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KUI   ZHANG

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Education

10/1990-07/1994 B.Sc. in Probability and Statistics, Beijing University, Beijing,
China

08/1994-07/1999 Ph.D. in Probability and Statistics, Beijing University, Beijing, China
Advisor: Professor Minping Qian
Dissertation: Phase Transition of the SAT problem

Professional Appointments

08/1999-01/2001 Postdoctoral Research Associate
Division of Biostatistics, Department of Epidemiology and Public Health, Yale
University School of Medicine, New Haven, CT

02/2001-07/2003 Postdoctoral Research Associate
Program of Molecular and Computational Biology, Department of Biological Sciences,
University of Southern California, Los Angeles, CA

08/2003-01/2008 Research Assistant Professor
Section of Statistical Genetics, Department of Biostatistics, University of Alabama at
Birmingham School of Public Health, Birmingham, AL

02/2008-09/2009 Associate Professor
Section of Statistical Genetics, Department of Biostatistics, University of Alabama at
Birmingham School of Public Health, Birmingham, AL

10/2009-08/2015   Associate Professor with Tenure
  Section of Statistical Genetics, Department of Biostatistics, University of Alabama at Birmingham School of Public Health, Birmingham, AL

08/2015-Present   Professor with Tenure
  Department of Mathematical Sciences, Michigan Technological University, Houghton, MI

10/2015-Present   Dave House Endowed Professorship in Statistics, Data Mining, and Data Analytics
  Department of Mathematical Sciences, Michigan Technological University, Houghton, MI

Professional Memberships

2000 - Present   Member, American Society of Human Genetics
2004 - Present   Member, International Association for Statistical Computing
2004 - Present   Member, American Statistical Association

Awards and Honors

- The 1st class Guang Hua Scholarship, Beijing University, 1991-1993.
- Dong Shi Dong Fang Scholarship, Beijing University, 1995.
- Jiu Zhang Suan Shu Scholarship, Beijing University, 1997.
- Science Unbound Foundation Best paper Award in Statistical Genetics Research, 2008
- Science Unbound Foundation Best paper Award in Statistical Genetics Research, 2014

Research Interests

My methodological research interests focus on the development of novel statistical methods and efficient bioinformatical tools to address scientific problems in biomedical research fields, especially in the field of statistical genetics and genomics. These include developing new methods and designing novel algorithms for mapping complex disease genes and analyzing next generation sequencing data. My collaborative research interests are to apply powerful and innovative statistical and computational methods to address problems from genetic studies and other types of studies from biomedical research fields.

Computer Skills

Experience in UNIX, DOS, and Windows operating system.
Proficient in Statistical Data Analysis using R and SAS
Proficient Programming with C and C++

Active Grants

Kui Zhang (Principal Investigator), Fuli Yu (Principal Investigator), Degui Zhi (Principal Investigator). Next-Generation Bioinformatics for Next-Generation Sequencing. NIH/NHGRI-1R01-HG008115-01. Period: 09/10/2014-06/30/2017. Total cost up to date: $913,876.00.

Pending Grants

William Cooke, …, **Kui Zhang (Statistical Consultant)**. Smoking Cessation, Vaporized Nicotine, and Autonomic Control. R15 to NIH. Submitted in October of 2017.

Completed Grants as Principle Investigator

Kui Zhang (Principal Investigator). Haplotype Analysis in Linkage Disequilibrium Mapping. To develop association methods based on haplotypes for mapping genes that are responsible for complex human diseases. NIH/NIGMS-R01-GM-74913. Period: 07/01/2006-06/30/2012. Total Cost: $1,063,815.00.

Kui Zhang (Principal Investigator). Haplotype Analysis of Population and Pedigree Data in Association Studies. To organize a two day meeting on haplotype analysis in association studies. NIH/NHGRI-R13-HG-004593. Period: 10/01/2007-09/30/2008. Total Cost: $15,000.00.

Completed Grants as Co-Investigator (Selected)

Michael Lefevre, …, **Kui Zhang (Co-Investigator)**. Diet, Genetics, and CVD Risk factor response in Blacks. To study the genetic factors that influence response of CVD risk factors to dietary interventions. NIH/NHLBI-U01-HL-072510. Period: 08/01/2003-12/31/2005.

Christopher Amos, ..., **Kui Zhang (Co-Investigator)**. Positional Gene Identification of Complex Traits. To develop linkage/linkage disequilibrium methods for testing the effects of quantitative trait loci on complex quantitative traits. NIH/NIEHS-R01-ES-09912. Period: 08/01/2003-06/30/2006.

Stephen Barnes, ..., **Kui Zhang (Co-Investigators)**. Center for Gene-Nutrient Interaction (CNGI). This Center will focus on the identification of genetic pathways that may distinguish cancer cells from normal cells, and the extent to which dietary polyphenols with documented chemopreventive activity modulate these pathways. NIH/NIC- U54-CA-100949**.** Period: 09/01/2003-06/30/2006.

David Allison, …, **Kui Zhang (Co-Investigator)**. Linkage & Linkage Disequilibrium Data Analysis Clearinghouse. To develop a facility for efficient collaborative applied analysis of linkage and linkage disequilibrium. Period: 03/01/2004-02/28/2006.

Suzanne Oparil, …, **Kui Zhang (Co-Investigator)**. Estrogen Modulates Injury-Induced Vascular Inflammation. To elucidate the fundamental cellular/molecular mechanisms by which ovarian hormones, particularly estrogen (E2), modulate the inflammatory response to acute endoluminal vascular injury. NIH/NHLBI-R01-HL-75211. Period: 07/01/2004-06/30/2006.

Richard Kaslow, …, **Kui Zhang (Co-Investigator)**. Chromosome 6p21-24 Markers in HIV-Related Kaposi Sarcoma. To search beyond the reported associations of *HLA* class II alleles with HIV-KS for alternative genetic determinants within and telomeric to the HLA complex. NIH/NCI-R01-CA-106168. Period: 07/01/2004-06/30/2008.

Richard Kaslow, …, **Kui Zhang (Co-Investigator)**. Population Genetics Analysis Program: Immunity to Vaccines/Infections. To identify host genetic characteristics that determine and predict the variability in antibody responses and adverse reactions to anthrax vaccine (AVA). NIH/NIAID-R01-AI-40068. Period: 09/01/2004-08/31/2010.

Richard Kaslow, …, **Kui Zhang (Co-Investigator)**. CTL and HIV Polymorphisms in Heterosexual Transmission. To study CTL and HIV polymorphisms in heterosexual transmission. NIH/Emory University-R01-AI-064060. Period: 12/01/2004-03/31/2015.

Jianming Tang, ..., **Kui Zhang (Co-Investigator)**. Heterogeneity in Cytokine Responses to HIV-1 Infection. The major goal is to study the cytokine responses to HIV-1 infection. NIH/NIAID-K02-AI-76123. Period: 07/01/2007-06/30/2009.

Guimin Gao, …, **Kui Zhang (Co-Investigator).** Haplotyping and QTL Mapping in Pedigrees with Missing Data. The major goal is to develop haplotyping and IBD probability estimation methods for large pedigrees with large numbers of loci and with missing marker data. NIH/NIGMS-R01-GM-073766. Period: 07/01/2007-10/30/2009.

Nianjun Liu, ..., **Kui Zhang (Co-Investigator)**. Genome Wide Haplotype Association Analysis. To develop novel statistical and computational methods and software tools for the analysis of haplotypes in mapping of complex human disease genes, especially in the presence of missing genotypes and genotyping errors and with large number of markers. NIH/NIGMS-R01-GM-081488. Period: 04/01/2008-03/31/2014.

Richard Kaslow, ..., **Kui Zhang (Co-Investigator)**. Host Genetic Epidemiology in HIV-1-Discordant African Couples and Other Cohorts. The overall goal of this project is to investigate the influence of polymorphism in genes regulating two major pathways in the pathogenesis of HIV/AIDS among HIV-1 discordant African couples. NIH/NIAID-R01-AI-71906. Period: 05/01/2008 – 07/30/2014.

Brahim Aissani, …, **Kui Zhang (Co-Investigator)**. Genetic Determinants of Uterine Fibroids in African-American and Caucasian Women. The major goal of this project is to dissect the genetic architecture of a subregion of human chromosome 1q43 associated with rare familial syndromes of uterine leiomyomas (fibroids) to evaluate its effects on the population risk. NIH/NICHD/NIEHS-R01-HD-064398. Period: 04/01/2010-03/31/2014.

Xiangyang Lou, …, **Kui Zhang (Co-Investigator).** Detection of multifactor interactions with application to nicotine dependence. The major goal of this project is to develop new method (GMDR) and computer software for identifying gene-gene and gene-environment interactions underlying complex diseases and to detect interactive susceptibility loci or genes for nicotine dependence in cigarette smokers. NIH/NIDA R01DA025095. Period: 01/01/2011-04/01/14.

Grants Recently Submitted but Not Funded (Selected)

Kui Zhang (Principal Investigator), Nianjun Liu (Principal Investigator). Statistical methods for family-based next generation sequencing data. R21 to NIH/NHGRI. Submitted in October of 2014.

Hairong Wei, **Kui Zhang (Co Principle Investigator)**. Enhancing biological knowledge discovery by joint construction of hub-centered networks using expression data from multiple tissues or conditions. NSF ABI Innovation. Submitted in September of 2017.

