on longitudinal data*. Joint Statistical Meeting, Baltimore, MD.
- 06/2017 H Zhang. *Gender and epigenetic differences, from the Isle of Wight study birth cohort and beyond*. NIH/NIAID Asthma Gender Shifting Workshop, Rockville MD.
- (Invited)
- 05/2017 L Han, H Zhang, SP Oggu, A Kaushal, H Arshad, W Karmaus, JW Holloway, S Ewart. *Identifying stable and dynamic CpG sites pre- and post-adolescence transition via a longitudinal genome-scale study*. ATS, Washington DC.
- 09/2016 Three students presented at the European Respiratory Society (ERS 2016) annual conference held in London, UK. The projects were on association studies between DNA methylation and allergic diseases.
- 08/2016 H Zhang, X Huang, S Han, W Karmaus. *Bayesian method for testing differential directed acyclic graphs*. Joint Statistical Meeting, Chicago.
- 12/2015 H Zhang, X Huang, S Han, W Karmaus. *Bayesian method for testing differential directed acyclic graphs*. Singapore.
- 08/2015 Y Zou, H Zhang, W Terry, W Karmaus, H Arshad. *Joint cluster with correlated variables via a semi-parametric Bayesian model*. Joint Statistical Meeting, Seattle, WA.
- 02/2015 B Quraishi and A Kaushal both orally presented at the AAAAI (Feb. 20-24, Houston, TX) meeting on applications of random forest and robust regressions in studies related to allergic disease (Quraishi) and arsenic exposure (Kaushal).
- 10/2014 H Zhang, Y Zou, W Karmaus, G Roberts, H Arshad, *Joint Clustering on Correlated Variables*. West Tennessee ASA Chapter monthly meeting.
- (Invited)
- 08/2014 H Zhang, X Huang, J Gan, W Karmaus, T Sabo-Attwood. *A two-component G prior for variable selection*. Joint Statistical Meeting, Boston, MA.
- 08/2014 S Han, H Zhang, G Lockett, N Mukherjee, J Holloway, W Karmaus. *Identifying Heterogeneous Transgenerational DNA Methylation Sites via Clustering in Beta Regression*. Joint Statistical Meeting, Boston, MA.

- 08/2014 M Ray, H Zhang, J Kang. *Clustering fMRI Metadata to Identify Significant Regions of Brain Activation*. JSM annual meeting, Boston, MA.
- 06/2014 H Zhang, Y Zou, W Karmaus, G Roberts, H Arshad, *Joint Clustering on Correlated Variables*. WNAR annual statistic meeting. Honolulu, HI.
- 06/2014 H Zhang, S Han, GA Lockett, N Mukherjee, JW Holloway, W Karmaus. *Identifying Heterogeneous Transgenerational DNA Methylation Sites via Clustering in Beta Regression*. The third Joint Biostatistics Symposium. Chengdu, China.
- 09/2013 H Zhang. *Burden Disparities in Air Toxic Exposure and Cancer Risks*. Charleston Area Environmental Justice and Health Summit.
- 05/2013 H Zhang, et al. *Interaction Between DNA Methylation And Genotype In Th2 Pathway Genes, Association With Asthma And Adolescent Transition Of Asthma Between Ages 10 And 18 Years*. ATS, Philadelphia.
- 12/2013 H Zhang. *Bayesian Variable Selection in Linear and Semi-parametric Models*. The 9th ICSA International Conference: Challenges of Statistical Methods for Interdisciplinary Research and Big Data. Hong Kong, China.
- 09/2012 (Invited) H Zhang. *Methylation data, pre-processing, data mining and analysis*. International Society for Environmental Epidemiology, Columbia, SC.
- 08/2012 H Zhang, X Huang, J Gan, W Karmaus, T Sabo-Attwood. *Variable adaptive calibration and variable selection in linear models with mis-measured covariates*. Joint Statistical Meeting, San Diego, CA.
- 06/2012 (Invited) H Zhang, K Ghosh, P Ghosh, *Capturing species at a certain abundance level in a multi-species assemblage with unknown heterogeneity*. Southern Regional Council of Statistics, Jekyll Island, GA.
- 05/2012 (Invited) H Zhang. *Mis-measurement model*. Bioinformatics and Biostatistics Workshop. Atlanta, GA.
- 08/2011 Y Zou, H Zhang, W Karmaus, and H Arshad, *A Bayesian Approach for Joint Clustering Through a Dirichlet Process*. Joint Statistical Meeting, Miami, FL.
- 03/2011 H Zhang, X Huang, W Karmaus, J Gan, T Sabo-Attwood. *Bayesian Adaptive Calibration and Variable Selection in Linear Models with Mis-measured Covariates*. Eastern North American Region (ENAR) conference, FL.
- 12/2010 (invited) H Zhang, H Stern. *Inferences for the Genotyping Error Rate from Ancestry Identification Data*. The 25th International Biometric Conference, Brazil.
- 06/2010 H Zhang, W Karmaus, W Bao, J Gan, M Scott, SH Arshad. *Correcting Atopy Misclassification through Wheal Size Adjustment* (poster). The 29th Congress of the European Academy of Allergy and Clinical Immunology, UK.
- 04/2010 J Gan, H Zhang. *Semi-parametric Measurement Error Modeling in Logistic Regression, with application to Survey Data*. American Statistical Association South Carolina Chapter meeting, SC.
- 04/2010 W Bao, H Zhang. *Clustering Analysis of Zernike Coefficients from High Order Aberration Patient*. American Statistical Association South Carolina Chapter meeting, SC.
- 03/2010 H Zhang, K Ghosh, P Ghosh. *Bayesian Species Clustering via DP and Sampling Designs via Monte Carlo*. Eastern North American Region conference, LA.
- 03/2010 J Gan, H Zhang. *Semi-parametric Measurement Error Modeling in Logistic Regression*. Eastern North American Region conference, LA.
- 03/2009 J Gan, H Zhang. *Impact of Multi-level Measurement Errors in Survey Data*. Eastern North American Region conference, TX.
- 05/2008 (invited) H Zhang, H Stern. *An Approximated Likelihood Approach for Genotyping Error Rate Estimation When Assessing Ancestry Probabilities*. International Conference on BioMedical Engineering and Informatics, China.

