

Xiaoyi Raymond Gao, Ph.D.**A. Personal Information:**

Business Address Department of Ophthalmology and Visual Sciences
 University of Illinois at Chicago
 1905 W Taylor Street Suite 235
 Chicago, IL 60612

Business Phone (312) 996-0759

E-Mail Addresses ray.x.gao@gmail.com

B. Education:

Postdoctoral, Miami Institute for Human Genomics (The John P. Hussman Institute for Human Genomics), Miami, FL	2008
Postdoctoral, Duke University Center for Human Genetics, Durham, NC	2007
Ph.D. in Bioinformatics-Statistics (Advisor: Bruce S. Weir), North Carolina State University, Raleigh, NC	2006
M.S. in Bioinformatics-Statistics, North Carolina State University, Raleigh, NC	2003
M.S. in Botany, Beijing Forestry University, China	2001
B.S. in Sericulture, Shandong Agricultural University, China	1993

C. Professional Background:**Academic Appointments**

Associate Professor, Department of Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL 2012 –

Director, Quantitative Ocular Genomics Laboratory, 2013 –

Director, Biostatistics and Genetic Analysis (BGA) core, 2013 –

Departmental Affiliate, Division of Epidemiology and Biostatistics, UIC 2015 –

Assistant Professor of Research, Department of Ophthalmology and Preventive Medicine, University of Southern California, Los Angeles, CA, 2010 – 2012

Instructor, Division of Statistical Genomics, Washington University School of Medicine, Saint Louis, MO, 2008 – 2010

Other

Postdoctoral Research Associate, Miami Institute for Human Genomics (current name: The John P. Hussman Institute for Human Genomics), Miami, FL, 2007 – 2008

Postdoctoral Research Associate, Duke University Center for Human Genetics, Durham, NC, 2006 – 2007

Graduate Researcher, Duke University Medical Center, Durham, NC, 2003 – 2004

Graduate Researcher, North Carolina State University, Raleigh, NC, 2002 – 2003

Honors and Awards

James H. Zumberge Research and Innovation Individual Award, USC, 2011-2012

Minority Scholarship, 12th International Meeting on Human Genome Variation and Complex Genome Analysis, 2011

Section on Statistics in Epidemiology Travel Award, American Statistical Association, 2009

Section on Statistics in Epidemiology Travel Award, American Statistical Association, 2008

Section on Statistics in Epidemiology Travel Award, American Statistical Association, 2006

UNC-Office of the President Genomic Sciences Fellowship, North Carolina State University, Raleigh, 2005-2006

Press release

Native American ancestry is risk factor for diabetic eye disease in Latinos, <http://news.uic.edu/>

For Latinos, African ancestry adds to risk of glaucoma, <http://news.uic.edu/>

In Latinos, Ancestry and Income Associated With Glaucoma Risk, <http://eyewiretoday.com/2017/>

D. Research Activities:

Major Areas of Research

Statistical Genetics, Genetic Epidemiology, Vision Disorders, Human Genomics, Bioinformatics.

Ongoing Research Grants

R01EY027315 M. Fini and X. Gao (PIs) 08/01/17 – 04/30/21 Total: 2.3M
Discovery Approach to Ocular Hypertension
Role: Multi-PI

R01EY022651 X. Gao (PI) 09/30/12 – 06/30/18 Total: 4.3M
Mexican American Glaucoma Genetic Study (MAGGS)
Role: PI

P30 EY001792 Departmental core Grant 09/30/15 – 09/29/20 Total: 3.1M
(Rosenblatt, Jain, Yao, Gao)
Role: Biostatistics and Genetic Analysis (BGA) core director

Start-up research fund, UIC X. Gao (PI)
Quantitative Ocular Genomics
Role: PI

Completed Research Grants

Midwest Eye-Banks X. Gao (PI) 07/01/2014 – 06/30/15
Fine mapping of genetic loci for central corneal thickness
Role: PI

James H. Zumberge Research and Innovation Fund X. Gao (PI) 07/01/11 – 06/30/12
Multiple testing corrections for imputed SNPs in Latino genome-wide association studies
Role: PI

U10EY011753 R. Varma (PI) 11/01/10 – 03/15/14
Los Angeles Latino Eye Study
Role: 50% effort

U10EY017337 R. Varma (PI) 11/01/10 – 03/15/14
Chinese American Eye Study
Role: 5% effort

R01MH084678 P. Marjoram (PI) 11/01/10 – 11/30/12

Statistical Methods for Relating Sequence Data to Phenotype

Role: 15% effort

U01AG02374605 M. Province (PI) 08/01/08 – 10/30/10

Extreme Longevity Family Study

Role: 50% effort

U01AG023746 M. Province (PI) 08/01/08 – 10/30/10

Extreme Longevity Family Study

Role: Statistical Geneticist (50% effort)