Peer Reviewed Publications (**: first and/or senior corresponding author)

1. **Kui Zhang****, Hongyu Zhao. 2000. Assessing reliability of gene clusters from gene expression data. *Functional & Integrative Genomics* 1: 156-173. (PMID: 11793234)

2. **Kui Zhang****, Dayue Chen. 2001. The probabilistic study of *d*-SAT problem. *Advances in Mathematics (Chinese)* 30: 231-237.

3. Jinming Li, Dai Wang, Jianping Dong, Renfang Jiang, **Kui Zhang**, Shuanglin Zhang, Hongyu Zhao, Fengzhu Sun. 2001. The power of transmission disequilibrium tests for quantitative traits. In: Wijsman EM, Almasy L, Amos CI, Borecki I, Falk CT, King TM, Martinez MM, Meyers D, Neuman R, Olson JM, Rich S, Spence MA, Thomas DC, Vieland VJ, Witte JS, MacCluer JW (Editors), *Analysis of complex genetic traits: Applications to asthma and simulated data.* In *Genetic Epidemiology* 21(Suppl 1): S632-S637. (PMID: 11793752)

4. Shuanglin Zhang, **Kui Zhang**, Jinming Li, Fengzhu Sun, Hongyu Zhao. 2001. Test of linkage and association for quantitative traits in general pedigrees: the quantitative pedigree disequilibrium test. In: Wijsman EM, Almasy L, Amos CI, Borecki I, Falk CT, King TM, Martinez MM, Meyers D, Neuman R, Olson JM, Rich S, Spence MA, Thomas DC, Vieland VJ, Witte JS, MacCluer JW (Editors), *Analysis of complex genetic*

traits: Applications to asthma and simulated data. In *Genetic Epidemiology* 21(Suppl 1): S370-S375. (PMID: 11793701)

5. Shuanglin Zhang, **Kui Zhang**, Jinming Li, Hongyu Zhao. 2002. On a family-based haplotype pattern mining method for linkage disequilibrium mapping. *The Proceeding of Pacific Symposium on Biocomputing* 7: 100-111. (PMID: 11928467)

6. **Kui Zhang****, Minghua Deng, Ting Chen, Michael S. Waterman, Fengzhu Sun. 2002. A dynamic programming algorithm for haplotype block partitioning. *Proceedings of the National Academy of Sciences of the United States of America* 99: 7335-7339. (PMID: 12032283; PMCID: PMC124231)

7. **Kui Zhang****, Peter Calabrese, Magnus Nordborg, Fengzhu Sun. 2002. Haplotype structure and its applications to association studies: power and study designs. *The American Journal of Human Genetics* 71: 1386-1394. (PMID: 12439824; PMCID: PMC378580)

8. **Kui Zhang****, Fengzhu Sun, Michael S. Waterman, Ting Chen. 2003. Haplotype block partition with limited resources and applications to human chromosome 21 haplotype data. *The American Journal of Human Genetics* 73: 63-73. (PMID: 12802783; PMCID: PMC1180591)

9. Sung Kim, **Kui Zhang**, Fengzhu Sun. 2003. Detecting susceptibility genes in case-control studies using set association analysis. In: Almasy L, Amos CI, Bailey-Wilson JE, Cantor RM, Jaquish CE, Martinez M, Neuman RJ, Olson JM, Palmer LJ, Rich SS, Spence MA, MacCluer JW (Editors) Genetic Analysis Workshop 13: Analysis of Longitudinal Family Data for Complex Diseases and Related Risk Factors. *BMC Genetics* 2003, 4(Suppl 1): S9. (PMID: 14975077; PMCID: PMC1866530)

10. Minghua Deng, **Kui Zhang**, Shipra Mehta, Ting Chen, Fengzhu Sun. 2003. Prediction of protein function using protein-protein interaction data. *Journal of Computational Biology* 10: 947-960. (PMID: 14980019)

11. Sung Kim, **Kui Zhang**, Fengzhu Sun. 2004. A comparison of different strategies for computing confidence intervals of the linkage disequilibrium measure. *The Proceeding of Pacific Symposium on Biocomputing* 9: 128-139. (PMID: 14992498)

12. Thomas G. Schulze, **Kui Zhang**, Yu-Sheng Chen, Nirmala Akula, Fengzhu Sun, Francis J. McMahon. 2004. Defining haplotype blocks and tag single-nucleotide polymorphisms in the human genome. *Human Molecular Genetics* 35: 335-342. (PMID: 14681300)

13. **Kui Zhang****, Zhaohui Qin, Jun Liu, Ting Chen, Michael S. Waterman, Fengzhu Sun. 2004. Haplotype block partitioning and tag SNP selection using genotype data and their applications to association studies. *Genome Research* 14: 908-916. (PMID: 15078859; PMCID: PMC479119)

14. **Kui Zhang****, Fengzhu Sun, Hongyu Zhao. 2005. HAPLORE: A program for haplotype reconstruction in general pedigrees without recombination. *Bioinformatics* 21: 90-103. (PMID: 15231536)

15. **Kui Zhang****, Zhaohui Qin, Ting Chen, Jun Liu, Michael Waterman, Fengzhu Sun. 2005. HapBlock: haplotype block partitioning and tag SNP selection software using a set of dynamic programming algorithms. *Bioinformatics* 21: 131-134. (PMID: 15333454)

16. T. Mark Beasley, Howard Wiener, **Kui Zhang**, Alfred A. Bartolucci, Christopher I. Amos, David Allison. 2005. Empirical Bayes method for incorporating data from multiple genome scans. *Human Heredity* 60: 36-42. (PMID: 16137992)

17. **Kui Zhang****, Fengzhu Sun. 2005. Assessing the power of tag SNPs in mapping of quantitative trait loci (QTL) with extremal and random samples. *BMC Genetics* 6: 51. (PMID: 16236175; PMCID: PMC1274312)

18. Yao-Ting Huang, **Kui Zhang**, Ting Chen, Kun-Mao Chao. 2005. Selecting additional tag SNPs for tolerating missing data in genotyping. *BMC Bioinformatics* 6: 263. (PMID: 16259642; PMCID: PMC1316880)

19. **Kui Zhang**,** Hongyu Zhao. 2006. A comparison of several methods for haplotype frequency estimation and haplotype reconstruction for tightly linked markers from general pedigrees. *Genetic Epidemiology* 30: 423-437. (PMID: 16685719)

20. **Kui Zhang**,** Howard Wiener, Marker Beasley, Varghese George, Christopher I. Amos, David Allison. 2006. An empirical Bayes method for updating inferences in analysis of quantitative-trait loci using information from related genome Scans. *Genetics* 173: 2283-2296. (PMID: 16751667; PMCID: PMC1569725)

21. Jessica M. Grunda, L. Burton Nabors, Cheryl A. Palmer, David C. Chhieng, Adam D. Steg, Tom Mikkelsen, Robert B. Diasio, **Kui Zhang**, David Allison, William E. Grizzle, Wenquan Wang, Yancey Gillespie, Martin R. Johnson. 2006. Increased expression of thymidylate synthetase (TS), ubiquitin specific protease 10 (USP10) and survivin associated with poor survival in glioblastoma multiforme (GBM). *Journal of Neuro-Oncology* 80: 261-274. (PMID: 16773218)

22. Shannon A. Ross, Zdenek Novak, Rekha A. Kumbla, **Kui Zhang**, Karen B. Fowler, Suresh Boppana. 2007**.** GJB2 and GJB6 mutations in children with congenital cytomegalovirus**.** *Pediatric Research* 61: 687-691. (PMID: 17426645)

23. Hua Li, Guimin Gao, Jian Li, Grier P. Page, **Kui Zhang**. 2007. Detecting epistatic interactions contributing to human gene expression using the CEPH family data. *BMC Proceeding 2007,* 1 (Suppl 1): S33. (PMID: 18466568; PMCID: PMC2367573)

24. Yun Joo Yoo, Guimin Gao, **Kui Zhang****. 2007. Case-control association analysis of rheumatoid arthritis with candidate genes using related cases. *BMC Proceeding 2007,* 1(Suppl 1): S67. (PMID: 18466531; PMCID: PMC2367547)

25. Yun Joo Yoo, Jianming Tang, Richard A. Kaslow, **Kui Zhang****. 2007. Haplotype inference for present-absent genotype using previously identified haplotypes and haplotype patterns. *Bioinformatics* 23: 2399-2406. (PMID: 17644820)

26. Nianjun Liu, **Kui Zhang****, Hongyu Zhao. 2008. Haplotype-association analysis. D.C. Rao and C. Charles Gu (Editors): Genetic Dissection of Complex Traits. Advances in Genetics 60: 335-405. (PMID: 18358327)

27. Yong-Jun Liu, Jose M. Ordovas, Guimin Gao, Michael Province, Robert J. Straka, Michael Y. Tsai, Chao-Qiang Lai, **Kui Zhang**, Ingrid Borecki, James E. Hixson, David B. Allison, Donna K. Arnett. 2008. The SCARB1 gene is associated with lipid response to dietary and pharmacological interventions. *The Journal of Human Genetics* 53: 709-717. (PMID: 18542840; MPMCID: PMC3836273)

