Curriculum Vitae

Zhaoxia Yu

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CONTACT INFORMATION

Department of Statistics
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EDUCATION

Ph.D. in Statistics, Rice University, 2005
M.S. in Statistics, University of California at Davis, 2002
B.S. in Statistics, University of Science and Technology of China, 2000

APPOINTMENTS

07/2007 – present, Assistant Professor
Department of Statistics, University of California, Irvine, CA

09/2005 – 06/2007, Researcher Associate
Section of Biostatistics, Mayo Clinic, Rochester, MN

08/2002 – 08/2005, Research Assistant
Department of Statistics, Rice University, Houston, TX

09/2001 – 07/2002, Research Assistant
Department of Statistics, University of California, Davis, CA

09/2000 – 07/2002, Teaching Assistant
Department of Statistics, University of California, Davis, CA

PUBLISHED ARTICLES

1. Meng L, Gelb AW, Alexander BS, Cerussi AE, Tromberg BJ, **Yu Z**, Mantulin WW. (2012) Impact of phenylephrine administration on cerebral tissue oxygen saturation and blood volume is modulated by carbon dioxide in anaesthetized patients. *British Journal of Anaesthesia*. (In press)
2. Meng L, Mantulin WW, Alexander BS, Cerussi AE, Tromberg BJ, **Yu Z**, Laning K, Kain ZN, Cannesson M, Gelb AW. (2012) Head-up tilt and hyperventilation produce similar changes in cerebral oxygenation and blood volume: an observational comparison study using frequency-domain near-infrared spectroscopy. *Canadian Journal of Anesthesia*. (In press)
3. **Yu Z*** (2012). Family-based association tests using genotype data with uncertainty. *Biostatistics*. (In press)
4. Shahbaba B, **Yu Z***. (2012) A pathway analysis method for genome-wide association studies. *Statistics in Medicine*. (In press)
5. **Yu Z***, Deng L. (2011) Pseudosibship methods in the case-parents design. *Statistics in Medicine*, 30:3236-3251.

6. Wang S, **Yu Z**, Miller RL, Tang D, Perera FP. (2011). Methods for detecting interactions between imprinted genes and environmental exposures using birth cohort designs with mother-offspring pairs. *Human Heredity*, 71:196-208.
7. **Yu Z***, Wang S (2011). Contrasting linkage-disequilibrium as a multi-locus family-based association test. *Genetic Epidemiology*, 35:487-498.
8. **Yu Z*** (2011). Testing gene-gene interactions in the case-parents design. *Human Heredity*, 71:171-179.
9. Meng L, Cannesson M, Alexander BS, **Yu Z**, Kain ZN, Cerussi AE, Tromberg BJ, Mantulin WW. (2011) Effect of phenylephrine and ephedrine bolus treatment on cerebral oxygenation in anaesthetized patients. *British Journal of Anaesthesia*, 107:209-17.
10. Mkhikian H, Grigorian A, Li GF, Chen HL, Newton B, Zhou RW, Beeton C, Torossian S, Tatarian GG, Lee SU, Lau K, Walker E, Caillier S, Hauser SL, Oksenberg JR, Siminovitch KA, Chandy KG, **Yu Z**, Dennis JW, Demetriou M. (2011) Environmental and genetic dysregulation of N-glycosylation is a unifying mechanism in Multiple Sclerosis. *Nature Communications*, 2:334.
11. Weng L, Macciardi F, Subramanian A, Guffanti G, Potkin SG, **Yu Z***, Xie X. (2011) SNP-based pathway enrichment analysis for genome-wide association studies. *BMC Bioinformatics*, 12:99.
12. Browning B, **Yu Z**. (2009). Simultaneous genotype calling and haplotype phasing improves genotype accuracy and reduces false positive associations for genome-wide association studies. *American Journal of Human Genetics*, 85:847-861.
13. **Yu Z***, Garner C, Ziogas A, Anton-Culver H, Schaid D. (2009). Genotype determination for polymorphisms in linkage disequilibrium. *BMC Bioinformatics*, 10:63.
14. Jian Z, **Yu Z**, Yu L, Rao B, Chen Z, Tromberg BJ. (2009). Speckle attenuation in optical coherence tomography by curvelet shrinkage. *Optics Letters*, 34:1516-1518.
15. **Yu Z**, Wang L, Hildebrandt MAT, Schaid D. (2008). Testing whether genetic variation explains correlation of quantitative measures of gene expression, and application to genetic network analysis. *Statistics in Medicine*, 27:3847 – 3867.
16. **Yu Z**, Schaid D. (2007). Methods to impute missing genotypes for population data. *Human Genetics*, 122:495-504.
17. **Yu Z**, Schaid D. (2007). Application of haplotype sequential scan methods to case-control data. *BMC Proceedings*, 1 Suppl 1:S21.
18. **Yu Z**, Schaid D. (2007). Sequential haplotype scan methods for association analysis. *Genetic Epidemiology*, 31: 553-564.
19. Wilcox MA, Li Z, Tapper W, Browning S, Curtin K, Ding J, Ding Y, Gagnon F, He Q, Kuo TY, Li M, Matthew G, Mei L, Rao S, Shaw J, Wei Z, **Yu Z**, Zhang W, Zheng T, Zhu G. (2007). Genetic association with rheumatoid arthritis-Genetic Analysis Workshop 15: summary of contributions from Group 2. *Genet Epidemiology*, 31 Suppl 1:S12-21.
20. Guerra R, **Yu Z**. (2005). Single nucleotide polymorphisms and their applications, book chapter in *Computational and Statistical Approaches to Genomics*, W. Zhang and I. Shmulevich (editors). Second Edition, Boston: Kluwer Academic Publishers.
21. Guerra R, **Yu Z**, Marcovina S, Peshock R, Cohen JC, Hobbs HH. (2005). Lipoprotein(a) and apolipoprotein(a) isoforms: no association with coronary artery calcification in the Dallas Heart Study, *Circulation*, 111: 1471-1479.