R01HL087700 M. Province (PI) 08/01/08 – 10/30/10

FHS-scan Genome-wide Association Scan

Role: Statistical Geneticist (11% effort)

R01HL088215 M. Province (PI) 08/01/08 – 10/30/10

Genomic Scan for Atherosclerosis Pathway Genes

Role: Statistical Geneticist (3% effort)

R01DK075681 I. Borecki (PI) 08/01/08 – 10/30/10

Genetic Epidemiology of Metabolic Disease of Obesity

Role: Statistical Geneticist (3% effort)

E. Bibliography:Peer Reviewed Research Articles (underscore: corresponding author):

1. Moretti EW, Morris RW, Podgoreanu M, Schwinn DA, Newman MF, Bennett E, Moulin VG, Mba UU, Laskowitz DT, **Perioperative Genetics and Safety Outcomes Study (PEGASUS) Investigative Team**: APOE polymorphism is associated with risk of severe sepsis in surgical patients, *Critical Care Medicine* 33:2521-6, 2005
2. **Gao X** and Starmer J, Human Population Structure Detection Via Multilocus Genotype Clustering, *BMC Genetics* 8:34, 2007
3. Li Y, Sun J, **Gao X**: Analysis of factors that affect forest farmers insurance purchase decisions, *Management World* (Chinese) 11:71-75, 2007
4. Li Y, **Gao X** and Zheng F: Study on farmland selection index system of the sloping land conversion program in China, *China Soft Science* (Chinese) 10:155-160, 2007; also reprinted in the *Journal of Agricultural Economics* (Chinese) 2:103-108, 2008
5. **Gao X**, Scott WK, Wang G, Mayhew G, Li YJ, Vance JM, Martin ER: Gene-Gene Interaction between FGF20 and MAOB in Parkinson Disease, *Annals of Human Genetics* 72:157-162, 2008
6. **Gao X** and Starmer J: AWclust: point-and-click software for non-parametric population structure analysis. *BMC Bioinformatics* 9:77, 2008
7. **Gao X**, Starmer J and Martin ER: A Multiple Testing Correction Method for Genetic Association Studies Using Correlated Single Nucleotide Polymorphisms. *Genetic Epidemiology* 32:361-369, 2008

This article was ranked one of the most frequently accessed articles in Genetic Epidemiology at the International Genetic Epidemiology Society meeting in 2008.