28. Yong-Jun Liu, Jose M. Ordovas, Guimin Gao, Michael Province, Robert J. Straka, Michael Y. Tsai, Chao-Qiang Lai, **Kui Zhang**, Ingrid Borecki, James E. Hixson, David B. Allison, Donna K. Arnett. 2009. Pharmacogenetic association of the APOA1/C3/A4/A5 gene cluster and lipid responses to fenofibrate - the genetics of lipid lowering drugs and diet network study. *Pharmacogenetics and Genomics* 19: 161-169. (PMID: 19057464; PMCID: PMC2733171)

29. Zhe Lei, Reng-Yun Liu, Jun Zhao, Zeyi Liu, Xiefang Jiang, Weiming You, Xiao-Feng Chen, Xia Liu, **Kui Zhang**, Boris Pasche, Hong-Tao Zhang. 2009. *TGFBR1* haplotypes and risk of non-small cell lung cancer. *Cancer Research* 69:7046-7052. (PMID: 19690145; PMCID: PMC2737098)

30. Douglas K. Childers, Guolian Kang, Nianjun Liu, Guimin Gao, **Kui Zhang****. 2009. Application of imputation methods to the analysis of rheumatoid arthritis data in genome-wide association studies. *BMC Proceedings 3 (Suppl 7): S24*. (PMID: 20018014; PMCID: PMC2795921)

31. Guolian Kang, Douglas K. Childers, Nianjun Liu, **Kui Zhang**, Guimin Gao. 2009. Genome-wide association studies of rheumatoid arthritis data via multiple hypothesis testing methods for correlated tests. *BMC Proceedings 3 (Suppl 7): S38*. (PMID: 20018029; PMCID: PMC2795936)

32. Aleksandr Lazaryan, Wei Song, Elena Lobashevsky, Jianming Tang, Sadeep Shrestha, **Kui Zhang**, Lytt I. Gardner, Craig M. Wilson, Richard A. Kaslow. 2010. Human leukocyte antigen class I supertypes and HIV-1 control in African-Americans. *Journal of Virology* 84: 2610-2617. (PMID: 20032191; PMCID: PMC2820922)

33. Li Ma, Yan Xiao, Hui Huang, Weinian Rao, Qingwei Wang, Yue Feng, **Kui Zhang**, Qing Song. 2010. Direct determination of molecular haplotypes by chromosome microdissection. *Nature Methods* 7: 299-301. (PMID: 20305652; PMCID: PMC2871314)

34. Michael A. Froelich, Mark S. Bolding, Gary R. Cutter, Timothy H Ness, **Kui Zhang**. 2010. Temporal characteristics of cold pain perception. *Neuroscience Letters* 480: 12-15. (PMID: 20493237; PMCID: PMC3708606)

35. Boris Pasche, Kari B. Wisinski, Maureen Sadim, Virginia Kaklamani, Michael Pennison, Qinghua Zeng, Naresh Bellam, Jacquelyn Zimmerman, Nengjun Yi, **Kui Zhang**, John Baron, Daniel O. Stram, M. Geoffrey Hayes. 2010. Constitutively decreased *TGFBR1* allelic expression is a common finding in colorectal cancer and is associated with three *TGFBR1* SNPs. *Journal of Experimental & Clinical Cancer Research* 29: 57. (PMID: 20500843; PMCID: PMC2890549)

36. Shi Wei, Michael G. Conner, **Kui Zhang**, Gene P. Siegal, Lea Novak. 2010. Juxtatumoral stromal reactions in uterine endometrioid adenocarcinoma and their prognostic significance. *International Journal of Gynecological Pathology* 29: 562-567. (PMID: 20881855)

37. Xuxia Wu, Amit Patki, Cristina Lara-Castro, Xiangqin Cui, **Kui Zhang**, R. Grace Walton, Michael V Osier, Gary L. Gadbury, David B. Allison, Mitchell Martin, W. Timothy Garvey. 2011. Genes and biochemical pathways in human skeletal muscle affecting resting energy expenditure and fuel partitioning. *Journal of Applied Physiology* 110: 746-755. (PMID: 21109598; PMCID: PMC3070475)

38. Liyan Gao, Zhide Fang, **Kui Zhang,** Degui Zhi, Xiangqin Cui. 2011. Length bias correction for RNA-seq data in gene set analyses. *Bioinformatics* 27: 662-669. (PMID: 21252076; PMCID: PMC3042188)

39. Gu Jing, Kaiyu Yuan, Amy Turk, Nirag Jhala, Juan Arnoletti, **Kui Zhang**, Jay McDonald, Yabing Chen. 2011. Tamoxifen enhances therapeutic effects of gemcitabine on cholangiocarcinoma tumorigenesis. *Laboratory Investigation* 91: 896-904. (PMID: 21464824)

40. Aleksandr Lazaryan, Wei Song, Elena Lobashevsky, Jianming Tang, Sadeep Shrestha, **Kui Zhang**, Janet M. McNicholl, Lytt I. Gardner, Craig M. Wilson, Robert S. Klein, Anne Rompalo, Kenneth Mayer, Jack Sobel, Richard A. Kaslow for the HIV Epidemiology Research Study Group and Reaching for Excellence in Adolescent Care and Health Study Group. 2011. The influence of human leukocyte antigen class I alleles and their population frequencies on human immunodeficiency virus type 1 control among African Americans. *Human Immunology* 72: 312-318. (PMID: 21262311; PMCID: PMC3778654)

41. Jun Li, **Kui Zhang**, Nengjun Yi. 2011. A Bayesian hierarchical model for detecting haplotype-haplotype and haplotype-environment interactions in genetic association studies. *Human Heredity* 71: 148-160. (PMID: 21778734; PMCID: PMC3153342)

42. Virginia Kaklamani, Nengjun Yi, Maureen Sadim, Kalliopi Siziopikou, **Kui Zhang**, Yianfei Xu, Sarah Tofilon, Surbhi Agarwal, Boris Pasche, Christos Mantzoros. 2011. The role of the fat mass and obesity associated gene (FTO) in breast cancer risk. *BMC Medical Genetics* 12: 52. (PMID: 21489227; PMCID: PMC3089782)

43. Kaiyu Yuan, Gu Jing, Jianfeng Chen, Hui Liu, **Kui Zhang**, Jay M McDonald, Yabing Chen. 2011. Calnodulin mediates Ffas-induced FADD-independent survival signaling in pancreatic cancer cells via activation of Src-extracellular signal-regulated kinase (ERK). *The Journal of Biological Chemistry* 286: 24776-24784. (PMID: 21613217; PMCID: PMC3137053)

44. Nicholas M. Pajewski, Scott D. Parker, Gregory A. Poland, Inna G. Ovsyannikova, Wei Song, **Kui Zhang**, Brett A. McKinney, Vernon S. Pankratz, Jeffrey C. Edberg, Robert P. Kimberly, Jianming Tang, Richard A. Kaslow. 2011. The role of HLA-DR-DQ haplotypes in variable antibody to anthrax vaccine adsorbed. *Genes and Immunity* 12: 457-465. (PMID: 21368772; PMCID: PMC3165112)

45. Virginia Kalamani, Nengjun Yi, **Kui Zhang**, Maureen Sadim, Kenneth Offit, Carole Oddoux, Harry Ostrer, Christos Mantzoros, Boris Pasche. 2011. Polymorphisms of ADIPOQ and ADIPOR1 and prostate cancer risk. *Metabolism* 60: 1234-1243. (PMID: 21397927; PMCID: PMC3134585)

46. Boshao Zhang, Degui Zhi, **Kui Zhang**, Guimin Gao, Nita N. Limdi, Nianjun Liu. 2011. Practical consideration of genotype imputation: sample Size, window Size, reference choice, and untyped rate. *Statistics and Its Inference* 4: 339-352. (PMID: 22308193; PMCID: PMC3269888)

47. Reng-Yun Liu, Xiaoxue Song, Ping Chen, Zhe Lei, Jingcheng Miao, Nengjun Yi, **Kui Zhang**, Boris Pasche, Hong-Tao Zhang. 2012. Association between IL6-174G/C and cancer: A meta analysis of 105,482 individuals. *Experimental and Therapeutic Medicine* 3: 655-664. (PMID: 22969947; PMCID: PMC3438703)

48. Adam D. Steg, Kerri S. Bevis, Ashwini A. Katre, Angela Ziebarth, Ronald D. Alvarez, **Kui Zhang**, Michael Conner, Charles N. Landen. 2012. Stem cell pathways contribute to clinical chemoresistance in ovarian cancer. *Clinical Cancer Research* 18: 869-881. (PMID: 22142828; PMCID: PMC3271164)

49. Shi Wei, Christopher Kragel, **Kui Zhang**, Omar Hameed. 2012. Factors associated with residual disease after initial breast-conserving surgery for ductal carcinoma in situ. *Human Pathology* 43:986-993. (PMID: 22221704)

50. Degui Zhi, Jihua Wu, Nianjun Liu, **Kui Zhang****. 2012. Genotype calling from next generation sequencing data using haplotype information of reads. *Bioinformatics* 28: 938-946. (PMID: 22285565; PMCID: PMC3493122)

51. Wan-Yu Lin, Hemant K. Tiwari, Guimin Gao, **Kui Zhang**, John J. Arcaroli, Edward Abraham, Nianjun Liu. 2012. Similarity-based multimarker association tests for continuous traits. *Annals of Human Genetics* 3: 246-260. (PMID: 22308193; PMCID: PMC3269888)

52. Michael Froelich, Alice Esame, **Kui Zhang**, Jihua Wu, John Owen. 2012. What factors affect intrapartum maternal temperature? A prospective cohort study: maternal intrapartum temperature. *Anesthesiology* 117: 302-308. (PMID: 22828418)

53. Wan-Yu Lin, Nengjun Yi, Degui Zhi, **Kui Zhang**, Guimin Gao, Hemant K. Tiwari, Nianjun Liu. 2012. Haplotype-based methods for detecting uncommon causal variants with common SNPs. *Genetic Epidemiology* 36: 572-582. (PMID: 22706849; PMCID: PMC3513398).

