

CURRICULUM VITAE

KUI ZHANG

Contact Information:

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Education

1990-1994 BSc in Probability and Statistics, Beijing University, Beijing, China

1994-1999 PhD in Probability and Statistics, Beijing University, Beijing, China
Advisor: Prof. Minping Qian
Dissertation: Phase Transition of the SAT problem

Continuing Education

N/A

Professional Appointments

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

02/2001-08/2003 Postdoctoral Research Associate
Program of Molecular and Computational Biology, Department of Biological
Sciences, University of Southern California

08/2003-02/2008 Research Assistant Professor
Section of Statistical Genetics, Department of Biostatistics, University of
Alabama at Birmingham School of Public Health

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

Professional Memberships

2000-present	Member, American Society of Human Genetic
2004-present	Member, International Association for Statistical Computing
2004-present	Member, American Statistical Association

Awards and Honors

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

Research Interests

My research interests are to develop mathematical, statistical and computational tools to help solve the scientific problems in molecular biology and genetics. These include developing new methods and designing novel algorithms to map complex disease genes in genetic linkage analysis and linkage disequilibrium analysis using both population-based and family-based data. Another research that I am interested is functional genomics, which include predicting protein function using protein-protein interaction data and developing model-based and other novel approaches for analysis of gene microarray expression data.

Computer Skills

Experience in UNIX, DOS, Windows, C++, and Fortran.
Proficient in Statistical Data Analysis by R and Programming by C.

Active Grants

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.

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.

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: 04/01/2008-03/31/2013.

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 – 04/30/2013.

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: 01/01/11-04/10/13.

Pending Grants

Sadeep Shrestha, ..., **Kui Zhang (Co-Investigator)**. IL 10 gene family and HIV infection outcomes. NIH/NIAID. First Year direct Cost: \$125,000. Period: 01/01/2010 – 12/31/2011.

Participated Grants

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.

Kui Zhang (Principal Investigator). Haplotype analysis of population and pedigree data in association studies. NIH/NHGRI-R13-HG-004593. Period: 10/01/2007-09/30/2008.

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.

Jianming Tang, ..., **Kui Zhang (Co-Investigator)**. Heterogeneity in 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. NIH/NIGMS-R01-GM-073766. Period: 07/01/2007-10/30/2009.

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: 12/01/2004-11/30/2009.

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.

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: 15333454)
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: 15231536)
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)
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. Frolich, 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)

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: 21252075; PMCID: PMC3051325)
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)
41. Jun Li, **Kui Zhang**, Nengjun Yi. 2011. Bayesian Hierarchical Model for Detecting Haplotype-Haplotype and Haplotype-Environment Interactions in Genetic Association Studies. *Human Heredity* 71: 148-160. (PMID: 21778734)
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 Fas-Induced FADD-independent Survival Signaling in Pancreatic Cancer Cells via Activation of Src-ERK. *The Journal of Biological Chemistry* 286: 24776-24784. (PMID: 21613217)
 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, and 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)
 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.
 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*. Accepted. (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*. Accepted. (PMID: 22285565)
 51. Wan-Yu Lin, Hemant K. Tiwari, Guimin Gao, Kui Zhang, John J. Arcaroli, Edward Abraham, Nianjun Liu. 2012. Similarity-based Multi-marker Association Tests for Continuous Traits. Accepted. *Annals of Human Genetics*.

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 & 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 Yeliseti, 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.

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.

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

1. Yun Joo Yoo, Jianming Tang, Jeffery C. Edberg, Richard A. Kaslow, **Kui Zhang****. 2009. Evaluation of Haplotype-tagging SNPs from Two Dense Sequencing Projects: Analyses of 70 Human Genes Related to Immune Responses. Submitted to *PLoS One*. In revision.

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

Poster Presentations

- Oct 2, 2000 The American Society of Human Genetics 50th Annual Meeting, Philadelphia, Pennsylvania.
- Oct 23, 2000 The 12th Genetic Analysis Workshop, San Antonio, Texas.
- Oct 27, 2000 The 9th Annual Meeting of International Genetic Epidemiology Society, San Antonio, Texas.
- Nov 4, 2003 The American Society of Human Genetics 53rd Annual Meeting, Los Angeles, California
- Jan 15, 2005 Plant and Animal Genome Conference XIII, San Diego, California
- Oct 25, 2005 The American Society of Human Genetics 55th Annual Meeting, Salt Lake City, Utah.
- Oct 9, 2006 The American Society of Human Genetics 56th Annual Meeting, New Orleans, Louisiana.
- Nov 11, 2006 The 15th Genetic Analysis Workshop, St Pete's Beach, Florida.
- Oct 25, 2007 The American Society of Human Genetics 57th Annual Meeting, San Diego, California.

