Kai Wang, PhD

College of Public Health Curriculum Vitae

Department of Biostatistics

kai-wang@uiowa.edu

March 2026

Educational and Professional History

Degrees Earned

1986	BA in Mathematics, Lanzhou University
1989	MA in Econometrics, Nankai University
1996	MA in Economics, University of Iowa, Iowa City, Iowa
1999	PhD in Statistics, University of Iowa, Iowa City, Iowa

Employment History

1989 - 1992	Instructor, Department of Mathematics, Nankai University, Tianjin, China
1992 - 1997	Teaching Assistant, Department of Economics, University of Iowa, Iowa City, Iowa
1997 - 1998	Research Assistant, Department of Statistics and Actuarial Science, University of Iowa, Iowa City, Iowa
1999	Research Assistant Professor, Comprehensive Cancer Center, University of Alabama at Birmingham, Birmingham, Alabama
1999 - 2003	Assistant Professor, Department of Biostatistics Division of Statistical Genetics, University of Iowa, Iowa City, Iowa
2003 - 2005	Assistant Professor, Program in Public Health Genetics, College of Public Health, University of Iowa, Iowa City, Iowa
2003 - 2006	Director of Graduate Studies, Program in Public Health Genetics, College of Public Health, University of Iowa, Iowa City, Iowa
2006 - 2007	Acting Director of Graduate Studies, Program in Public Health Genetics, College of Public Health, University of Iowa, Iowa City, Iowa
2005 - 2007	Associate Professor, Program in Public Health Genetics, College of Public Health, University of Iowa, Iowa City, Iowa
2010 - 2013	Associate Professor, Interdisciplinary Graduate Degree Program in Informatics, Bioinformatics Subtrack, University of Iowa, Iowa City, Iowa
2007 - 2013	Associate Professor, Department of Biostatistics, College of Public Health, University of Iowa, Iowa City, Iowa
2013 - Present	Professor, Department of Biostatistics, College of Public Health, University of Iowa, Iowa City, Iowa
2019 - Present	Director, Data Management and Analysis Core (DMAC), Iowa Superfund Research Project (ISRP)
2020 - Present	Co-Director, Computational Phenotyping and Bioinformatics Core (CPBC) of the P30 grant, Multidisciplinary Investigations in Visual Science, University of Iowa

Honors and Awards

1984	Outstanding Student Award, Lanzhou University
1999	NSF travel grant for the CBMS Summer Course on Inferences from Genetic Data on Pedigrees, Michigan Technical University
2001	New Investigator Research Award, College of Public Health and College of Medicine, University of Iowa
2002	NSF travel grant for the Workshop on Developments and Challenges in Mixture Models, Bump Hunting and Measurement Error Models, Case Western Reserve University
2002	NSF travel grant for the Frontiers of Statistical Research: A Celebration of the 40th Anniversary of the Department of Statistics at Texas A&M University, Texas A&M University
2003	Finalist in Post-doctoral Neal Young Investigator Award, International Genetic Epidemiology Society Conference, Los Angeles, CA
2005	Mathematical & Physical Sciences Funding Program Award, University of Iowa
2005	University of Iowa international travel grant for the joint meeting of the Chinese Society of Probability and Statistics (CSPS) and the Institute of Mathematical Statistics (IMS), CSPS and IMS
2016	Best Paper Awards, 5th Annual Global Healthcare Conference: GHC 2016, Singapore, Singapore Our paper is one of the two papers received this award
2019	Inducted into Delta Omega Honorary Society in Public Health, College of Public Health, The University of Iowa, Iowa City, Iowa
2019	Recognition from Thank-a-Teacher Program, Center for Teaching, Iowa City, Iowa
2020	Best Paper Award for "Treatment Effects on an Outcome under Nonlinear Modeling", 2020 Meeting of International Society for Data Science and Analytics, Notre Dame, Indiana
2022	Stanford/Elsevier's list of world's top 2% Scientists in their fields
2023	Stanford/Elsevier's list of world's top 2% Scientists in their fields
2023	College of Public Health Faculty Research Award, College of Public Health, The University of Iowa, Iowa City, Iowa
2023	Dr. Carol S. Gleich Development Award, College of Public Health, The University of Iowa, Iowa City, Iowa
2024	Stanford/Elsevier's list of world's top 2% Scientists in their fields