54. Yong Sun, Chang Hyun Byon, Kaiyu Yuan, Jianfeng Chen, Xiao Mao, Jack M Healthm Amjad Javed, **Kui Zhang**, Peter G Anderson, Yabing Chen. 2012. Smooth muscle cell-specific runx2 deficiency inhibits vascular calcification. *Circulation Research* 111 543-552. (PMID: 22773442; PMCID: PMC3678289)

55. Yan Y. Sanders, Namasivayam Ambalavanan, Brian Halloran, Xiangyu Zhang, Hui Liu, David K. Crossman, Mooly Bary, **Kui Zhang**, Victor J. Thannickal, James S. Hagood. 2012. Altered DNA methylation profile in idiopathic pulmonary fibrosis. *American Journal of Respiratory and Critical Care Medicine* 186: 625-635. (PMID: 22700861; PMCID: PMC3480526)

56. Maria Azrad, **Kui Zhang**, Robin T. Vollmer, John Madden, Thomas Polascik, Denise C. Snyder, Mack T. Ruffin, Judd Moul, Dean Brenner, Robert W. Hardy, Wendy Demark-Wahnefried. 2013. Prostatic alpha-linolenic acid (ALA) is positively associated with aggressive prostate cancer: A relationship which may depend on genetic variation in ALA metabolism. *PLoS One* 7: e53104. (PMID: 23285256; PMCID: PMC3532426)

57. Jun Chen, Reng-Yun Liu, Lixin Yang, Jun Zhao, Xueying Zhao, Daru Lu, Nengjun Yi, Baohui Han, Xiao-Feng Chen, **Kui Zhang**, Jun He, Zhe Lei, Yifeng Zhou, Boris Pasche, Xiangdong Li, Hong-Tao Zhang. 2013. A two-SNP IL-6 promoter haplotype is associated with increased lung cancer risk. *Journal of Cancer Research and Clinical Oncology* 139: 231-242. (PMID: 23052692)

58. Michael A. Frolich, **Kui Zhang**, Timothy H Ness. 2013. Effect of sedation on pain perception. *Anesthesiology* 118: 611-621. (PMID: 23314164; PMCID: PMC3744342)

59. Weinian Rao, Yamin Ma, Li Ma, Jian Zhao, Qiling Li, Weikuan Gu, **Kui Zhang**, Vincent C. Bond, Qing Song. 2013. High-resolution whole-genome haplotyping using limited seed data. *Nature Methods* 10: 6-7. (PMID: 23269372; PMCID: PMC3835542)

60. Brahim Aissani, Howard Wiener, **Kui Zhang**, Donna D Baird. 2013. Multiple hits for the association of uterine fibroids on human chromosome 1q43. *PLoS One* 8: e58399. (PMID: 23555580; PMCID: PMC3604173)

61. Aimee M. Merino, **Kui Zhang**, Richard A. Kaslow, Brahim Aissani. 2013. Structure of tumor necrosis factor-alpha haploblocks in European populations. *Immunogenetics* 65: 543-552. (PMID: 23579626; PMCID: PMC3985396)

62. Wan-Yu Lin, Nengjun Yi, Xiang-Yang Lou, Degui Zhi, **Kui Zhang**, Guimin Gao, Hemant K. Tiwari, Nianjun Liu. 2013. Haplotype kernel association test as a powerful method to identify chromosomal regions harboring uncommon causal variants. *Genetic Epidemiology* 37: 560-570. (PMID: 23740760; PMCID: PMC4116485)

63. **Kui Zhang****, Degui Zhi. 2013. Joint haplotype phasing and genotype calling of multiple individuals using long-range haplotype informative reads. *Bioinformatics* 29: 2427-2434. (PMID: 23943637; PMCID: PMC3777110)

64. Thuy L. Nguyen, William E. Grizzle, **Kui Zhang**, Omar Hameed, Gene P. Siegal, Shi Wei. 2013. Syndecan-1 overexpression is associated with nonluminal subtypes and poor prognosis in advanced breast cancer. *American Journal of Clinical Pathology* 140: 468-474. (PMID: 24045542)

65. Walcott M. Melonie, Pauline E. Jolly, John E Ehiri, Ellen F. Funkhouser, Mirjam C. Kempf, Deborah Hickman, Maung Aung, **Kui Zhang**. 2013. Factors associated with the acceptability of male circumcision among men in Jamaica. *PLoS One* 8: e75074. (PMID: 24066164; PMCID: PMC3774608)

66. Ntui N. Asundeop, April P. Carson, Cornelius Archer Turpin, Berhanu Tameru, Ada T. Aqidi, **Kui Zhang**, Pauline E. Jolly. 2013. Determinants of access to antenatal care and birth outcomes in Kumasi, Ghana. *Journal of Epidemiology and Global Health* 3: 279-288. (PMID: 24206799; PMCID: PMC3989481)

67. Brahim Aissani, Howard Wiener, **Kui Zhang**, Kisani M. Ogwaro, Sadeep Shrestha, Lisa P. Jacobson. 2014. A candidate gene approach for virally-induced cancer with application to HIV-related Kaposi's sarcoma. *The International Journal of Cancer* 134: 397-404. (PMID: 23818101; PMCID: PMC4007164)

68. Ntui N. Asundep, Pauline E. Jolly, April Carson, Cornelius A. Turpin, **Kui Zhang**, Berhanu Tameru. 2014. Antenatal care attendance, a surrogate for pregnancy outcome? The case of Kumasi, Ghana. *Maternal and Child Health Journal* 18: 1085-1094. (PMID: 23948806; PMCID: PMC5034862)

69. Chaoling Dong, Travis S. Ptacek, David T. Redden, **Kui Zhang**, Elizabeth E. Brown, Jeffrey C. Edberg, Gerald McGwin Jr., Graciela S. Alarcon, Rosalind Ramser-Goldman, John D. Reveille, Luis M. Vila, Michele Petri, Aijian Qin, Jianming Wu, Robert P. Kimberly. 2014. FcyRIIIa SNP haplotype alleles affect human IgG binding and association with lupus nephritis in African Americans. *Arthritis and Rheumatism* 66: 1291-1299. (PMID: 24782186; PMICID: PMC4069204)

70. Ntui N. Asundep, Pauline E. Jolly, April P. Carson, Cornellius A. Turpin, **Kui Zhang**, Wilson O. Nana, Jonathan K. Stiles, Berhanu Tameru. 2014. Effect of malaria and geohelminth infection on birth outcomes in Kumasi, Ghana. *International Journal of Tropical Disease and Health* 4: 582-594. (PMID: 25414840; PMCID: PMC4235765)

71. Melonie M. Walcott, Ellen Funkhouser, Maung Aung, Mirjam C. Kempf, JohnEhiri, **Kui Zhang**, Marion Bakhoya, Deborah Hickman, Pauline E. Jolly. 2014. Gender norms and sexual behaviors among men in western Jamaica. *Sexual Health* 11: 42-51. (PMID: 24618497)

72. Heather A. Prentice, Nicholas M. Pajewski, Dongning He, **Kui Zhang**, Elizabeth E. Brown, William Kilembe, Susan Allen, Eric Hunter, Richard A. Kaslow, Jianming Tang. 2014. Host genetics and immune control of HIV-1 infection: fine mapping for the extended human MHC region in an African cohort. *Genes and Immunity* 15: 275-281. (PMID: 24784026; PMCID: PMC4111776)

73. Deyin Xing, Shadi A. Qasem, Koli Owusu, **Kui Zhang**, Gene P. Siegal, Shi Wei. 2014. Changing prognostic factors in osteosarcoma: analysis of 381 cases from two institutions. *Human Pathology* 45: 1688-1696. (PMID: 24931466)

74. Yamin Ma, Jian Zhao, Jian-Syuan Wong, Li Ma, Wenzhi Li, Guoxing Fu, **Kui Zhang**, Rick A. Kittles, Yun Li, Qing Song. 2014. Accurate inference of local phased ancestry of modern admixed populations. *Scientific Reports* 4: 5800. (PMID: 25052506; PMCID: PMC4107375)

75. Jihua Wu, Guo-Bo Chen, Degui Zhi, Nianjun Liu, **Kui Zhang****. 2014. A hidden Markov model for haplotype inference for present-absent data of clustered genes using identified haplotypes and haplotype patterns. *Frontiers in Genetics* 5: 267. (PMID: 25161663; PMCID: PMC4129397)