8. Phillips-Bute B, Mathew JP, Blumenthal JA, Morris RW, Podgoreanu MV, Smith M, Stafford-Smith M, Grocott HP, Schwinn DA, Newman MF, **Perioperative Genetics and Safety Outcomes Investigative Team**: Relationship of genetic variability and depressive symptoms to adverse events after coronary artery bypass graft surgery. *Psychosom Med.* 70(9):953-9, 2008
9. Warren J. Ewens, Richard S. Spielman, Norman L. Kaplan, **Xiaoyi Gao**, Richard Morris, Eden R. Martin: Disease associations and family-based tests, Current protocols in Human Genetics, Unit 1.12. doi: 10.1002/0471142905.hg0112s58, 2008
10. Park Y, Province MA, **Gao X**, Feitosa M, Wu J, Ma D, Rao DC and Kraja AT: Longitudinal trends in the association of metabolic syndrome with 550K SNPs in the Framingham Heart Study. *BMC Proc. Suppl* 7:S116, 2009
11. Daw EW, Plunkett J, Feitosa M, **Gao X**, Van Brunt A, Ma D, Czajkowski J, Province MA, Borecki I: A framework for analyzing both linkage and association: an analysis of Genetic Analysis Workshop 16 simulated data. *BMC Proc. Suppl* 7:S98, 2009
12. **Gao X** and Martin ER: Using allele sharing distance for detecting human population stratification. *Human Heredity* 68:182-191, 2009
13. **Gao X**, Martin ER, Liu Y, Vance JM, Scott WK: Genome-wide linkage screen in familiar Parkinson disease identifies loci on chromosomes 3 and 18. *American Journal of Human Genetics* 84(4):499-504, 2009
14. Heard-Costa NL, Zillikens MC, Monda KL, Johansson A, Harris TB, Fu M, Haritunians T, Feitosa MF, ..., **Gao X**, ..., Fox CS, North KE: NRXN3 is a Novel Locus for Waist Circumference: A Genome-wide Association Study from the CHARGE Consortium. *PLoS Genet* 5(6):e1000539, 2009
15. **Gao X**, Edwards TL: Population stratification, adjustment for. *Encyclopedia of Life Science*. DOI: 10.1002/9780470015902.a0020384, 2010
16. **Gao X**, Becker LC, Becker DM, Starmer J, Province MA: Avoiding the high Bonferroni penalty in genome-wide association studies. *Genetic Epidemiology* 34:100-5, 2010
17. Köttgen A, Pattaro C, Böger CA, Fuchsberger C, Olden M, Glazer NL, Parsa A, **Gao X**, Yang Q, Smith AV, ..., Chasman DI, Kao WH, Heid IM, Fox CS: New loci associated with kidney function and chronic kidney disease. *Nature Genetics* 42(5):376-84, 2010
18. Suchindran S, Rivedal D, Guyton JR, Milledge T, **Gao X**, Rowell J, Ginsburg GS, and McCarthy JJ: Genome-wide association study of Lp-PLA2 activity in the Framingham Heart Study. *PLoS Genetics* 29;6(4):e1000928, 2010
19. Böger CA, Chen MH, Tin A, Olden M, Köttgen A, ..., **CKDGen Consortium**, ..., Fox CS, Kao WH: CUBN is a gene locus for albuminuria. *J Am Soc Nephrol.* 22(3):555-70, 2011
20. Galvan A, Vorraro F, Cabrera W, Ribeiro OG, Starobinas N, Jensen JR, Dos Santos Carneiro P, De Franco M, **Gao X**, Ibañez OC, Dragani TA: Association study by genetic clustering detects multiple inflammatory response loci in non-inbred mice. *Genes Immun.* 12(5):390-4, 2011
21. **Gao X**, Edwards TL: Genome-wide association studies: Where we are heading? *World J Med Genet* 1(1):23-35, 2011
22. **Gao X**. Multiple testing corrections for imputed SNPs. *Genet Epi.* 35:154-8, 2011
23. Galvan A, Fladvad T, Skorpen F, **Gao X**, Klepstad P, Kaasa S, Dragani TA: Genetic clustering of European cancer patients indicates that opioid-mediated pain relief is independent of ancestry. *Pharmacogenomics Journal*, doi:10.1038/tpj.2011.27, 12(5):412-6, 2012