Teaching

Course Teaching

University of Iowa

Fall 1999	Biostatistical Methods I: one lecture (Nov. 30th), 63:176, Enr: 8, Percent of Course: 100.0%

Fall 1999	Computational Biology: one lecture (Nov. 5th), 55:195, Enr: 15, Percent of Course: 100.0%
Fall 2000	Biostatistical Methods I, 171:201, Credit Hours: 4, Enr: 13, Percent of Course: 100.0%
Spring 2001	Biostatistical Methods II, 171:202, Credit Hours: 4, Enr: 8, Percent of Course: 100.0%
Spring 2002	Computational Methods in Statistical Genetics, 171:274, Credit Hours: 3, Enr: 4, Percent of Course: 100.0%
Fall 2002	Computational Methods in Statistical Genetics, 171:274, Credit Hours: 3, Enr: 2, Percent of Course: 100.0%
Spring 2003	Introduction to Biostatistics, 171:161, Credit Hours: 3, Enr: 32, Percent of Course: 100.0%
Fall 2003	Statistical Genetics II: Continuous Traits, 171:272, Credit Hours: 3, Enr: 5, Percent of Course: 100.0%
Fall 2004	Computing Algorithms in Statistical Genetics, 185:278, Credit Hours: 3, Enr: 2, Percent of Course: 100.0%
Fall 2005	Population and Quantitative Genetics, 185:272, Credit Hours: 3, Enr: 4, Percent of Course: 100.0%
Fall 2006	Computing Algorithms in Statistical Genetics, 185:278, Credit Hours: 3, Enr: 3, Percent of Course: 100.0%
Fall 2006	Preceptorship in Statistical Genetics: Diana Abbott, 185:280, Credit Hours: 2, Enr: 1, Percent of Course: 100.0%
Spring 2007	Design & Analysis of Biomedical Studies, 171:162, Credit Hours: 3, Enr: 40, Percent of Course: 100.0%
Spring 2007	Dissertation in Statistical Genetics: Diana Abbott, 185:300, Credit Hours: 8, Enr: 1, Percent of Course: 100.0%
Spring 2007	Research in Statistical Genetics: Diana Abbott, 185:295, Credit Hours: 2, Enr: 1, Percent of Course: 100.0%
Fall 2007	Population and Quantitative Genetics, 185:272, Credit Hours: 3, Enr: 2, Percent of Course: 100.0%
Fall 2007	Preceptorship in Biostatistics: Xiangjun Xiao, 171:280, Credit Hours: 3, Enr: 1, Percent of Course: 100.0%
Fall 2007	Dissertation in Statistical Genetics: Diana Abbott, 185:290, Credit Hours: 3, Enr: 1, Percent of Course: 100.0%
Spring 2008	Computing Algorithms in Statistical Genetics, 185:278, Credit Hours: 3, Enr: 2, Percent of Course: 100.0%
Spring 2008	Dissertation in Statistical Genetics: Diana Abbott, 185:290, Credit Hours: 3, Enr: 1, Percent of Course: 100.0%
Spring 2008	Preceptorship in Statistical Genetics: Yufang Zhang, 185:280, Credit Hours: 3, Enr: 1, Percent of Course: 100.0%
Spring 2008	Preceptorship in Biostatistics: Yufang Zhang, 171:280, Credit Hours: 3, Enr: 1, Percent of Course: 100.0%
Fall 2008	Applied Categorical Data Analysis, 171:241, Credit Hours: 3, Enr: 23, Percent of Course: 100.0%