76. Brahim Aissani, **Kui Zhang**, Donna Day Baird, Howard Wiener. 2015. Follow-ups to genome-wide linkage and admixture mapping implicate components of the extracellular matrix in the pathogenesis of uterine fibroids. *Fertility and Sterility* 103: 528-534. (PMID: 25455875; PMCID: PMC4314358)

77. Xuelin Li, **Kui Zhang**, Nicholas M. Pajewski, Ilene Brill, Heather A. Prentice, Sadeep Shrestha, William Kilembe, Etiene Karita, Susan Allen, Eric Hunter, Richard A. Kaslow, Jianming Tang. 2015. Immunogenetic influences on acquisition of HIV-1 infection: consensus findings from two African cohorts point to an enhancer element in

IL19 (1q32.2). *Genes and Immunity* 16: 213-20. (PMID: 25633979; PMCID: PMC4409473)

78. Qi Yan, Hemant K. Tiwari, Nengjun Yi, Guimin Gao, **Kui Zhang**, Wan-Yu Lin, Xiang-Yang Lou, Nianjun Liu. 2015. A sequence kernel association test for dichotomous traits in family samples under a generalized linear mixed model. *Human Heredity* 79: 60-68. (PMID: 25791389; PMCID: PMC4525859)

79. Gary T. Daigle, Pauline E. Jolly, Eric A. M. Chamot, John Ehiri, **Kui Zhang**, Edward Khan, Sanith Sou. 2015. System level factors as predictors of adherence to clinical appointment schedules in antiretroviral therapy in Cambodia. *AIDS Care* 27: 836-843. (PMID: 25803006)

80. Degui Zhi, Nianjun Liu, **Kui Zhang****. 2015. On the design and analysis of next-generation sequencing genotyping for a cohort with haplotype-informative reads. *Methods* 79-80: 41-46. (PMID: 25644447; PMCID: PMCID4437872)

81. Melonie Walcott, John Ehiri, Mirjam Kempf, Ellen Funkhouser, Marion Bakhoya, Maung Aung, **Kui Zhang**, Pauline E. Jolly. 2015. Gender norms and family planning practices among men in western Jamaica. *American Journal of Men's Health* 9: 307-316. (PMID: 25077729)

82. Brahim Aissani, **Kui Zhang**, Arjen R. Mensenkamp, Fred H. Menko, Howard W. Wiener. 2015. Fine mapping of the uterine leiomyoma locus on 1q43 close to a lncRNA in the RGS7-FH interval. *Endocrine-Related Cancer* 22: 633-643. (PMID: 26113603; PMCID: PMC4526794)

83. Brahim Aissani, **Kui Zhang**, Howard W. Wiener. 2015. Evaluation of GWAS candidate susceptibility loci for uterine leiomyoma in the multi-ethnic NIEHS uterine fibroid study. *Frontiers in Genetics* 6: 241. (PMID: 26236334; PMCID: PMC4501220)

84. Xiao Zhang, W. John Boscardin, Thomas R. Berlin, Xiaohai Wan, Yulei He, **Kui Zhang**. 2015. A Bayesian method for analyzing combinations of continuous, ordinial, and nominal categorical data with missing values. *Journal of Multivariate Analysis* 135: 43-58.

85. **Kui Zhang****, Howard Wiener, Brahim Aissani. 2015. Admixture mapping of genetic variants for uterine fibroids. *Journal of Human Genetics* 60: 533-538. (PMID: 26040208; PMCID: PMC4583808)

86. Brandi C. McCleskey, Thuy L. Penedo, **Kui Zhang**, Omar Hameed, Gene P. Siegal, Shi Wei. 2015. GATA3 expression in advanced breast cancer: prognostic value and organ-specific relapse. *The American Journal of Clinical Pathology* 144: 766-763. (PMID: 26486740)

87. Brahim Aissani, **Kui Zhang**, Howard W Wiener. 2015. Genetic determinants of uterine fibroid size in the multiethnic NIEHS uterine fibroid study. *International Journal of Molecular Epidemiology and Genetics* 6: 9-19. (PMID: 26417400; PMCID: PMC4572088)

88. Qi Yan, Daniel E. Weeks, Hemant K. Tiwari, Nengjun Yi, **Kui Zhang**, Guimin Gao, Wan-Yu Lin, Xiang-Yang Lou, Wei Chen, Nianjun Liu. 2015. Rare-variant kernel machine test for longitudinal data for population and family samples. *Human Heredity* 80: 126-138. (PMIC: 20161736; PMCID: PMC4940283)

89. Rong Li, **Kui Zhang****, Thuy Linh Penedo, Christopher P. Kragel, William E, Grizzle, Omar Hameed, Gene P. Siegal, Shi Wei. 2016. The RANK pathway in advanced breast cancer: does Src play a role? *Applied Immunohistochemistry and Molecular Morphology* 24: 42-50. (PMID: 26200837)

90. Brahim Aissani, Howard Wiener, **Kui Zhang**. 2016. Fine mapping of the body fat QTL on human chromosome 1q43. *PLOS One* 11: e0153794. (PMID: 27111224; PMCID: PMC4844098)

91. Tiansheng Shen, **Kui Zhang**, Gene P. Siegal, Shi Wei. 2016. The Prognostic Value of E-cadherin and β-catenin in Triple Negative Breast Cancer. *The American Journal of Clinical Pathology* 146: 603-610. (PMID: 27780797)

92. Qiuying Sha, **Kui Zhang**, Shuanglin Zhang. 2016. A Nonparametric Regression Approach to Control for Population Stratification in Rare Variant Association Studies. *Scientific Report* 6: 37444 (PMID: 27857226; PMCID: PMC5114546)

93. Xiao Zhang, Quanlin Li, Karen Cropsey, Xiaowei Yang, **Kui Zhang**, Thomas R. Belin. 2017. A multiple imputation method for incomplete correlated ordinal data using multivariate probit models. *Communications in Statistics - Simulation and Computation* 46: 2360-2375.

94. Wenping Deng, **Kui Zhang**, Victor Busov, Hairong Wei. 2017. Recursive Random Forest Algorithm for Constructing Multilayeded Hierarchical Gene Regulatory Networks That Govern Biological Pathways. PLoS One 12: e0171532. (PMID: 28158291; PMCID: PMC5291523)

95. Rong Li, **Kui Zhang**, Gene P. Siegal, Shi Wei. 2017. Clinicopathological Factors Associated with Survival in Patients with Breast Cancer Brain Metastasis. Human Pathology 64: 53-60. (PMID: 28428107)

96. Jessica Tracht, **Kui Zhang**, Deniz Peker. 2017. Grading and prognostication of neuroendocrinee tumors of the pancreas: A comparison study of Ki67 and PHH3. *Journal of Histochemistry and Cytochemistry* 65: 399-405. (PMID: 28651471; PMCID: PMC5490847)

97. Tiansheng Shen, Cheng Gao, **Kui Zhang**, Gene P. Siegal, Shi Wei. Prognostic outcomes in advanced breast cancer: the metastasis-free interval is important. *Human Pathology* 70: 70-76. (PMID: 29031733)

98. Rong Li, **Kui Zhang**, Gene P. Siegal, Shi Wei. 2017. Clinical and Pathological Factors Related to Brain Relapse-free Survival in Breast Cancer Patients - Reply. *Human Pathology* 42. (PMID: 28655640)

99. Nirmal S. Sharma, Keith M. Wille, S. Athira, Degui Zhi, Kenneth P. Hough, Enrique Diaz-Guzman, **Kui Zhang**, Ranjit Kumar, Sunad Rangarajan, Peter Eipers, Yong Wang, Ritesh K. Srivastava, Jose Vicente Rodriguez Dager; Mohammad Athar, Casey Morrow, Charles W. Hoopes, David D. Chaplin, Victor J. Thannickal, Jessy S. Deshane. 2018. Distal Airway Microbiome is Associated with Immunoregulatory Myeloid Cell Responses in Lung Transplant Recipients. *Journal of Heart and Lung Transplantation* 37: 206-216. (PMID: 28756121)

100.   Dermot P. Maher, Yuri Chaves Martins, Tina Doshi, Mark Bicket, **Kui Zhang**, George Hanna, Shihab Ahmed. 2018. Neuropathic Pain Medication Use Does Not Alter Outcomes of Spinal Cord Stimulation for Lower Extremity Pain. Neuromodulation 21: 106-113. (PMID: 28980364; PMCID: PMC5766415)

101.   Chathura Gunasekara, **Kui Zhang**, Wenping Deng, Laura Brown, Hairong Wei. 2018. TGMI: An Efficient Algorithm for Identifying Pathway Regulators through Evaluation of Triple-Gene Mutual Interaction. *Nucleic Acids Research.* Accepted. (PMID:)

Publications in Books and Proceedings (**: first and/or corresponding author)

1. **Kui Zhang****, Ting Chen, Michael Waterman, Zhaohui Qin, Jun Liu, Fengzhu Sun. 2004. Dynamic programming algorithms for haplotype block partition and tag SNP selection using haplotype data or genotype data. In Sorin Istrail, Pavle Pevzner, and Michael Waterman (Editors): *Lecture Notes in Computer Science Volume 2983 - Computational Methods for SNPs and Haplotype Inference - DIMACS/RECOMB Satellite Workshop, Piscataway, NJ, USA, November, 21-22, 2002*. pp. 96-112.