24. Cristian Pattaro, Anna Kottgen, Alexander Teumer, Maija Garnaas, Carsten Böger, Christian Fuchsberger, Matthias Olden, Ming-Huei Chen, Adrienne Tin, Daniel Taliun, Man Li, **Xiaoyi Gao**, ..., Linda Kao, Caroline S. Fox: Genome-wide Association and Functional Follow-Up Reveals New Loci for Kidney Function, *PLoS Genetics*. 8(3):e1002584, 2012
25. Edwards TL, **Gao X**. Methods for detecting and correcting for population stratification. *Curr Protoc Hum Genet*, Unit 1.22.1-14. doi: 10.1002/0471142905.hg0122s73, 2012
26. **Gao X**, Haritunians T, Marjoram P, McKean-Cowdin R, Torres M, Taylor KD, Rotter JI, Gauderman WJ, Varma R. Genotype Imputation for Latinos Using the HapMap and 1000 Genomes Project Reference Panels. *Front Genet*. 3:117, 2012
27. Okada Y, Sim X, Go MJ, Wu JY, Gu D, Takeuchi F, Takahashi A, Maeda S, Tsunoda T, Chen P, Lim SC, Wong TY, Liu J, Young TL, Aung T, Seielstad M, Teo YY, Kim YJ, Lee JY, Han BG, Kang D, Chen CH, Tsai FJ, Chang LC, Fann SJ, Mei H, Rao DC, Hixson JE, Chen S, Katsuya T, Isono M, Ogihara T, Chambers JC, Zhang W, Kooner JS; KidneyGen Consortium; **CKDGen Consortium**, Albrecht E; GUGC consortium, Yamamoto K, Kubo M, Nakamura Y, Kamatani N, Kato N, He J, Chen YT, Cho YS, Tai ES, Tanaka T. Meta-analysis identifies multiple loci associated with kidney function-related traits in east Asian populations. *Nat Genet*. 2012 Jul 15;44(8):904-9.
28. Chasman DI, Fuchsberger C, Pattaro C, Teumer A, Böger CA, Endlich K, Olden M, Chen MH, Tin A, Taliun D, Li M, **Gao X**, ..., Kao WL, Fox CS, Köttgen A. Integration of Genome-Wide Association Studies with Biological Knowledge Identifies Six Novel Genes Related to Kidney Function. *Hum Mol Genet*. 2012 Dec 15;21(24):5329-43
29. **Gao X**, Gauderman WJ, Marjoram P, Torres M, Haritunians T, Kuo JZ, Chen YI, Taylor KD, Rotter JI, Varma R. A genome-wide association study of central corneal thickness in Latinos. *Invest Ophthalmol Vis Sci*. 2013 Apr 1;54(4):2435-43
This article received the Research Highlights in the IOVS April 2013 issue.
30. Ronald Klein, Stacy M. Meuer, Chelsea Myers, Gabriëlle H. S. Buitendijk, Elena Rohtchina, Farzana Choudhury, Paulus T.V.M. de Jong, Roberta McKean-Cowdin, Sudha K. Iyengar, **Xiaoyi Gao**, Kristine E. Lee, Johannes R. Vingerling, Paul Mitchell, Caroline C.W.Klaver, Jie Jin Wang, Barbara E. K. Klein. Harmonizing the Classification of Age-related Macular Degeneration in the 3-Continent Consortium. *Ophthalmic Epidemiology*, 2014; 21(1): 14–23
31. Ronald Klein, Chelsea E. Myers, Gabriëlle H. S. Buitendijk, Elena Rohtchina, **Xiaoyi Gao**, ..., Paul Mitchell, Barbara E. K. Klein, Caroline C. W. Klaver, Jie Jin Wang. Lipids, Lipid Genes and the Incidence of Age-Related Macular Degeneration: The Three Continent Age-Related Macular Degeneration Consortium. *American Journal of Ophthalmology*, 2014; 158(3):513-24.
32. **Gao X**. Recent trends in ocular genomics. *Austin Journal of Clinical Ophthalmology*, 2014; 1(1): 2. (Editorial)
33. **Gao X**, Gauderman WJ, Marjoram P, Torres M, Chen YI, Taylor KD, Rotter JI, Varma R. Native American ancestry is associated with proliferative diabetic retinopathy in Latinos. *Invest Ophthalmol Vis Sci.*, 2014; 21;55(9):6041-5. doi: 10.1167/iovs.14-15044.
34. **Gao X**. The feasibility of WGS association studies for complex traits. *Next Generat Sequenc & Applic*, 2014, doi: 10.4172/jngsa.1000110.
35. Palmer ND, Goodarzi MO, Langefeld CD, Wang N, Guo X, Taylor KD, Fingerlin TE, Norris JM, Buchanan TA, Xiang AH, Haritunians T, Ziegler JT, Williams AH, Stefansovski D, Cui J, Mackay AW, Henkin LF, Bergman RN, **Gao X**, Gauderman J, Varma R, Hanis CL, Cox NJ, Highland HM, Below JE, Williams AL, Burt NP, Aguilar-Salinas CA, Huerta-Chagoya A, Gonzalez-Villalpando C, Orozco L, Haiman CA, Tsai MY, Johnson WC, Yao J, Rasmussen-Torvik L, Pankow J, Snively B, Jackson RD, Liu S, Nadler JL, Kandeel F,