Fall 2008	Dissertation in Statistical Genetics: Xiangjun Xiao, Yufang Zhang, 185:290, Credit Hours: 3, Enr: 2, Percent of Course: 100.0%
Fall 2008	Preceptorship in Biostatistics: Yang Xu, 171:280, Credit Hours: 3, Enr: 1, Percent of Course: 100.0%
Spring 2009	Biostatistical Methods in Categorical Data, 171:203, Credit Hours: 3, Enr: 10, Percent of Course: 100.0%
Spring 2009	Dissertation in Statistical Genetics: Xiangjun Xiao, Yufang Zhang, 185:290, Credit Hours: 3, Enr: 2, Percent of Course: 100.0%
Spring 2009	Preceptorship in Biostatistics: Shihao Shen, 171:280, Credit Hours: 3, Enr: 1, Percent of Course: 100.0%
Fall 2009	Applied Categorical Data Analysis, 171:241, Credit Hours: 3, Enr: 36, Percent of Course: 100.0%
Fall 2009	Dissertation in Statistical Genetics: Xiangjun Xiao, Yufang Zhang, 185:290, Credit Hours: 3, Enr: 2, Percent of Course: 100.0%
Spring 2010	Advanced Biostatistics Seminar: Statistical Genetics, 171:290, Credit Hours: 3, Enr: 11, Percent of Course: 100.0%
Spring 2010	Dissertation in Statistical Genetics: Xiangjun Xiao, Yufang Zhang, 185:290, Credit Hours: 3, Enr: 2, Percent of Course: 100.0%
Spring 2010	Human Molecular Genetics: Two lectures (March 23rd and 25th), 127:191, Enr: 25, Percent of Course: 100.0%
Spring 2010	Preceptorship in Biostatistics: Angela Meisterling, Lizette Ortega, 171:280, Credit Hours: 3, Enr: 2, Percent of Course: 100.0%
Summer 2010	Iowa Summer Institute in Biostatistics. One lecture Role: Guest Lecturer
Fall 2010	Applied Categorical Data Analysis, 171:241, Credit Hours: 3, Enr: 14, Percent of Course: 100.0%
Fall 2010	Dissertation in Statistical Genetics: Xiangjun Xiao, 185:300, Credit Hours: 3, Enr: 1, Percent of Course: 100.0%
Fall 2010	Independent Study in Biostatistics: Carmen Smith, 171:281, Credit Hours: 3, Enr: 1, Percent of Course: 100.0%
Spring 2011	Biostatistical Methods in Categorical Data, 171:203, Credit Hours: 3, Enr: 13, Percent of Course: 100.0%
Spring 2011	Independent Study in Biostatistics: Carmen Smith, 171:281, Credit Hours: 3, Enr: 1, Percent of Course: 100.0%
Spring 2011	Dissertation in Statistical Genetics: Xiangjun Xiao, 185:300, Credit Hours: 3, Enr: 1, Percent of Course: 100.0%
Summer 2011	Independent Study in Biostatistics: Marytere Melendez, Carmen Smith, 171:281, Credit Hours: 3, Enr: 2, Percent of Course: 100.0%
Summer 2011	Iowa Summer Institute in Biostatistics. One lecture. Credit Hours: 3, Enr: 11
Fall 2011	Dissertation in Statistical Genetics: Xiangjun Xiao, 185:300, Credit Hours: 3, Enr: 1, Percent of Course: 100.0%
Fall 2011	Independent Study in Biostatistics: Vera Rayevskaya, 171:281, Credit Hours: 3, Enr: 1, Percent of Course: 100.0%