Nov 12, 2008 The American Society of Human Genetics 58th Annual Meeting,
Philadelphia, Pennsylvania.

Oct 22, 2009 The American Society of Human Genetics 59th Annual Meeting,
Honolulu, Hawaii.

Mar 21, 2011 Eastern North American Region/International Biometric Society
(ENAR) 2010 Spring Meeting, Miami, FL

Aug 3, 2011 2011 Joint Statistical Meeting, Miami, FL

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 Genetics
BMC Microbiology
BMC Musculoskeletal Disorders
BMC Pediatrics
BMC Plant Biology
BMC Public Health
BMC Pulmonary Medicine
BMC Veterinary Research
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

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
Frontiers in Biosciences
Journal of the Theoretical Biology
Molecular Diagnosis and Therapy
Mutation Research
Obesity
Pharmacogenomics
PLoS Genetics
PLoS One
Statistical Applications in Genetics and Molecular Biology
Statistics and its Inference
Statistics and Probability Letters
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, August 8-12, 2005
The Eighth Asia Pacific Bioinformatics Conference (2010)

Editorial Board

2010-present Review Editor, Frontiers in Statistical Genetics and Methodology

NIG Study Section

07/2011-06/2015 Regular Member, NIH GCAT study section

Grant Review Activities of 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	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	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 (04/04/2011-04/04/2011)
NIH-GCAT	NIH (06/02/2011-06/03/2011)

Other Grant Review Activities

Research Growth Initiative (RGI) UW at Milwaukee (01/13/2012)
University of Wisconsin at Milwaukee

Teaching Experiences

- 09/1994-01/1995, Peking University, Beijing, China
Teaching Assistant of Complex Function Analysis
- 09/1996-01/1997, Peking University, Beijing, China
Teaching Assistant of Mathematical Analysis
- 03/1997-06/1997, Peking University, Beijing, China
Teaching Assistant of the Multivariate Statistical Analysis
- 03/1997-07/1997 and 03/1998-07/1998, Peking 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.

Academic Advisor

Aug 2003- Jul 2005	William Prucka (Ph.D. Student) at UAB
Aug 2008- Present	Ashutosh Ranjan (Ph.D. Student) at UAB
Aug 2008-Present	Arvind Tripathi (Ph.D. 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: TBA
- 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: TBA
- 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: TBA

Postdoctoral Fellows

Jan 2006 - Oct 2007	Yun Joo Yoo, Ph.D.
Jan 2007 – Aug 2009	Douglas Childers, Ph.D.
June 2010 – Sep 2011	Jihua Wu, Ph.D.

Service Activities (completed)

Jun 2004 – Aug 2005	Organizer of 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 2 nd 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

Service Activities (current)

Aug 2008 – Present	UAB Quantitative Literacy Committee
July 2010 – Present	UAB Grievance and Termination Hearing Panel
Oct 2010 – Present	Organizer, SSG Seminar Series

References:

- Prof. David B. Allison, Department of Biostatistics, University of Alabama at Birmingham School of Public Health, 1665 University Blvd. Ryals bldg. 420C, Birmingham, AL, 35294, Phone: (205) 975-9169, Fax: (205) 975-2540, Email: dallison@uab.edu
- Prof. Fengzhu Sun, Molecular and Computational Biology, Department of Biological Sciences, University of Southern California, 1050 Childs Way, MCB201, Los Angeles, CA, 90089-2910, Phone: (213) 740-2413, Fax: (213) 740-8631, Email: fsun@hto.usc.edu.
- Prof. Michael S. Waterman, Molecular and Computational Biology, Department of Biological Sciences, University of Southern California, 1050 Childs Way,

MCB403, Los Angeles, CA, 90089, Phone: (213) 740-2408, Fax: (213) 740-2437,
Email: msw@usc.edu.

- Prof. Hongyu Zhao, Department of Epidemiology and Public Health, Yale University School of Medicine, 60 College Street, New Haven, CT, 06520-8034, Phone: (203) 785-6271, Fax: (203) 785-6912, Email: hongyu.zhao@yale.edu.