- Chen YI, Bowden DW, Rich SS, Raffel LJ, Rotter JI, Watanabe RM, Wagenknecht LE. Genetic Variants Associated with Quantitative Glucose Homeostasis Traits Translate to Type 2 Diabetes in Mexican Americans: The GUARDIAN (Genetics Underlying DIAbetes in HispaNics) Consortium. *Diabetes*. 2015 May;64(5):1853-66. doi: 10.2337/db14-0732.
36. **Gao X**, Xu J, and Starmer J. Fastq2vcf: a concise and transparent pipeline for whole-exome sequencing data analysis. *BMC Res Notes*, 2015; 8:1027
 37. **Liu J**, Wang F, **Gao X**, Zhang H, Wan X, and Yang C. A penalized regression approach for integrative analysis in genome-wide association studies. Omics Publishing Group/Biobio, 2015 *J Biomet Biostat* 6: 228. doi: 10.4172/2155-6180.1000228
 38. Jeong S, Patel N, Edlund CC, Hartiala J, Hazelett D, Itakura T, Wu PC, Avery RL, Davis J, Flynn HW, Lalwani G, Puliafito CA, Wafapoor H, Hijikata M, Keicho N, **Gao X**, Argueso P, Allayee H, Coetzee GA, Pletcher MT, Conti DV, Schwartz SG, Eaton AM, **Fini ME**. Identification of a Novel Protein-Coding Gene HCG22 Expressed in the Aqueous Outflow Pathways of the Eye and Associated with Steroid-Induced Ocular Hypertension. *Invest Ophthalmol Vis Sci*. 2015 Mar 26. pii: IOVS-14-14803. doi: 10.1167/iovs.14-14803.
 39. Hallak JA, Tibrewal S, **Gao X**, **Jain S**. Single nucleotide polymorphisms in the BDNF, VDR, and DNASE 1 genes in dry eye disease patients: A case-control study. *Invest Ophthalmol Vis Sci*. 2015 Sep;56(10):5990-6. doi: 10.1167/iovs.15-17036.
 40. Nannini D, Torres M, Chen YI, Taylor KD, Rotter JI, Varma R, **Gao X**. African ancestry is associated with higher intraocular pressure in Latinos. *Ophthalmology* 2016, 123: 102-8.
 41. Nannini D, Torres M, Chen YI, Taylor KD, Rotter JI, Varma R, **Gao X**. Reply. *Ophthalmology*. 2016 Apr;123(4):e31-2.
 42. **Gao X**, Nannini D, Corrao K, Torres M, Chen YI, Fan BJ, Wiggs JL, Taylor KD, Gauderman WJ, Rotter JI, Varma R. Genome-Wide Association Study Identifies WNT7B as a Novel Locus for Central Corneal Thickness in Latinos. *Human Molecular Genetics* 2016 (Epub ahead of print)
 43. **M. Elizabeth Fini**, Stephen G. Schwartz, **Xiaoyi Gao**, Shinwu Jeong, Nitin Patel, Tatsuo Itakura, Marianne O. Price, Francis W. Price, Jr., Rohit Varma, W. Daniel Stamer. Pharmacogenomics of Steroid-Induced Ocular Hypertension/Glaucoma and Precision Medicine in Ophthalmology. *Progress in Retinal and Eye Research* 2016 pii: S1350-9462(16)30050-7. doi: 10.1016/j.preteyeres.2016.09.003.
 44. Drew Nannini, Mina Torres, Yii-Der I. Chen, Kent D. Taylor, Jerome I. Rotter, Rohit Varma, **Xiaoyi Gao**. A Genome-Wide Association Study of Vertical Cup-Disc Ratio in a Latino Population. *Invest Ophthalmol Vis Sci*. 2016 (accepted)
 45. Jacklyn Hellwege, Jacob Keaton, Ayush Giri, **Xiaoyi Gao**, Digna R. Velez Edwards, **Todd L. Edwards**. Population Stratification in Genetic Association Studies. *Curr Protoc Hum Genet*, 2017 (accepted)
 46. **Gao X**, Edwards TL. Population stratification, adjustment for (version 2.0). *Encyclopedia of Life Science*, 2017 (accepted)

In Progress:

47. Bao Jian Fan, Xueli Chen, Nisha Sondhi¹, P. Fedina Marie Shrmila, N. Soumitra, S. SriPriya, David S. Friedman, Louis R. Pasquale, **Xiaoyi Gao**, Lingham Vijaya, Jessica Cooke Bailey, Jonathan L. Haines, Ronnie George, **Janey L. Wiggs**. Family-based Genome-wide Association Study of South Indian Pedigrees Supports WNT7B as a Central Corneal Thickness Locus (submitted)
48. Kai Kang, Brian Lawrence, **Xiaoyi Gao**, Brigitte Cole, Victor Guaiquil, Aihong Liu, and **Mark Rosenblatt**. Micro- and Nanoscale Topographies on Silk Regulate Cytoskeletal Dynamics and Gene Expression of Corneal Epithelial Cells (submitted)

49. **Gao X** et al. European ancestry is associated with lower odds of primary open angle glaucoma in Latinos (submitted)
50. Nannini DR, Kim H, Fan F, **Gao X**, Mexican American Glaucoma Genetic Study Group. Genetic risk score is associated with vertical cup-disc ratio and improves prediction of primary open angle glaucoma in Latinos.
51. Tomatsu S, Kim H, Huang H, Torres M, Varma R, **Gao X** et al. A genome-wide association study of disc area in Latinos.
52. **Gao X** et al. Personalized risk prediction for glaucoma.
53. **Gao X** et al. Transcriptomic characterization of the human cornea and retina. [RNA-Seq]
54. **Gao X** et al. The Mexican American Glaucoma Genetic Study (MAGGS): design and methods.