2. **Kui Zhang****, Fengzhu Sun, Michael S. Waterman, Ting Chen. 2004. Dynamic programming algorithms for partitioning sequence variation in human chromosomes. *Proceedings of the 6th Hellenic European Conference on Computer Mathematics and its Applications (HERCMA-2003), Athens, Greece, September 25-27, 2003*. pp. 15-26.

3. Yao-Ting Huang, **Kui Zhang**, Ting Chen, Kun-Mao Chao. 2004. Approximation algorithms for the selection of robust tag SNPs. In Inge Jonassen and Junhyong Kim (Editors): *Lecture Notes in Computer Science/Lecture Notes in Bioinformatics Volume*

3240 - Algorithms in Bioinformatics - 4th International Workshop, WABI 2004, Bergen, Norway, September 17-21. pp. 278-289.

4. Marie-Pierre St-Onge, Grier P. Page, Maria DeLuca, **Kui Zhang**, Kyoungmi Kim, Steven B. Heymsfield, David B. Allison. 2004. Design and analysis of microarray studies for obesity research. In Carolyn D. Berdanier and Naima Moustaid-Moussa (Editors): *Genomics and Proteomics in Nutrition Research*. New York: Marcel-Dekker Inc. pp. 145-204.

5. Bernard Gorman, **Kui Zhang**. 2005. Cluster stability. In David Allison, Grier Page, Mark Beasley, and Jode Edwards (Editors): *DNA Microarrays and Statistical Genomic Techniques: Design, Analysis, and Interpretation of Experiments*. CRC Press. pp. 159-176.

6. **Kui Zhang****, Fengzhu Sun, Michael S. Waterman, Ting Chen. 2006. Dynamic programming algorithms for partitioning sequence variation in human chromosomes. Elias A. Lipitakis (Editor): *Computer Mathematics and Its Applications: Advances and Developments (1994-2005)*. LEA Publishers, Athens, Greece. pp. 431-442.

7. Yao-Ting Huang, **Kui Zhang**, Ting Chen, Kun-Mao Chao. 2007. Approximation algorithms for the selection of robust tag SNPs. Teofilo F. Gonzalez (Editor): *Handbook of Approximation Algorithms and Metaheuristics (Chapman & Hall/Crc Computer and Information Science Series)*. Chapman & Hall/CRC Press. pp. 77.

8. Grier P. Page, Stanislav Zakharkin, Kyoungmi Kim, Tapan Mehta, Prashanth Yelisetti, Lang Chen, **Kui Zhang**. 2007. Microarray analysis. Walter Ambrosius (Editor): *Topics in Biostatistics (Methods in Molecular Biology)*. Humana Press. pp. 20.

9. **Kui Zhang****, Fengzhu Sun. 2008. Tag SNP selection and its applications in association studies. Hongwen Deng, Hui Shen, Yongjun Liu, and Hai Hu (Editors): Current Topics in Human Genetics: Studies in Complex Diseases. World Scientific Publishing. pp. 95-122.

10. **Kui Zhang****, Howard Weiner, T. Mark Beasley, Christopher I. Amos, David B. Allison. 2009. An empirical Bayesian framework for QTL genome-wide scans. Rudy Guerra and David Allison (Editors): *Meta-Analysis and Combining Information in Genetics*. CRC Press. pp. 67-80.

11. **Kui Zhang**,** Hongyu Zhao. 2009. Family based association studies. Shili Lin and Hongyu Zhao (Editors): *Handbook on Analyzing Human Genetic Data - Computational Approaches and Software*. Springer. pp. 191-240.

12. Degui Zhi, **Kui Zhang****. 2014. Genotype calling and haplotype phasing from next generation sequencing data. Somnath Datta and Dan Nettleton (Editors): *Statistical Analysis of Next Generation Sequencing data*. Springer. pp. 315-334.

Other Publications

1. **Kui Zhang**.** 2011. Book Review for "Applied Statistical Genetics with R: For Population-based Association Studies by FOULKES, A.S." *Biometrics* 67: 1678-1679.

2. **Kui Zhang**.** 2013. Book Review for "Exercises and Solutions in Biostatistical Theory, by L.L. Kupper, B.H. Neelon, and S.M. O'Brien." *The American Statistician* 67: 261-265.

Manuscripts in Preparation (**: first and/or corresponding author)

1. Zhenchuan Wang, Qiuying Sha, **Kui Zhang**, Shuanglin Zhang**.** 2018. Testing an Optimally Weighted Combination of Common and/or Rare Variants with Multiple Traits. Submitted to *PLOS One*.

2. Wenping Deng, **Kui Zhang**, Sanzhen Liu, Patrick Zhao, Shizhong Xue, Hairong Wei. 2018. JRmGRN: Joint reconstruction of multiple gene regulatory networks with common hub genes. Submitted to *Bioinformatics*. In Revision.

3. Ashish Kurundkar, Xiaoqing Gao, Kui Zhang, Jacob P. Britt, Gene P.Siegal, Shi Wei. 2018. Comparison of AJCC Anatomic and Prognostic Stage Groups in Breast Cancer: Analysis of 3322 Cases from a Single Institution. Submitted.

Invited Oral Presentations

Nov 1, 2001	Department of Mathematics, University of Southern California, Los Angeles, California
Jun 6, 2002	Los Angeles Area Statistical Genetics Meeting
Oct 10, 2002	Department of mathematics, University of Southern California, Los Angeles, California
Oct 19, 2002	The American Society of Human Genetics 52nd Annual Meeting, Baltimore, Maryland
Dec 17, 2002	Department of Preventive Medicine and Epidemiology, Loyola University Medical Center
Jan 20, 2003	Virginia Institute for Behavioral and Psychiatric Genetics (VIPBG), Virginia Commonwealth University

Feb 7, 2003	Division Department of Biostatistics, University of Minnesota School of Public Health
Feb 20, 2003	Department of Biostatistics, School of Public Health, University of Alabama at Birmingham
Mar 10, 2003	Center for American-Indian Health Research, University of Oklahoma Health Sciences Center
Aug 8, 2003	Department of Biochemistry and Molecular Biology, University of Indiana School of Medicine
May 28, 2004	Interface 2004: Computational Biology and Bioinformatics, 36th Symposium on the Interface, Baltimore, Maryland.
Jun 13, 2005	Workshop at Mathematical Biosciences Institute: Recombination: Hot Spots and Haplotype Structure, Columbus, Ohio.
Feb 5, 2007	Department of Mathematics, Michigan Technological University, Houghton, Michigan
Feb 22, 2007	Department of Epidemiology, Michigan State University, East Lansing, Michigan
Mar 7, 2007	Department of Informatics and Personalized Medicine, University of Missouri at Kansas City School of Medicine
May 11, 2007	Computational Genomics Workshop, Department of Epidemiology, Michigan State University, East Lansing, Michigan
May 8, 2008	NHGRI/NIH funded conference titled "Haplotype analysis of population and pedigree data in association studies", Birmingham, Alabama
Aug 6, 2008	2008 Joint Statistical Meeting, Denver, Colorado
Jun 26, 2009	International Workshop on Probability and Theory, Statistics and Their Applications to Biology, Beijing, P.R. China
Jul 1, 2009	Faculty of Foundational Education, Beijing University Health Science Center, Beijing, P.R. China
Jul 8, 2009	School of Mathematics of Shandong University, Jinan, Shandong Province, P.R. China
Sep 8, 2009	Cardiovascular Research Institute (CVRI), Morehouse School of Medicine, Atlanta, Georgia

Mar 24, 2010	Eastern North American Region/International Biometric Society (ENAR) 2010 Spring Meeting, New Orleans, LA
Jun 28, 2011	International Chinese Statistical Association 2011 Applied Statistics Symposium, New York, 2011
Mar 28, 2012	Computational Biology Symposium – 30 Years of Computational Biology at USC, Los Angeles
Mar 4, 2013	School of Public Health, University of Wisconsin at Milwaukee
Mar 14, 2013	Department of Family and Community Medicine, North Western Ohio Medical University
Mar 15, 2013	Department of Statistics, University of Akron
Mar 27, 2013	Department of Epidemiology, University of Indiana at Bloomington
Apr 26, 2014	Department of Mathematical Sciences, Michigan Technological University
Feb 23, 2015	Department of Mathematical Sciences, Michigan Technological University
Oct 30, 2015	Department of Biomedical Engineering, Michigan Technological University
Jun 25, 2016	China Statistical Conference 2016, Qingdao, China
Jun 27, 2017	International Chinese Statistical Association 2017 Applied Statistics Symposium, 2017, Chicago
Jun 15, 2018	The 1st International Symposium on Genomics and Translational Medicine, 2018, Suzhou, China
Jul 1, 2018	Fifth International Symposium on Statistical Genetics and Genomics, 2018, Jinan, China
Jul 4, 2018	2018 International Chinese Statistical Association China Conference with the Focus on Data Science, 2018, Qingdao, China