- 03/2008 H Zhang. *Joint Effect from Environmental and Behavior Risk Factors to Cancer Death Rates using Bayesian Multi-level Modeling*. Eastern North American Region conference, TX.
- 02/2007 (invited) H Zhang, H Stern. *Future Sampling Designs to Capture Animals from Rare Species*. American Statistical Association Florida Chapter meeting, FL.
- 02/2006 H Zhang, X Gu. *Inference on the Number of Unseen Species and the Number of Abundant/Rare Species*. American Statistical Association Florida Chapter meeting, FL.
- 01/2006 H Zhang. *Inferences on the Number of Species and the Number of Abundant/Rare Species*. Hawaii International Conference on Statistics, Mathematics and Related Fields, Honolulu, HI.
- 08/2005 H Zhang. *Inferences on the Number of Species and the Number of Abundant/Rare Species*. Joint Statistical Meeting, Minneapolis, MN.
- 03/2005 H Zhang. *Genome Phylogenetic tree Analysis Based on Extended gene contents*. Eastern North American Region conference, Austin, TX.
- 02/2005 H Zhang. *Inferences on the Number of Species and the Number of Abundant/Rare Species*. American Statistical Association Florida Chapter meeting, FL.
- 05/2004 H Zhang, X Gu. *Genome Phylogenetic tree Analysis Based on Extended gene contents*. Interface 2004: Computational Biology and Bioinformatics, Baltimore, MD.
- 02/2004 H Zhang, H Stern. *Sample size calculation for finding unseen species*. American Statistical Association Florida Chapter meeting, FL.

Seminars/Symposiums at institutions

- 11/2019 (invited) Network Comparisons via Bayesian Inferences. University of Arkansas of Medical Sciences, Little Rock, AK.
- 04/2019 (invited) *Bayesian network selection with ordered data*. University of Tennessee Health Science Center, Memphis, TN
- 11/2018 (invited) *Analytical methods in transgenerational epigenetics studies, what we have and what we need*, NIH/NIAID workshop, Rockville, MD
- 02/2018 (invited) *From variable selection to Bayesian differential networks*, Vanderbilt University, Nashville, TN
- 04/2015 (invited) *A two-component G prior for variable selection*. Department of Mathematical Sciences. University of Memphis, Memphis, TN
- 04/2015 (invited) *Joint cluster with correlated variables via a semi-parametric Bayesian model*. Bioinformatics seminar, University of Memphis, Memphis, TN.
- 04/2014 (invited) *Variable selection in semi-parametric models*. Bioinformatics seminar, University of Memphis, Memphis, TN.
- 02/2013 (Invited) *Bayesian variable selection in linear and semi-parametric models*. Medical University of South Carolina, Charleston, SC.
- 10/2010 (invited) *Correcting Atopy Misclassification through Wheal Size Adjustment*. Department of Clinical Sciences and Simmons Cancer Center, University of Texas Southwestern Medical Center at Dallas, TX.
- 09/2010 (invited) *Capturing Species at A Certain Abundance Level from A Population with Unknown Heterogeneity*. Department of Statistics, University of South Carolina, SC.
- 10/2009 *The Impact of Risk Factors on Cancer Incidences with Random Spatial Effect Adjusted Using Kernel Machines*. Department of Epidemiology and Biostatistics, University of South Carolina, SC.
- 01/2008 (invited) *Ancestry Identification, Genotyping Error, and Its Impact*. Medical University of South Carolina, SC.

