

Curriculum vitae

Personal Data

Hongyan Xu
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Education

- 1999–2003 Ph.D. in Human Genetics, the University of Texas Graduate School of Biomedical Science at Houston, Houston, TX
- 1996–1999 M.S. in Genetics, Fudan University, Shanghai, China
- 1992–1996 B.S. in Biophysics, Fudan University, Shanghai, China

Military Service

09/1991–07/1992 Military training, Dalian Military Academy, Dalian, Liaoning, China

Professional Experience

- 2005–present Assistant Professor, Department of Biostatistics, Medical College of Georgia
- 2003–2005 Postdoctoral Fellow, Department of Epidemiology, the University of Texas M. D. Anderson Cancer Center
Supervisor: Dr. Sanjay Shete and Dr. Margaret R. Spitz
Research Project:
- Complex segregation analysis of lung cancer
 - Comparison and development of haplotype inference methods
 - Assess the impact of population structure on large-scale association studies with alcoholism
- 1999–2003 Graduate Research Assistant, Human Genetics Center, University of Texas at Houston. Supervisor: Dr. Ranajit Chakraborty and Dr. Yun-Xin Fu
Research Project:
- Detecting the signature of natural selection with microsatellites

- Estimating effective population size or mutation rate with microsatellites and the study of mutation mechanism at microsatellites

1997–1999 Research Associate, Institute of Genetics, Fudan University. Supervisor: Dr. Li Jin and Dr. Xinfang Qiu
Research Project:

- Whole genome scanning for type-2 diabetes susceptibility genes
- Study of HIV-1 resistant polymorphism
- Association study for essential hypertension

1996–1997 Teaching Assistant, Institute of Genetics, Fudan University. Supervisor: Dr. Daru Lu
Research Project: Study the polymorphism of microsatellites and application to gene diagnosis in hemophilia B family

Teaching Certificate

02/09/2005 Classrooms of the 21st century: Evaluation and Feedback
11/10/2005 Classrooms of the 21st century: Learner-Centered Instruction

Affiliations

Since 2005 American Statistical Association
Since 2002 American Society of Human Genetics
Since 2002 Sigma-Xi, The Scientific Research Society

Awards

09/2004 Genetic Analysis Workshop 14 (GAW14) Scholarship from the National Institute on Alcohol Abuse and Alcoholism (NIAAA)
08/2003 Dauphin Postdoctoral Fellowship in Cancer Prevention, the University of Texas M. D. Anderson Cancer Center
09/1999–07/2003 Graduate Research Assistantship, the University of Texas GSBS at Houston
05/2001 First place in computer design tournament (project: Othello), Rice University
12/1992–06/1996 Renmin Scholarship, School of Life Science, Fudan University

Research Interest

- Human population genetics: Detecting the signature of natural selection; Coalescent theory, its application and theoretical population genetics; Characterizing DNA variation (nucleotide sequence, microsatellite, etc.) in the human genome within

and between populations; Studying the effects of population demographic history on genetic variation.

- Genetic epidemiology: Developing linkage and linkage disequilibrium-based statistics for mapping genes underlying complex diseases and quantitative traits (e.g. psychiatry, cancer); Developing methods for detecting the phenotypic effects of genetic variation; Studying the effects of population history on the design of these methods; Admixture mapping.
- Genomics: Large scale DNA sequence data analysis; Microarray-based gene expression data analysis; Genetic network; Comparative genomics; Applications in cancer genomics.