Paper Review Activities for Journals

American Journal of Human Genetics

Annals of Epidemiology
Annals of Human Genetics
Applied Bioinformatics
Behavior Genetics
Bioinformatics
Biometrics
Biostatistics
BMC Bioinformatics
BMC Cancer
BMC Evolutionary Biology
BMC Genetics
BMC Genomics
BMC Immunology
BMC Infectious Diseases
BMC Medical Informatics and Decision Making
BMC Medical Genetics
BMC Microbiology
BMC Musculoskeletal Disorders
BMC Pediatrics
BMC Plant Biology
BMC Public Health
BMC Pulmonary Medicine
BMC Veterinary Research
BMC Women's Health
Cancer Informatics
Computational Statistics and Data Analysis
Computers and Electronics in Agriculture
Computers and Operations Research
Communications in Information and Systems
European Journal of Human Genetics
Gene
Genetic Epidemiology
Genetics
Genetics Selection Evolution
Genome Research
Human Heredity
Human Molecular Genetics
INFORMS Journal of Computing
IEEE/ACM Transactions on Computational Biology and Bioinformatics
IEEE Transactions on Information Technology in Biomedicine
IET System Biology
JAMA - The Journal of American Medical Association
Journal of Bioinformatics and Computational Biology
Journal of Clinical Endocrinology & Metabolism
Journal of Human Genetics
Journal of Medical Case Reports

Journal of Medical Statistics and Informatics
Frontiers in Biosciences
Frontiers in Genetics
Journal of the Theoretical Biology
Molecular Diagnosis and Therapy
Mutation Research
Obesity
Pharmacogenomics
Physica A
PLoS Genetics
PLoS One
Science Translational Medicine
Statistical Applications in Genetics and Molecular Biology
Statistics and its Inference
Statistics and Probability Letters
Statistics in Biosciences
Statistics in Medicine

Paper Review Activities for Conferences and Workshops

Workshop on Algorithms in Bioinformatics, Budapest, Hungary, Sep 15-20, 2003
2005 IEEE Computational Systems Bioinformatics Conference, Aug 8-12, 2005
Eighth Asia Pacific Bioinformatics Conference, Bangalore, India, Jan 18-21, 2010
International Conference on Intelligent Biology and Medicine (ICIBM2018), Los Angeles, CA, USA, Jun 10-12, 2018

Editorial Board

2010 - Present   Review Editor, Frontiers in Statistical Genetics and Methodology
2011 - Present   Statistical Adviser, BMC Journal Series
2013 - Present   Editorial Board Member, Journal of Medical Statistics and Bioinformatics
2015 - Present   Editorial Board Member, Jacobs Journal of Genetics

Committee Member for Conferences and Workshops

06/2017-12/2017 Technical Committee, International Conference on Bioinformatics Research and Applications, Barcelona, Spain, Dec 8-10, 2017

01/2018-06/2018 Scientific Committee, 1st International Symposium on Genomics and Translational Medicine, Suzhou, China, June, Jun 14-17, 2018

06/2018-12/2018 Technical Committee, International Conference on Bioinformatics Research and Applications, TBA, 2018

NIH Study Section

07/2011-06/2017 Regular Member, NIH GCAT study section

Grant Review Activities for NSF and NIH

CI-Team Implementation Panel	NSF (10/25/2007-10/26/2007)
NIH/NIMMH- ZMH1-ERB-S Special Panel	NIH (08/14/2008)
NIH/NIA-ZAG1-ZIJ-7 Special Panel	NIH (08/15/2008)
NIH-BEGS Study Section	NIH (06/04/2009-06/05/2009)
NIH-ZRG1-HDM-G (Challenge Grants)	NIH (06/29/2009)
NIH-ZRG1-HDM-P (Challenge Grants)	NIH (06/29/2009)
NIH-ZRG1-GGG-F (Challenge Grants)	NIH (07/15/2009)
NIH-GCAT Study Section	NIH (10/14/2009-10/15/2009)
NIH-ZRG1-BST-M(30)-L	NIH (10/29/2009-10/30/2009)
NIH-ZRG1-IMST-G(30)-S	NIH (10/14/2010-10/15/2010)
NIH-ZGM1-BRT-X (KR)	NIH (04/0/4/2011-04/04/2011)
NIH-GCAT Study Section	NIH (06/02/2011-06/03/2011)
NIH-GCAT Study Section	NIH (02/09/2012-02/10/2012)
NIH-GCAT Study Section	NIH (06/07/2012-06/08/2012)
NIH-GCAT Study Section	NIH (02/09/2013-02/10/2013)
NIH-GCAT Study Section	NIH (12/19/2013-12/20-2013)
NIH-GCAT Study Section	NIH (02/19/2014-02/20/2014)
NIH-GCAT Study Section	NIH (06/06/2014-06/07/2014)
NIH-GCAT Study Section	NIH (02/18/2015-02/19/2015)
NIH-GCAT Study Section	NIH (06/09/2015-06/10/2015)
NIH-GCAT Study Section	NIH (02/11/2016-02/12/2016)
NIH-BMRD Study Section	NIH (10/21/2016-10/22/2016)
NIH-BMRD Study Section	NIH (02/23/2017-02/24/2017)
NIH-BMRD Study Section	NIH (06/15/2017-06/16/2017)
NIH ZRG1 HDM W (I03) Special Panel	NIH (03/21/2018-03/21/2018)

Other Grant Review Activities

Research Growth Initiative (RGI)	UW at Milwaukee (01/13/2012)
Research Growth Initiative (RGI)	UW at Milwaukee (01/24/2014)
Research Growth Initiative (RGI)	UW at Milwaukee (01/26/2015)

Teaching Experiences

09/1994-01/1995, Beijing University, Beijing, China
Teaching Assistant of Complex Function Analysis

09/1996-01/1997, Beijing University, Beijing, China
Teaching Assistant of Mathematical Analysis

03/1997-06/1997, Beijing University, Beijing, China
Teaching Assistant of the Multivariate Statistical Analysis

03/1997-07/1997 and 03/1998-07/1998, Beijing University, Beijing, China
Course Master of Programming of Assembly Language, responsible for giving lectures, preparing and grading homework and exams, and supervising a TA.

10/21/2004, University of Alabama at Birmingham, AL
Guest Lecturer, 2-hour lecture of Statistical Analysis of Microarray Data

05/11/2005, University of Alabama at Birmingham, AL
Guest Lecturer, 1-hour lecture of Statistical Methods for Gene Mapping for Clinical Research Training Program (CRTP) at UAB

05/10/2006, University of Alabama at Birmingham, AL
Guest Lecturer, 1-hour lecture of Statistical Methods for Gene Mapping for Clinical Research Training Program (CRTP) at UAB

08/2006-12/2006, University of Alabama at Birmingham, AL
Course Master for BST631: Statistical Theory I, responsible for giving lectures, preparing and grading homework and exams.

04/11/2007, University of Alabama at Birmingham, AL
Guest Lecturer, 1-hour lecture of Statistical Methods for Gene Mapping for Clinical Research Training Program (CRTP) at UAB

08/2007-12/2007, University of Alabama at Birmingham, AL
Course Master for BST631: Statistical Theory I, responsible for giving lectures, preparing and grading homework and exams.

07/22/2008, University of Alabama at Birmingham, AL
Guest Lecturer, 1.5-hour lecture of haplotype analysis in association studies for NSF funded short course on Statistical Genetics and Statistical Genomics

08/2007-12/2008, University of Alabama at Birmingham, AL
Course Master for BST631: Statistical Theory I, responsible for giving lectures, preparing and grading homework and exams.

01/2009-05/2009, University of Alabama at Birmingham, AL

Course Master for BST632: Statistical Theory II, responsible for giving lectures, preparing and grading homework and exams.

01/2010-05/2010, University of Alabama at Birmingham, AL
Course Master for BST632: Statistical Theory II, responsible for giving lectures, preparing and grading homework and exams.

08/2010-12/2010, University of Alabama at Birmingham, AL
Course Master for BST775: Statistical Methods for Genetic Analysis I, responsible for giving lectures, preparing and grading homework and exams.

01/31/2011, University of Alabama at Birmingham, AL
Guest Lecturer, 1.5-hour lecture of Introduction of the HapMap Project for BST695: Special Topics on Statistical Genomics.

08/2011-12/2011, University of Alabama at Birmingham, AL
Course Master for BST695: Special Topics in Statistical Theory, responsible for giving lectures, preparing and grading homework and exams.

01/2012-05/2012, University of Alabama at Birmingham, AL
Course Master for BST632: Statistical Theory II, responsible for giving lectures, preparing and grading homework and exams.

08/2012-12/2012, University of Alabama at Birmingham, AL
Course Master for BST623: General Linear Models, responsible for giving lectures, preparing and grading homework and exams.

01/2013-05/2013, University of Alabama at Birmingham, AL
Course Master for BST632: Statistical Theory II, responsible for giving lectures, preparing and grading homework and exams.

08/2013-12/2013, University of Alabama at Birmingham, AL
Guest Lecturer, three 1.5-hour lectures of test for Hardy-Weinberg Equilibrium, allele frequency estimation and EM algorithm, and analysis of Linkage Disequilibrium and haplotypes for BST775: Statistical Methods for Genetic Analysis I.

01/2014-05/2014, University of Alabama at Birmingham, AL
Course Master for BST632: Statistical Theory II, responsible for giving lectures, preparing and grading homework and exams.

01/2014-05/2014, University of Alabama at Birmingham, AL
Guest Lecturer, three 1.5-hour lectures of analysis of next generation sequencing data and rare variants for BST776: Statistical Methods for Genetic Analysis II.

05/2014-08/2014, University of Alabama at Birmingham, AL

Course Master for BST612: Intermediate Statistical Analysis II. This is an online course and I am responsible for coordinating all materials, preparing and grading exams.