Fall 2011	Research Data Management, 171:164, Credit Hours: 3, Enr: 20, Percent of Course: 100.0%
Fall 2011	Thesis/Dissertation: Carmen Smith, 171:300, Credit Hours: 3, Enr: 1, Percent of Course: 100.0%
Spring 2012	Dissertation in Statistical Genetics: Xiangjun Xiao, 185:300, Credit Hours: 3, Enr: 1, Percent of Course: 100.0%
Spring 2012	Independent Study in Biostatistics: Lizette Ortega, 171:281, Credit Hours: 3, Enr: 1, Percent of Course: 100.0%
Spring 2012	Introduction to Biostatistics, 171:161, Credit Hours: 3, Enr: 78, Percent of Course: 100.0%
Spring 2012	Thesis/Dissertation: Carmen Smith, 171:300, Credit Hours: 3, Enr: 1, Percent of Course: 100.0%
Summer 2012	Iowa Summer Institute in Biostatistics. One lecture. Enr: 15, Percent of Course: 100.0%
Summer 2012	Thesis/Dissertation: Carmen Smith, 171:300, Credit Hours: 2, Enr: 1, Percent of Course: 100.0%
Fall 2012	Preceptorship in Biostatistics: Melissa Pugh, 171:280, Credit Hours: 2, Percent of Course: 100.0% Role: Primary Instructor
Fall 2012	Preceptorship in Biostatistics: Vera Rayevskaya, 171:280, Credit Hours: 2, Percent of Course: 100.0% Role: Primary Instructor
Fall 2012	Advanced Biostatistics Seminar: Statistical Genetics, 171:290, Credit Hours: 3, Enr: 15, Percent of Course: 60.0%. Co-taught with Jian Huang
Fall 2012	Dissertation in Statistical Genetics: Xiangjun Xiao, 185:300, Enr: 1, Percent of Course: 100.0%
Fall 2012	Thesis/Dissertation: Carmen Smith, Lizette Ortega, 171:300, Credit Hours: 3, Enr: 2, Percent of Course: 100.0%
Spring 2013	Biostat Methods in Categorical Data, 171:203, Credit Hours: 3, Enr: 21, Percent of Course: 100.0%
Spring 2013	Research in Biostatistics: Lizette Ortega, 171:295:050, Credit Hours: 3, Enr: 1, Percent of Course: 100.0%
Spring 2013	Thesis/Dissertation: Carmen Smith, 171:300:050, Credit Hours: 3, Enr: 1, Percent of Course: 100.0%
Fall 2013	Thesis/Dissertation: Carmen Smith, 171:300:050, Credit Hours: 2, Percent of Course: 50.0% Role: Team Teacher
Fall 2013	Thesis/Dissertation: Lizette Ortega, 171:300:050, Credit Hours: 2, Percent of Course: 100.0% Role: Primary Instructor
Fall 2013	Applied Categorical Data Analysis, 171:241, Credit Hours: 3, Enr: 18, Percent of Course: 100.0%
Fall 2013	Research for Dissertation: Yang Xu, 200:299:050, Credit Hours: 3, Enr: 1, Percent of Course: 100.0%

Spring 2014 Thesis/Dissertation: Carmen Smith, BIOS:7900:0050, Credit Hours: 2, Percent of Course: 50.0%
Role: Team Teacher

Spring 2014 Thesis/Dissertation: Lizette Ortega, BIOS:7900:0050, Credit Hours: 1, Percent of Course: 100.0%
Role: Primary Instructor

Spring 2014 Biostat Methods in Categorical Data, BIOS:5730:0001, Credit Hours: 3, Enr: 14, Percent of Course: 100.0%

Fall 2014 Preceptorship in Biostatistics: Kim Wooge, 171:280, Credit Hours: 3, Percent of Course: 100.0%
Role: Primary Instructor

Fall 2014 Preceptorship in Biostatistics: Michael Seedorff, 171:280, Credit Hours: 3, Percent of Course: 100.0%
Role: Primary Instructor

Fall 2014 Preceptorship in Biostatistics: Minli Bao, 171:280, Credit Hours: 3, Percent of Course: 100.0%
Role: Primary Instructor

Fall 2014 Thesis/Dissertation: Lizette Ortega, Carmen Smith, 171:300, Credit Hours: 3, Enr: 1, Percent of Course: 100.0%

Fall 2014 Applied Categorical Data Analysis, BIOS:5130, Credit Hours: 3, Enr: 23, Percent of Course: 100.0%

Spring 2015 Biostatistical Methods Categorical Data, BIOS:5730:0001, Credit Hours: 3, Enr: 6, Percent of Course: 100.0%

Spring 2015 Thesis/Dissertation, BIOS:7900:0050, Percent of Course: 100.0%

Fall 2015 Applied Categorical Data Analysis, BIOS:5130:0001, Credit Hours: 3, Enr: 14

Spring 2016 Biostatistical Methods Categorical Data, BIOS:5730:0001, Credit Hours: 3, Enr: 11, Percent of Course: 100.0%