22. Levine R, **Yu Z**, Hanley W, Nitao J. (2005). Implementing the random scan Gibbs sampler, *Computational Statistics*, 20: 177-196.
23. Levine R, **Yu Z**, Hanley W, Nitao J. (2005). Implementing componentwise Hastings algorithms, *Computational Statistics & Data Analysis*, 48: 363-389.
24. Jain T, Peshock R, McGuire DK, Willett D, **Yu Z**, Vega GL, Guerra R, Hobbs HH, Grundy SM, the Dallas Heart Study Investigators (2004). African Americans and Caucasians have a similar prevalence of coronary calcium in the Dallas Heart Study, *Journal of the American College of Cardiology*, 44: 1011-1017.

*: corresponding author

INVITED TALKS

1. "Family-Based Association Tests in the Presence of Informative Missingness". University of California, Irvine, Feb 2012
2. "Genotype-Specific Missingness in Family-Based Association Studied." University of California, Riverside, Jan 2012
3. "Missing Data Problems in Genome-Wide Association Studies." University of California, Los Angles, April 2010
4. "Impute missing genetic data – from signal to phased." Columbia University, New York City, October 2008.
5. "Genotype determination at the presence of linkage disequilibrium." University of California, Riverside, CA, November 2007 and San Diego State University, San Diego, March 2008.
6. "An integrated analysis of genetic variants and co-expressed genes." Colorado State University, CO; University of California, Irvine, CA; Purdue University; Lafayette, IN. 2007
7. "Sequential haplotype analysis." MDAnderson Cancer Center, Houston, TX, January 2007
8. "Genome-wide association analysis using sequential haplotype scan statistics." International Genetic Epidemiology Society, 15th Annual Meeting, Tampa, FL, November 2006
9. "Reconstruction of haplotype blocks and application to association analysis." Mayo Clinic, Rochester, MN, March 2005
10. The impact of marker density, marker select strategy and samples size on the robustness of estimated haplotype blocks." University of Chicago, Chicago, IL, April 2005
11. "Haplotype blocks and association analysis." Yale University, New Haven, CT, April 2005
12. "The effect of marker density on haplotype block structure." International Genetic Epidemiology Society, 14th Annual Meeting, Park City, UT, October 2005
13. "Haplotype block based association mapping." The joint meeting of the Chinese Society of Probability and Statistics (CSPS) and the Institute of Mathematical Statistics (IMS), Beijing, China, July 2005
14. "Comparison of single-marker versus haplotype analyses in association studies." Annual Meeting of the American Society of Human Genetics, Salt Lake City, UT, October 2005

15. "Statistical methods for haplotype estimation and association Studies." Joint Statistical Meeting, Toronto, Canada, August 2004

CONTRIBUTED TALKS

1. International Genetic Epidemiology Society, 14th Annual Meeting, Park City, UT, October 2005
2. The joint meeting of the Chinese Society of Probability and Statistics (CSPS) and the Institute of Mathematical Statistics (IMS), Beijing, China, July 2005
3. Joint Statistical Meeting, Toronto, Canada, August 2004