Peer-reviewed Articles

1. Bao, Y., Lu, D., Xu, H., Shi, Q., Qiu, X., and Xue, J. Polymorphism of DXS102 locus in Chinese population and its application to gene diagnosis in hemophilia B family. *Chin Med J (Engl)*, *111*: 527–230, 1998.
2. Bao, Y., Lu, D., Shi, Q., Xu, H., Qiu, X., and Xue, J. [Determination of the polymorphism of DXS102 locus and its application in gene diagnosis]. *Zhonghua Yi Xue Yi Chuan Xue Za Zhi*, *15*: 27–30, 1998.
3. Zhang, W., Hu, F., Xiao, J., Xu, H., Lu, D. R., and Jin, L. The Distribution of a 3'A polymorphism of SDF-1 gene in a Chinese random population. *Journal of Fudan Univeristy (Natural Science)*, *37*: 317–318, 1998.
4. Luo, J., Ji, Y., Peng, Y., Xiao, J., Yao, Y., Xu, H., Yang, M., Zhen, J., Lu, D., and Jin, L. [Linkage analysis of chromosome 5 and asthma in a Chinese population]. *Zhonghua Yi Xue Yi Chuan Xue Za Zhi*, *16*: 318–320, 1999.
5. Yuan, W., Xu, H., Zhao, J., Ding, W., Jiang, H., Gu, M., Xue, J., Chen, J., Fang, F., Chen, Z., Jin, L., and Huang, W. [Information behavior of microsatellite loci in genome scanning]. *Zhonghua Yi Xue Yi Chuan Xue Za Zhi*, *17*: 65–71, 2000.
6. Zhao, J., Wang, H., Xiong, M. M., Huang, W., Zuo, J., Chen, Z., Qiang, B., Sun, Q., Li, Y., Liu, Q., Du, W., Chen, J., Ding, W., Yuan, W., Zhao, Y., Xu, H., Jin, L., and Fang, F. The localization of type 2 diabetes susceptibility gene loci in northern Chinese Han families. *Chinese Science Bulletin*, *45*: 1792–1795, 2000.
7. Xiao, J., Hu, F., Xu, H., Su, B., Jiang, Y., Luo, J., Zhang, W., Tan, J., Jin, L., and Lu, D. Provincial distribution of three HIV-1 resistant polymorphisms (CCR5- Δ 32, CCR2-64I, and SDF1-3'A) in China. *Science in China*, *43*: 16–20, 2000.
8. Hong, W. U., Cai, G., Xu, H., Chen, H., Xiao, J., Lu, D., Xue, J., Qiu, X., and Jin, L. [Single nucleotide polymorphism in beta2-adrenoceptor gene and the distribution in Chinese Han ethnic group]. *Zhonghua Yi Xue Yi Chuan Xue Za Zhi*, *18*: 1–3, 2001.
9. Wu, H., Wang, H., Li, H., Oshuaakey, J., Xiao, F., Ke, Y., Xu, H., Xiao, J., Lu, D., Parra, E., Shriver, M., Xiong, M., Barton, S. A., Hewett-Emmett, D., Liu, W., and Ji, L. Skin reflectance in the Han Chinese and Tibetan populations. *Hum Biol*, *73*: 461–466, 2001.

10. Xu, H. and Fu, Y.-X. Estimating Effective Population Size or Mutation Rate with Microsatellites. *Genetics*, *166*: 555–563, 2004.
11. Cortes-Prieto, L., Baltazar, L., Perea, F., Gallegos-Arreola, M., Flores, S., Sandoval, L., Olivares, N., Xu, H., Barton, S., Chakraborty, R., and Rivas, F. HLA-DQB1, -DQA1, -DRB1 Linkage Disequilibrium Estimate from Segregating Haplotypes in Mestizo Families from Guadalajara, Mexico. *Tissue Antigens*, *63*: 458–465, 2004.
12. Xu, H., Wu, X., Spitz, M.R., Shete, S. Comparison of haplotype inference methods from unrelated population genotype data. *Human Heredity*, *58*: 63–68, 2004
13. Zhao, J.Y., Xiong, M.M., Huang, W., Wang, H., Zuo, J., Wu, G.D., Chen, Z., Qiang, B.Q., Zhang, M.L., Chen, J.L., Ding, W., Yuan, W.T., Xu, H., Jin, L., Li, Y.X., Sun, Q., Liu, Q.Y., Boerwinkle, E., Fang, F.D. An autosomal genomic scan for loci linked to type 2 diabetes in Northern Han Chinese population. *Journal of Molecular Medicine*, *83*: 209–215, 2005
14. Xu, H., Spitz, M.R., Amos, C.I., Shete, S. Complex segregation analysis reveals a multigene model for lung cancer. *Human Genetics*, *116*: 121–127, 2005
15. Xu, H., Deka, R., Kimmel, M., Fu, Y.-X., Chakraborty, R. Signature of natural selection revealed at HLA region with microsatellites. *Tissue Antigens*, (In Review)
16. Xu, H., Chakraborty, R., Fu, Y.-X. Mutation rate variation at human dinucleotide microsatellites. *Genetics*, *170*: 305–312, 2005
17. Xu, H. and Shete, S. Effects of population structure on genetic association studies. *BMC Genetics*, *6(Suppl 1)*:S109, 2005