Spring 2016 Research in Biostatistics, BIOS:7850:0050, Percent of Course: 100.0%

Fall 2016 Applied Categorical Data Analysis, BIOS:5130:0001, Credit Hours: 3, Enr: 15, Percent of Course: 100.0%

Fall 2016 Preceptorship in Biostatistics, Yu Jiang, BIOS:7500, Credit Hours: 3, Enr: 1, Percent of Course: 100.0%

Spring 2017 Applied Survival Analysis, BIOS:6210:0001, Credit Hours: 3, Enr: 13, Percent of Course: 100.0%

Spring 2018 Advanced Biostatistics Seminar, BIOS:7600:0002, Enr: 5, Percent of Course: 100.0%
1,2,3

Spring 2018 Applied Survival Analysis, BIOS:6210:0001, Credit Hours: 3, Enr: 12, Percent of Course: 100.0%

Fall 2018 Applied Categorical Data Analysis, BIOS:5130:0001, Credit Hours: 3, Enr: 18, Percent of Course: 100.0%

Spring 2019 Introduction to Biostatistics, BIOS:4120:0AAA, Enr: 91, Percent of Course: 100.0%

Fall 2019 Applied Categorical Data Analysis, BIOS:5130:0001, Credit Hours: 3, Enr: 14, Percent of Course: 100.0%

Fall 2019	Preceptorship in Biostatistics, Matthew Davis, BIOS:7500, Credit Hours: 3, Enr: 1, Percent of Course: 100.0%
Spring 2020	Applied Survival Analysis, BIOS:6210:0001, Credit Hours: 3, Enr: 24, Percent of Course: 100.0%
Spring 2021	Applied Survival Analysis, BIOS:6210:0001, Credit Hours: 3, Enr: 15, Percent of Course: 100.0%
Spring 2021	Biostatistical Methods Categorical Data, BIOS:5730:0001, Credit Hours: 3, Enr: 19, Percent of Course: 100.0%
Spring 2021	Preceptorship in Biostatistics: Eun Jae Jo, BIOS:7500, Credit Hours: 3, Enr: 1, Percent of Course: 100.0%
Fall 2021	Survival Data Analysis, BIOS:7210:0001, Credit Hours: 3, Enr: 20, Percent of Course: 100.0%
Spring 2022	Biostatistical Methods Categorical Data, BIOS:5730:0001, Credit Hours: 3, Enr: 11, Percent of Course: 100.0%
Spring 2022	Preceptorship in Biostatistics: Devin Spolsdoff, BIOS:7500, Credit Hours: 3, Enr: 1, Percent of Course: 100.0%
Feb 2022	Human Molecular Genetics, GENE:7191. Two lectures. Role: Guest Lecturer
Nov 2022	PCBs in the Environment, CEE:5390. Two lectures. Credit Hours: 3, Enr: 16 Role: Guest Lecturer
Spring 2023	Applied Survival Analysis, BIOS:6210:0001, Credit Hours: 3, Enr: 22, Percent of Course: 100.0%
Spring 2023	Preceptorship in Biostatistics: Ross Chloe, BIOS:7500, Credit Hours: 3, Enr: 1, Percent of Course: 100.0%
Fall 2023	Applied Categorical Data Analysis, BIOS:5130:0001, Credit Hours: 3, Enr: 23, Percent of Course: 100.0%
Fall 2023	Survival Data Analysis, BIOS:7210:0001, Credit Hours: 3, Enr: 12, Percent of Course: 100.0%
Spring 2024	Human Molecular Genetics, GENE:7191. One lecture.
Fall 2024	Advanced Biostatistics Seminar, BIOS:7600:0001, Credit Hours: 3, Enr: 16, Percent of Course: 100.0%
Spring 2025	Applied Survival Analysis, BIOS:6210, Credit Hours: 3, Enr: 17
Fall 2025	Survival Data Analysis, BIOS:7210:0001, Credit Hours: 3, Enr: 18, Percent of Course: 100.0%
Spring 2026	Applied Survival Analysis, BIOS:6210, Credit Hours: 3, Enr: 26