Abstracts (Presentations):

1. **Gao X**, Morris RW, Podgoreanu M, Schwinn DA, Mathew J, Association Studies of Atrial Fibrillation. Symposium on Statistical and Population Genetics, Raleigh, NC, June 05, 2004
2. **Gao X**, A Multiple Testing Correction Method for Genetic Association Studies Using Correlated Single Nucleotide Polymorphisms. Annual Meeting of American Society of Human Genetics, Louisiana, October 12, 2006
3. **Gao X** and Weir BS, Human Population Structure Detection Via Multilocus Genotype Clustering. Joint Statistical Meeting of the American Statistical Association, Seattle, August 08, 2006
4. **Martin ER**, **Gao X**, Scott WK, Wang G, Mayhew G, Li YJ, Vance JM, Gene-Gene Interaction between FGF20 and MAOB in Parkinson Disease, Annual Meeting of American Society of Human Genetics, San Diego, October 25, 2007
5. **Gao X**, Starmer J and Martin ER, A Multiple Testing Correction Method for Genetic Association Studies Using Correlated Single Nucleotide Polymorphisms. Annual Meeting of American Society of Human Genetics, San Diego, October 24, 2007
6. **Gao X**, Starmer J and Martin ER, A Multiple Testing Correction Method for Genetic Association Studies Using Correlated Single Nucleotide Polymorphisms. Joint Statistical Meeting of the American Statistical Association, Denver, Colorado, August 04, 2008
7. **Daw EW**, Plunkett J, Feitosa M, **Gao X**, Brunt AV, Ma D, Czajkowski J, Province MA and Borecki I, A Framework for Analyzing both Linkage and Association: an Analysis of GAW 16 Simulated Data. Genetic Analysis Workshop 16, St. Louis, Missouri, September 19, 2008
8. Park Y, Province MA, **Gao X**, Feitosa M, Wu J, Ma D, Rao DC and **Kraja AT**, Association of Longitudinal Metabolic Syndrome with 550K SNPs in the Framingham Heart Study. Genetic Analysis Workshop 16, St. Louis, Missouri, September 19, 2008
9. **Gao X**, A theoretical basis for using allele sharing distance to detect population stratification. Annual Meeting of American Society of Human Genetics, Philadelphia, Pennsylvania, November 13, 2008
10. **Gao X**, Using allele-sharing distance for detecting human population stratification. Annual Meeting of American Society of Human Genetics, Washington DC, August 5, 2009
11. **Gao X**, Becker LC, Becker DM, Starmer J, Province MA. Avoiding the high Bonferroni penalty in genome-wide association studies. Annual Meeting of American Society of Human Genetics, Honolulu, Hawaii, October 22, 2009
12. **Gao X**. Population stratification analysis based on allele sharing distance. International Genetic Epidemiology Society Meeting, Honolulu, Hawaii, October 18-20, 2009

13. **Gao X**. Multiple testing corrections for imputed SNPs. Annual Meeting of American Society of Human Genetics, Washington DC, Nov. 5, 2010
14. **Gao X**, Marjoram P, Mckean-Cowdin R, Torres M, Gauderman WJ, Varma R. Genotype imputation accuracy for Mexican Americans using the HapMap Phase 3 reference panels. Annual Meeting of American Society of Human Genetics, Montreal, Canada, Oct. 10-15, 2011
15. **Gao X**, Marjoram P, Mckean-Cowdin R, Torres M, Gauderman WJ, Varma R. Genotype imputation accuracy for Mexican Americans using the HapMap Phase 3 reference panels. 12th International Meeting on Human Genome Variation and Complex Genome Analysis, Berkeley, CA, Sept. 8-10, 2011
16. **Gao X**, Gauderman WJ, Marjoram P, Torres M, Haritunians T, Chen YI, Taylor KD, Rotter JI, Varma R. Genetic variants associated with central corneal thickness in Latinos. Annual Meeting of ARVO - The Association for Research in Vision and Ophthalmology, Fort Lauderdale, FL, May 6-10, 2012
17. **Gao X**, Gauderman WJ, Marjoram P, Torres M, Haritunians T, Chen YI, Taylor KD, Rotter JI, Varma R. A genome-wide association study of central corneal thickness in Latinos. Annual Meeting of American Society of Human Genetics, San Francisco, CA, Nov. 9, 2012
18. **Gao X**, Liu YT, Gauderman WJ, Torres M, Haritunians T, Kuo JZ, Taylor KD, Rotter JI, Varma R. Fine mapping of the RXRA-COL5A1 locus for central corneal thickness. Annual Meeting of ARVO - The Association for Research in Vision and Ophthalmology, Seattle, WA, May 5-9, 2013
19. Kuo JZ, **Gao X**, Guo X, Taylor KD, Klein R, Klein BE, Ipp E, Chen YI, Varma R, Rotter JI. A candidate-wide association study of diabetic retinopathy in Latinos implicates TNF receptor pathophysiology: Genetics of Latino Diabetic Retinopathy (GOLDR) and Los Angeles Latino Eye (LALES) studies. Annual Meeting of ARVO - The Association for Research in Vision and Ophthalmology, Orlando, FL, May 4-8 2014
20. **Gao X**, Gauderman WJ, Marjoram P, Torres M, Kuo JZ, Chen YI, Taylor KD, Rotter JI, Varma R. Genetic Variants associated with proliferative diabetic retinopathy in Latinos. Annual Meeting of ARVO - The Association for Research in Vision and Ophthalmology, Orlando, FL, May 4-8 2014
21. Hallak J, **Gao X**, Jain S. The brain-derived neurotrophic factor rs6265 (Val66Met) polymorphism and dry eye disease: Potential association with stress-related disorders (depression/anxiety). Annual Meeting of ARVO - The Association for Research in Vision and Ophthalmology, Orlando, FL, May 4-8 2014
22. **Gao X**, Gauderman WJ, Marjoram P, Torres M, Chen YI, Taylor KD, Rotter JI, Varma R. Genetic admixture and proliferative diabetic retinopathy in Latinos. Annual Meeting of American Society of Human Genetics, San Diego, California, October 18-22, 2014
23. **Gao X**, Nannini D, Torres M, Goulee K, Chen YI, Taylor KD, Rotter JI, Varma R. Genetic variants associated with intraocular pressure in Latinos. The Association for Research in Vision and Ophthalmology, Denver, CO, May 3-7 2015
24. **Gao X**, Nannini D, Torres M, Chen YI, Taylor KD, Rotter JI, Varma R. African ancestry is associated with intraocular pressure in Latinos. Annual Meeting of American Society of Human Genetics, Baltimore, Maryland, October 6-10, 2015
25. **Gao X**, Nannini D, Goulee K, Aboobakar IF, Allingham RR, Hauser MA, Yutao L. Differential gene expression and pathway enrichment in the human cornea and retina. The Association for Research in Vision and Ophthalmology, Seattle, WA, May 1-5, 2016
26. Nannini D, Goulee K, Torres M, Chen YI, Taylor KD, Rotter JI, Varma R, **Gao X**. A genome-wide association study of central corneal thickness in Latinos, The Association for Research in Vision and Ophthalmology, Seattle, WA, May 1-5, 2016