Published Abstracts

1. Zhao, J. Y., Xiong, M. M., Huang, W., Wang, H., Zuo, J., Chen, Z., Qiang, B. Q., Zhang, M. L., Du, W. N., Chen, J. L., Ding, W., Yuan, W. T., Zhao, Y., Xu, H. Y., Jin, L., Li, Y. X., Sun, Q., Liu, Q. Y., and Fang, F. D. Type 2 diabetes susceptibility loci maps on chromosomes 1 and 20 in Chinese Han families. *Am. J. Hum. Gen.*, *65*, 1999, 2584, Suppl.
2. Chen, H., Akey, J. M., Xiong, M. M., Xu, H., Xiao, J., and Jin, L. Association of variation in the promoter of the Beta-2 adrenergic receptor and essential hypertension in an isolated Chinese population. *Am. J. Hum. Gen.*, *67*, 2000, 1240, Suppl.
3. Indugula, S. R., Sun, G., Chunhua, S., Smelser, D., Kaushal, R., Xu, H., Kimmel, M., Zhong, Y., Chakraborty, R., and Deka, R. Microsatellite loci in the HLA-Class 1 gene region show weak evidence of overdominant selection. *Am. J. Hum. Gen.*, *67*, 2000, 1280, Suppl.
4. Xu, H., Renwick, A., Kimmel, M., Deka, R., and Chakraborty, R. Validity of homozygosity test of selective neutrality at microsatellite loci. *Am. J. Hum. Gen.*, *67*, 2000, 1289, Suppl.

5. Xu, H., Kimmel, A., M. Renwick, and Chakraborty, R. Effects of population substructure on the homozygosity test of neutrality under the stepwise mutation model. *Am. J. Hum. Gen.*, *69*, 2001, 1393, Suppl.
6. Fu, Y.-X., Xu, H., Kimmel, M., Renwick, A., and Chakraborty, R. Effects of additive selection and recombination on homozygosity test at microsatellite loci under generalized stepwise mutation model. *Am. J. Hum. Gen.*, *71*, 2002, 1142, Suppl.
7. Renwick, A., Xu, H., Fu, Y.-X., Kimmel, M., and Chakraborty, R. Relative heterozygosity contributed by alleles of different frequency class is not invariant at microsatellite loci. *Am. J. Hum. Gen.*, *71*, 2002, 1150, Suppl.
8. Xu, H., Fu, Y.-X., Renwick, A., Kimmel, M., and Chakraborty, R. Microsatellite variation: Effects of natural selection, population structure and demographic changes of population size. *Am. J. Hum. Gen.*, *71*, 2002, 2392, Suppl.

Presentations

- Oct. 3-7, 2000 “Validity of homozygosity test of selective neutrality at microsatellite loci”, 50th Annual meeting of the American Society of Human Genetics, Philadelphia, PA
- Oct. 12-16, 2001 “Effects of population substructure on the homozygosity test of neutrality under the stepwise mutation model”, 51st Annual meeting of the American Society of Human Genetics, San Diego, CA
- Apr. 18-21, 2002 “Microsatellite Variation: Effects of Natural Selection, Population Structure, and Demographic Changes of Population Size”, 29th Annual meeting of the Texas Genetics Society, South Padre Island, TX
- Oct. 15-19, 2002 “Microsatellite variation: Effects of natural selection, population structure and demographic changes of population size”, 52nd Annual meeting of the American Society of Human Genetics, Baltimore, MD
- Feb. 7, 2003 “Estimating effective population size or mutation rate with microsatellites”, 7th Annual Genetic Mini-symposium of the University of Texas Graduate School of Biomedical Sciences (GSBS) at Houston Program in Human and Molecular Genetics, Houston, TX
- Apr. 19, 2004 “Familial aggregation of lung cancer”, Charline Daupine “Surprise” lab dedication, Houston, TX
- Jan. 28, 2005 “Population approaches to complex disorders”, Medical College of Georgia, Augusta, GA

Attended Meetings

- 2000,2001,2002 50th–52nd Annual meeting of the American Society of Human Genetics
- Mar. 9-11, 2004 UAB - MD Anderson Statistical Genetics Summit, Birmingham, AL
- Sept. 7-10, 2004 Genetic Analysis Workshop 14 (GAW14), Noordwijkerhout, Netherlands

Organized Meetings

Feb. 7, 2003 7th Annual Genetic Mini-symposium of the University of Texas Graduate School of Biomedical Sciences (GSBS) at Houston Program in Human and Molecular Genetics, Houston, TX. Keynote address: “New Methods and Models for Genomic Systems Biology” by George M. Church, Ph.D., professor of genetics and director of the Lipper Center for Computational Genomics at Harvard Medical School.