Scholarship/Professional Productivity

Publications or creative works

Peer-reviewed papers and journal articles

1. Collaborative Linkage Study of Autism:, Barret, S., Beck, J., Berniew, R., Bisson, E., Braun, T., Cassavant, T., Childress, D., Folstein, S. E., Garcia, M., Gardiner, M. B., Gilman, S., Haines, J. L., Hopkins, K., Landa,

R., Meyer, N. H., Mullane, J. A., Nishimura, D. Y., Palmer, P., Piven, J., Prudy, J., Santangelo, S. L., Searby, C., Sheffield, V. C., Singleton, J., Slager, S., Struchen, T., Svenson, S., Vieland, V. J., **Wang, K.** & Winklosky, B. (1999). An autosomal genomic screen for autism. (Vols. 88). (6), pp. 609-615. Am J Med Genet. PMID: 11811142.

2. **Wang, K.**, Vieland, V. & Huang, J. (1999). A Bayesian approach to replication of linkage findings. (Vols. 17). (Supplement 1), pp. S749-S754. Genet Epidemiol. PMID: 10597525.
3. **Wang, K.**, Huang, J. & Vieland, V. J. (2000). The consistency of the posterior probability of linkage. (Vols. 64). (Part 6), pp. 533-553. Ann Hum Genet. PMID: 11281217.
4. Huang, J., Vieland, V. J. & **Wang, K.** (2001). Nonparametric estimation of marginal distributions under bivariate truncation with application to testing for age-of-onset anticipation. (Vols. 11). pp. 1047-1068. Statistica Sinica.
5. Bradford, Y., Haines, J., Hutcheson, H., Gardiner, M., Braun, T., Sheffield, V., Cassavant, T., Huang, W., **Wang, K.**, Vieland, V., Folstein, S., Santangelo, S. & Piven, J. (2001). Incorporating language phenotypes strengthens evidence of linkage to autism. (Vols. 105). (6), pp. 539-547. Am J Med Genet. PMID: 11496372.
6. Vieland, V. J., **Wang, K.** & Huang, J. (2001). Power to detect linkage based on multiple sets of data in the presence of locus heterogeneity: Comparative evaluation of model-based linkage methods for affected sib pair data. (Vols. 51). (4), pp. 199-208. Hum Hered. PMID: 11287741.
7. **Wang, K.**, Huang, J., Logue, M. & Vieland, V. J. (2001). Combined multipoint analysis of multiple asthma data sets based on the posterior probability of linkage. (Vols. 21). (Supplement 1), pp. S73-S78. Genet Epidemiol. PMID: 11793769.
8. **Wang, K.** & Huang, J. (2002). A score-statistic approach for the mapping of quantitative-trait loci with sibships of arbitrary size. (Vols. 70). (2), pp. 412-424. Am J Hum Genet. PMID: 11791211. PMCID: PMC384916.
9. **Wang, K.** & Huang, J. (2002). Score test for mapping quantitative-trait loci with sibships of arbitrary size when the dominance effect is not negligible. (Vols. 23). (4), pp. 398-412. Genet Epidemiol. PMID: 12432506.
10. **Wang, K.** (2002). Efficient score statistics for mapping quantitative trait loci with extended pedigrees. (Vols. 54). (2), pp. 57-68. Hum Hered. PMID: 12566738.
11. Morcuende, J. A., Minhas, R., Dolan, L., Stevens, J., Beck, J., **Wang, K.**, Weinstein, S. L. & Sheffield, V. (2003). Allelic variants of human melatonin 1-A receptor (hMel-1A) in patients with familial adolescent idiopathic scoliosis. (Vols. 28). (17), pp. 2025-2029. Spine. PMID: 12973153.
12. Yang, X., **Wang, K.**, Huang, J. & Vieland, V. J. (2003). Genome-wide linkage analysis of blood pressure under locus heterogeneity. (Vols. 4). (Supplement 1), pp. S78. BMC Genet. PMID: 14975146. PMCID: PMC1866517.
13. Zhang, X. & **Wang, K.** (2003). Bivariate linkage analysis of cholesterol and triglyceride levels in Framingham heart study. (Vols. 4). (Supplement 1), pp. S62. BMC Genet. PMID: 14975130. PMCID: PMC1866500.
14. **Wang, K.** (2003). Mapping quantitative trait loci using multiple phenotypes in general pedigrees. (Vols. 55). (1), pp. 1-15. Hum Hered. PMID: 12890921.
15. **Wang, K.** (2003). Score tests for epistasis models on quantitative traits using general pedigree data. (Vols. 25). (4), pp. 314-326. Genet Epidemiol. PMID: 14639701.
16. **Wang, K.** & Peng, Y. (2003). Linkage analysis of systolic blood pressure: A score statistic and computer implementation. (Vols. 4). (Supplement 1), pp. S77. BMC Genet. PMID: 14975145. PMCID: PMC1866516.
17. **Wang, K.** (2004). A note on asymptotic properties of affected-sib-pair linkage tests. (Vols. 68). (Part 4), pp. 367-375. Ann Hum Genet. PMID: 15225162.
18. Sander, M. D., Abbasi, D., Ferguson, A. L., Steyers, C. M., **Wang, K.** & Morcuende, J. A. (2005). The prevalence of hereditary neuropathy with liability to pressure palsies in patients with multiple surgically