POSTER PRESENTATIONS

1. "Haplotype Phasing from Signal Intensity Data." American Society of Human Genetics. Annual Meeting of the American Society of Human Genetics, Washington DC, November 2010
2. "Genome-wide association analysis using sequential haplotype scan statistics." International Genetic Epidemiology Society, 15th Annual Meeting, Tampa, FL, November 2006
3. "Comparison of single-marker versus haplotype analyses in association studies." Annual Meeting of the American Society of Human Genetics, Salt Lake City, UT, October 2005

RESEARCH GRANTS:

1. 2008 – 2009, University of California Irvine, Collaborative Research Initiation Awards, Principal Investigator, $14K, Improving genotyping accuracy and haplotype estimation for genome-wide studies
2. 2009 – 2012, NIH/R01 HG004960-01, Associate-Investigator, direct cost $108K, Improving genotyping accuracy and haplotype analysis for genome-wide studies

TEACHING

- **COURSES TAUGHT**

1. 2007 Fall: Intermediate Probability and Statistics Theory I (Statistics 200A, 4 units), Enrollment: 18 graduates
2. 2008 Spring: Introduction to Probability and Statistics III (Statistics 120C, 4 units), Enrollment: 58 undergraduates
3. 2008 Fall: Theory and Practice of Sample Survey (Statistics 262, 4 units), Enrollment: 12 graduates
4. 2009 Winter: Introduction to Statistical Genetics (Statistics 257, 4 units), Enrollment: 8 graduates
5. 2009 Spring: Introduction to Probability and Statistics III (Statistics 120C, 4 units), Enrollment: 53 undergraduates
6. 2010 Winter: Introduction to Biology Statistics (Statistics 8, 4 units), Enrollment: 167 undergraduates
7. 2010 Spring: Intermediate Probability and Statistics Theory III (Statistics 200C), Enrollment: 16 graduates
8. 2010 Fall: Theory and Practice of Sample Survey (Statistics 262, 4 units), Enrollment: 20 graduates

9. 2011 Spring: Introduction to Probability and Statistics III (Statistics 120C, 4 units), Enrollment: 37 undergraduates
10. 2011 Spring: Intermediate Probability and Statistics Theory III (Statistics 200C), Enrollment: 16 graduates
11. 2012 Spring: Introduction to Probability and Statistics III (Statistics 120C, 4 units), Enrollment: XXX undergraduates
12. 2012 Spring: Intermediate Probability and Statistics Theory III (Statistics 200C), Enrollment: XXX graduates

- **COURSES DEVELEOPED**
  2009 Winter: Statistics 257 Introduction to Statistical Genetics
  2008 Fall: Statistics 262 Theory and Practice of Sample Survey

PROFESSIONAL SERVICES

- **EDITORIAL BOARD**
  Frontiers in Statistical Genetics and Methodology (review editor)
  PLoS ONE (academic editor)

- **MANUSCRIPT REVIEWS**
  Algorithms, Annals of Applied Statistics, Autoimmunity, Bioinformatics, BMC Bioinformatics, Genetics, Genome Medicine, Human Genetics, Human Heredity, Pharmacogenomics, *PLoS ONE*, *Statistical Applications in Genetics and Molecular Biology, Statistics in Medicine, Statistical Science*

- **GRANT REVIEWS**
  I served as a statistical reviewer in the *Clinical and Integrative Cardiovascular Sciences Study Section of NIH* in Oct 2010 and Oct 2011.

- **MEMBERSHIPS**
  American Statistical Association, American Society for Human Genetics, International Genetic Epidemiology Society

UNIVERSITY SERVICES

- Member, Faculty Board for Undecided/Undeclared Students of UCI (September 1, 2011 to August 31, 2014)
- Member, ICS Lecturer Review Board (2009, 2010, 2011, 2012)
- Member, Comprehensive First-Year Exam Committee (Department of Statistics, Since 2007)
- Member, Graduate Admission Committee (Department of Statistics, since 2007)
- Member, Faculty Search Committee (Department of Statistics, since 2007)
- Member, ICS Student Outreach Committee (2008)
- Member, ICS Undergraduate Policy Committee (2007)
- Committee on Ph.D. Advancement
  1. Leona Bessonova: Department of Epidemiology, 2011
  2. Thao Duong: Department of Statistics, 2011
  3. LingJie Weng: Department of Computer Sciences, 2011

4. Clifford Anderson-Bergman: Department of Statistics, 2011
5. Peyman Kaviani: Department of Civil and Environmental Engineering, 2010
6. Natalia Flerova: Department of Computer Sciences, 2010
7. Jie Shen: Department of Statistics, 2010
8. Lars Otten: Department of Computer Sciences, 2009
9. Behrouz Shafei: Department of Civil and Environmental Engineering, 2008