01/2015-05/2015, University of Alabama at Birmingham, AL
Course Master for BST632: Statistical Theory II, responsible for giving lectures, preparing and grading homework and exams.

08/2015-12/2015, Michigan Technological University, MI
Course Master for MA5701: Statistical Methods, responsible for giving lectures, preparing and grading homework and exams.

01/2016-04/2015, Michigan Technological University, MI
Course Master for MA5980: Statistical Consulting, responsible for giving lectures, preparing and grading homework and exams.

08/2016-12/2016, Michigan Technological University, MI
Course Master for MA5701: Statistical Methods, responsible for giving lectures, preparing and grading homework and exams.

01/2017-04/2017, Michigan Technological University, MI
Course Master for MA3710: Engineering Statistics, responsible for giving lectures, preparing and grading homework and exams

09/2017-12/2017, Michigan Technological University, MI
Course Master for MA5701: Statistical Methods, responsible for giving lectures, preparing and grading homework and exams.

09/2017-12/2017, Michigan Technological University, MI
Course Master for MA3720: Probability, responsible for giving lectures, preparing and grading homework and exams

01/2018-04/2018, Michigan Technological University, MI
Course Master for MA5702: Statistical Consulting, responsible for giving lectures, preparing and grading homework and exams

01/2018-04/2018, Michigan Technological University, MI
Course Master for MA5750: Statistical Genetics, responsible for giving lectures, preparing and grading homework and exams

Academic Advisor

Aug 2003 – Jul 2005	William Prucka (Ph.D. Student) at UAB
Aug 2008 – 2012	Ashutosh Ranjan (Ph.D. Student) at UAB
Aug 2008 – March 2015	Arvind Tripathi (Ph.D. Student) at UAB
Aug 2013 – August 2014	Yin He (Ph.D. Student) at UAB

Aug 2013 – Aug 2015   Shaonin Ji (MSPH Student) at UAB

Dissertation Committees

2005   Kisani Mary Ogwaro (Ph.D. student; Advisor: Prof. Richard Kaslow)
Department of Epidemiology, UAB School of Public Health
Dropped from the Program in 2006.

2005   Aleksandr Lazaryan (Ph.D. student; Advisor: Prof. Richard Kaslow)
Department of Epidemiology, UAB School of Public Health
Proposal Defended: 06/01/2006
Dissertation Defended: 06/19/2008

2008   Gary Daigle (Dr. PH student; Advisor: Prof. Pauline E Jolly)
Department of Epidemiology, UAB School of Public Health
Proposal Defended: 05/29/2008
Dissertation Defended: 06/23/2014

2008   Hongjiang Gao (Ph.D. student; Advisor: Profs. Inmaculada (Chichi) Aban and Charles R. Katholi)
Department of Biostatistics, UAB School of Public Health
Proposal Defended: 12/22/2008
Dissertation Defended: 02/15/2010

2010   Aimee M Merino (Ph.D. student; Advisor: Prof. Richard Kaslow)
Division of Microbiology, Department of Medicine, UAB
Dissertation Defended: 10/26/2011

2010   Jun Li (Ph.D. student; Advisor: Prof. Nengjun Yi)
Section on Statistical Genetics, Department of Biostatistics, UAB School of Public Health
Proposal Defended: 01/26/2011
Dissertation Defended: 11/04/2011

2011   asundep NDEP NTUI (Dr. PH student; Advisor: Prof. Pauline E Jolly)
Department of Epidemiology, UAB School of Public Health
Proposal Defended: 05/12/2011
Dissertation Defended: 03/28/2013

2011   Melonie Walcott (Ph.D. student; Advisor: Prof. Pauline E Jolly)
Department of Epidemiology, UAB School of Public Health
Proposal Defended: 10/28/2011
Dissertation Defended: 01/08/2013

2012   Michael A. Froelich (MS student; Advisor: Prof. Gary Cutter)

Department of Biostatistics, UAB School of Public Health
Dissertation Defended: 07/05/2012

2012   Heather Prentice (Ph.D. student; Advisor: Prof. Elizaneth Brown)
Department of Epidemiology, UAB School of Public Health
Proposal Defended: 01/04/2012
Dissertation Defended: 03/29/2013

2013   Arvind Tripathi (Ph.D. student; Advisor: Prof. Kui Zhang and Xiaogang Su)
Department of Biostatistics, UAB School of Public Health
Proposal Defended: 08/04/2013
Dissertation Defended: 03/17/2015

2013   Shaonin Ji (MS PH student; Advisor: Prof. Kui Zhang)
Department of Biostatistics, UAB School of Public Health
Dissertation Defended: NA

2014   Yogasudha Veturi (Ph.D. student; Advisor: Prof. Gustavo A de los Campos)
Department of Biostatistics, UAB School of Public Health
Proposal Defended: 06/05/2015
Dissertation Defended: NA

2015   Huanhuan Zhu (Ph.D. student; Advisor: Prof. Shuanglin Zhang)
Mathematical Department, Michigan Technological University
Dissertation Defended: 03/02/2018

2015   Zhenchuan Wang (Ph.D. student; Advisor: Prof. Shuanglin Zhang)
Mathematical Department, Michigan Technological University
Dissertation Defended: 04/02/2018

2015   Xinlan Yang (Ph.D. student; Advisor: Prof. Qiuying Sha)
Mathematical Department, Michigan Technological University
Dissertation Defended: 03/25/2018

2016   Hongyi Lin (MS student; Advisor: Prof. Noel R. Urban)
Department of Civil and Environmental Engineering, Michigan Technological
University
Dissertation Defended: 07/25/2016

2016   Yun (Anna) Liu (Ph.D. student in Statistics; Advisor: Prof. Yenowoo Rho)
Department of Mathematical Sciences, Michigan Technological University
Dissertation Defended: TBA

2016   Cheng Gao (Ph.D. student in Statistics; Advisor: Prof. Kui Zhang)
Department of Mathematical Sciences, Michigan Technological University
Proposal Defended: TBA

Dissertation Defended: TBA

2017   Mitchell Tahtinen (MS student in Statistics; Advisor: Prof. Kui Zhang)
           Department of Mathematical Sciences, Michigan Technological University
           Report Defended: 06/30/2017

2017   Xiaoqing Gao (MS student in Statistics; Advisor: Prof. Kui Zhang)
           Department of Mathematical Sciences, Michigan Technological University
           Dissertation Defended: TBA

2018   Fadhila Yosof (MS student in Statistics; Advisor: Prof. Qiuying Sha)
           Department of Mathematical Sciences, Michigan Technological University
           Dissertation Defended: 04/06/2018

Postdoctoral Fellows

Jan 2006 - Oct 2007   Yun Joo Yoo, Ph.D.
                          Currently Associate Professor of Department of Mathematics
                          Education at Seoul National University

Jan 2007 – Aug 2009   Douglas Childers, Ph.D.

June 2010 – Sep 2011   Jihua Wu, Ph.D.
                          Currently Statistical Manager at Amgen in China

Service Activities (Completed)

Jun 2004 – Aug 2005   Organizer, SSG Monthly Grant Writing Meeting
Jun 2005 – Jun 2007   Alternative Senator of SOPH at UAB Faculty Senate
Jun 2007 – Jun 2009   Alternative Senator of SOPH at UAB Faculty Senate
Feb 29, 2008   Judge for UAB Graduate Research Day in 2008
May 7-8, 2008   Organizer of two day NIH/NHGRI funded conference
                          "Haplotype analysis of population and pedigree data in
                          association studies"
Feb 16, 2009   Judge for UAB Postdoctoral Research Day in 2009
Feb 19, 2009   Organizer of SSG Professional Development Workshop Series
                          "On the Road to Meeting One's Scholarship Goals: How to Be a
                          Mentor"
Feb 25, 2009   Host on Junior Achievement Job Shadow Day , UAB & JA Job
                          Shadow, Feb 25, 2009
April, 2009   Member of Program Committee for the 2nd International
                          Conference on Biomedical Engineering and Informatics
                          (BMEI'09), Oct 17-19, 2009, Tianjin, China
Feb 15, 2010   Judge for UAB Postdoctoral Research Day in 2010

Oct 2010 – Jul 2011	Organizer, SSG Monthly Seminar Series
July 2012 – Aug 2015	Organizer, SSG Monthly Grant Writing Meeting
Aug 2008 – Aug 2015	UAB Quantitative Literacy Committee
July 2010 – Aug 2015	UAB Grievance and Termination Hearing Panel
Sep 2015 – May 2016	Chair for Promotion, Tenure, and Re-appointment Committee at Department of Mathematical Sciences at MTU
Sep 2016 – May 2017	Chair for Promotion, Tenure, and Re-appointment Committee at Department of Mathematical Sciences at MTU
Sep 2016 – May 2017	Graduate Program Committee at Department of Mathematical Sciences at MTU
February 28, 2018	Judge for MTU Graduate Research Day in 2018
Jan 2018 – May 2018	MTI CIS Advisory Group

Service Activities (Current)

Sep 2017 – Present	TBA

References:

- David B. Allison, PhD
  Distinguished Professor, Quetelet Endowed Professor of Public Health
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  Director, Office of Energetics, UAB of School of Public Health
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  Professor of Genetics and of Statistics
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