27. **Gao X**, Nannini D, Torres M, Chen YI, Taylor KD, Rotter JI, Varma R. A Genome-Wide Association Study of Vertical Cup-Disc Ratio in Latinos. Annual Meeting of American Society of Human Genetics, Vancouver, October 18-22, 2016
28. **Gao X**, Nannini D, Torres M, Varma R. European ancestry is associated with lower risk of primary open angle glaucoma in Latinos. The Association for Research in Vision and Ophthalmology, Baltimore, MD, May 7-11, 2017
29. **Liu Y**, Bykhovskaya Y, Khaled ML, Drewry M, Aboobakar I, Estes A, **Gao X**, Allingham RR, Hauser MA, Rabinowitz Y. Differential Expression of Coding and Long Noncoding RNAs in Keratoconic Cornea. The Association for Research in Vision and Ophthalmology, Baltimore, MD, May 7-11, 2017
30. Hallak J, **Gao X**, **Jain S**. Patients with Dry Eye Disease and Depression: A Potential Role for VAL66MET Single Nucleotide Polymorphism on Treatment Response. The Association for Research in Vision and Ophthalmology, Baltimore, MD, May 7-11, 2017
31. L. Chen, S. Fagen, A. Johnson, W. Cerny, H. Kim, **X. Gao**, **L. A. DiPietro**. Genetic deficiencies and skin wound healing. Wound healing society, 2017.
32. Nannini DR, Kim H, Fan F, **Gao X**, Mexican American Glaucoma Genetic Study Group. Genetic risk score is associated with vertical cup-disc ratio and improves prediction of primary open angle glaucoma in Latinos. Annual Meeting of American Society of Human Genetics, Orlando, FL, October 17-21, 2017
33. **Gao X**, Fan F. Individualized glaucoma risk evaluation using the genome profile. Annual Meeting of American Society of Human Genetics, Orlando, FL, October 17-21, 2017