- 10/2007 *Inferences for Genotyping Error Rate in Ancestry Identification From SSR Marker Profiles.* Bioinformatics Group, University of South Carolina.
- 01/2005 *Constructing Phylogenies.* Department of Mathematics and Statistics, University of West Florida, FL.
- 03/2004 *Sample size calculation for finding unseen species.* Department of Statistics, Florida State University.
(invited)
- 11/2003 *Applications of Microarray data.* Department of Mathematics and Statistics, University of West Florida.

Teaching Experience

Courses taught at the University of Memphis

Graduate courses in Biostatistics:

PUBH 7310/8310 Mixed modeling

Textbook: West, B.T., Welch, K.B., and Galecki, A.T. *Linear Mixed Models: A Practical Guide Using Statistical Software.* Boca Raton: Chapman & Hall/CRC.

PUBH 7153/8153 Biostatistics in Bioinformatics.

Textbooks: 1) Gentleman, V.J. Carey, W. Huber, R.A. Irizarry, S. Dudoit. *Bioinformatics and Computational Biology Solutions Using R and Bioconductor.*

2) H Zhang. *Analyzing High-dimensional Gene Expression and DNA Methylation Data with R.*

Graduate courses in genetic statistics:

PUBH 7455/8455 Genetic and Epigenetic Epidemiology

Textbook: Andreas Ziegler and Inke König *A statistical Approach to Genetic Epidemiology.*

Course taught at the University of South Carolina:

Graduate courses in Biostatistics:

BIOS 700 Introduction to Biostatistics.

Textbook: Marcello Pagano and Kimberlee Gauvreau, *Principles of Biostatistics* (2nd edition).

BIOS 701 Concepts and Methods of Biostatistics.

Textbook: Marcello Pagano and Kimberlee Gauvreau, *Principles of Biostatistics* (2nd edition).

BIOS 757 Intermediate Biometrics.

Textbook: Kleinbaum, Kupper, Muller, and Nizam, *Applied Regression Analysis and Multivariate Methods* (4th edition).

BIOS 775 Biostatistical Aspects of Bioinformatics.

Textbooks: 1) Maria Rizzo, *Statistical Computing with R.*

2) R. by Gentleman, V.J. Carey, W. Huber, R.A. Irizarry, S. Dudoit, *Bioinformatics and Computational Biology Solutions Using R and Bioconductor.*

Graduate courses in genetic statistics:

EPID 777 Genetic and Epigenetic Epidemiology

Reading material: Andreas Ziegler and Inke König, *A statistical Approach to Genetic Epidemiology.*

EPID894 Genetic Epidemiology

Textbook: Andreas Ziegler and Inke König, *A statistical Approach to Genetic Epidemiology.*

Courses taught at the University of West Florida:

Undergraduate courses in Statistics:

Sta2023 Essentials of Statistics. Text book: Essentials of Statistics by *Mario Triola*.

Sta4173 Biostatistics. Text Book: Biostatistical Analysis (4th edition) by *Jerrold Zar*

Graduate courses in Statistics:

Sta5176 Biostatistics.

Text Book: Jerrold Zar, Biostatistical Analysis (4th edition).

Sta5166 Applied Statistics.

Text Book: *McClave and Sincich*, Statistics

Sta5206 Analysis of Variance.

Text Book: Neter, Kutner, Nachtsheim, and Li, Applied Linear Models (5th edition).

Sta5207 Applied Linear Regression Models.

Text Book: Neter, Kutner, Nachtsheim, and Li, Applied Linear Models (5th edition).

Sta6246 Experimental Design.

Text Book: Douglas Montgomery, Design and analysis of experiments (5th Edition).

Sta6507 Nonparametric Data Analysis.

Text Book: W.J. Conover, Practical Nonparametric Statistics (3rd edition).

Courses taught at the Iowa State University:

Stat 227 (2002-2003) Introduction to Business Statistics

Courses taught at the Truman State University:

College Algebra (1999), Summer course for the SEE (Scholastic Enhancement Experience) program

Guest lectures and short courses

2017	Short course to graduate students in the Psychology Department, University of Memphis, Memphis
2014	Guest lecture on semi-parametric variable selection, University of Memphis, Memphis (BINF 7980).
2012	Guest lecture on path analysis, University of South Carolina, Columbia (EPID 845)
2010, 2011	Guest lecture on biostatistician in grant proposal writing (EPID 801), University of South Carolina, Columbia
2010, 2011, 2012	Guest lecture on bioinformatics in public health (EPID 758), University of South Carolina, Columbia
2008, 2009	Guest lecture on gene-gene and gene-environmental interaction, University of South Carolina, Columbia (EPID 801)
Dec., 2008	Guest lecture on measurement error, University of South Carolina, Columbia (EPID 845)
Dec. 14, 2007:	Short course in Statistics to OB/GYN Doctors, University of South Carolina, Columbia