F. Invited Talks:

1. A Multiple Testing Correction Method for Genetic Association Studies Using Correlated Single Nucleotide Polymorphisms.. Division of Statistical Genomics, Washington University School of Medicine, St. Louis, MO 03/2008
2. Bioinformatics and Statistical Genetics. Bioinformatics Division, RTI International, Reserach Triangle Park, NC 06/2008
3. A fast and accurate approximation to the permutation threshold of multiple testing correction in genome-wide association studies. Division of Biostatistics, Washington University School of Medicine, St. Louis, MO 09/2008
4. The effective number of independent tests in genome-wide association studies. Center for Genome Sciences, Washington University School of Medicine, St. Louis, MO 12/2008
5. Statistical Methods and Applications in the Genomic Era. MPRI Data Analysis Informatics, Merck & Co. Inc., Seattle, WA 07/2009
6. Genetic data analysis: linkage, association and meta-analysis. Center for Human Genetics Research, Vanderbilt University, Nashville, TN 02/2010
7. Multiple Testing Corrections for Genomic Association Studies. Division of Biostatistics, University of Southern California, Los Angeles, CA 06/2010
8. Mexican American Glaucoma Genetic Study, Department of Epidemiology and Biostatistics, University of Illinois at Chicago, Chicago, IL 11/2013
9. Genotype Imputation for Latinos, Impact of Large-Scale Genomic Data on Statistical and Quantitative Genetics (SQG) Conference, Department of Biostatistics, University of Washington, Seattle, WA 11/2013
10. Genetic ancestry and diabetic retinopathy in Latinos, Department of Epidemiology and Biostatistics, University of Illinois at Chicago, Chicago, IL 03/2014
11. Genetics of corneal thickness, International Society for Eye Research (Cornea Development, Differentiation, and Genetics Session), San Francisco, CA 07/2014

12. Mexican American Glaucoma Genetic Study: Study Design, Analysis Pipelines and Results, Department of Ophthalmology, University of Illinois at Chicago, Chicago, IL 01/2015
13. Fine mapping and sequencing for central cornea thickness, Center for Biotechnology and Genomic Medicine, Cell Biology and Anatomy, Georgia Regents University, Augusta, GA 03/2015
14. Glaucoma genetics in Hispanics. UIC Glaucoma symposium, 05/2015
15. Personalized risk prediction for glaucoma. ICSA Applied Statistics Symposium, Chicago, 06/2017

G. Teaching Responsibilities:

Drew Nannini, PhD student, UIC Epidemiology, 2013 –
Received the Summer Institute in Statistical Genetics Scholarship 2014, University of Washington.
MS thesis: A genome-wide association study of intraocular pressure in Latinos. 2014.

Joelle Hallak, PhD, UIC Epidemiology, 2013 – 2015
PhD dissertation: Dry Eye Disease and Depression: Epidemiological and Biological Links.
Received the Haenszel Award 2015
Role: dissertation committee

Kristen Goulee, MD student, Chicago Medical School, Summer 2014 – 2017

Haipeng Liu, PhD student, UIC Pharmacy, 04/2013 – 08/2013
Received the Summer Institute in Statistical Genetics Scholarship 2013, University of Washington.

Jiadi Xu, MS, UIC Biostatistics, 2015

Fangda Fan, MS, UIC Biostatistics, 2016 –

Hee Jin Kim, MS, UIC Biostatistics, 2016 –

Hua Huang, MS in Math, 2017 –

Shizuka Tomatsu, MD, Postdoc, 2017 –

Mentored Faculty: Research Instructor (Bioinformatics), Jianpeng Xu, Ph.D., 2013 – 2014

Guest instructor: Computational Statistical Genetics, Washington University, 2009 – 2010
(received A+ evaluation from graduate students)

H. Society Memberships:

Professional

International Society for Eye Research, 2014 –
Association for Research in Vision and Ophthalmology, 2010 –
International Genetic Epidemiology Society, 2008 –
American Society of Human Genetics, 2006 –
American Statistical Association, 2002 –

I. Service:**Editorial Boards**

International Journal of Ophthalmology & Eye Science, 2014 –
Austin Journal of Clinical Ophthalmology, 2013 –
World Journal of Medical Genetics, 2010 –
Frontiers in Statistical Genetics and Methodology, 2010 –

Grant Reviewer

SC CTSI Zumberge Research Grant Review Panel, USC, 2012

Journal Reviews

Nature Communications
American Journal of Human Genetics
PLoS Genetics
Bioinformatics
World Journal of Medical Genetics
Annals of Human Genetics
Theoretical Population Biology
Computational Statistical Data Analysis
BMC Genetics
Journal of Human Genetics
Movement Disorders
Future Medicine
Genetic Epidemiology
Frontiers
Human Genetics
Diabetes
IOVS
Current Eye Research.

Volunteer: Interview prospective medical school applicants, UIC, 2014

ARVO Poster Moderator: Glaucoma session, The Association for Research in Vision and Ophthalmology, Baltimore, MD, May 7-11, 2017

J. Software:

AWclust: <http://awclust.sourceforge.net>

simpleM: <http://simplem.sourceforge.net>

fastq2vcf: <http://fastq2vcf.sourceforge.net>