treated entrapment neuropathies. (Vols. 30A). (6), pp. 1236-1241. Journal of Hand Surgery-American. PMID: 16344182.
19. **Wang, K.** & Sheffield, V. C. (2005). A constrained-likelihood approach to marker-trait association studies. (Vols. 77). (5), pp. 768-780. Am J Hum Genet. PMID: 16252237. PMCID: PMC1271386.
20. **Wang, K.** (2005). A likelihood approach for quantitative-trait-loci mapping with selected pedigrees. (Vols. 61). (2), pp. 465-473. Biometrics. PMID: 16011693.
21. **Wang, K.** & Peng, Y. (2006). Quantitative-trait-locus mapping in the presence of locus heterogeneity. (Vols. 70). (Part 6), pp. 882-892. Ann Hum Genet. PMID: 17044863.
22. Bishop, J. R., **Wang, K.**, Moline, J. & Ellingrod, V. L. (2007). Association analysis of the metabotropic glutamate receptor type 3 gene (GRM3) with schizophrenia. (Vols. 17). (6), pp. 358. Psychiatr Genet. PMID: 18075480.
23. Fingert, J. H., Alward, W. M., Kwon, y. H., **Wang, K.**, Streb, L. M., Sheffield, V. C. & Stone, E. M. (2007). LOXL1 mutations are associated with exfoliation syndrome in patients from the Midwestern United States. *American Journal of Ophthalmology 144 (6) 974-975.* PMID: 18036875.
24. **Wang, K.** (2008). An analytic study of the power of popular quantitative-trait-locus mapping methods. (Vols. 38). (5), pp. 554-559. Behav Genet. PMID: 18766435.
25. Ho, B. C., Epping, E., **Wang, K.**, Andreasen, N. C., Librant, A. & Wassink, T. H. (2008). Basic helix-loop-helix transcription factor NEUEOG1 and schizophrenia: Effects on illness susceptibility, MRI brain morphometry and cognitive abilities. (Vols. 106). (2-3), pp. 192-199. Schizophrenia Research. PMID: 18799289. PMCID: PMC2597152.
26. Maddox, C., Wang, B. X., Kirby, P. A., **Wang, K.** & Ludewig (2008). Mutagenicity of 3-methylcholanthrene, PCB3, and 4-OH-PCB3 in the lung of transgenic BigBlue® rats. (Vols. 25). (2), pp. 260-266. Environmental Toxicology and Pharmacology. PMID: 18438460. PMCID: PMC2346436.
27. **Wang, K.** & Abbott, D. (2008). A principal components regression approach to multilocus genetic association studies. (Vols. 32). (2), pp. 108-118. Genet Epidemiol. PMID: 17849491.
28. **Wang, K.** (2008). Genetic association tests in the presence of epistasis or gene-environment interaction. (Vols. 32). (7), pp. 606-614. Genet Epidemiol. PMID: 18435472.
29. Zhang, Y., Xiao, X. & **Wang, K.** (2009). Accommodating population stratification in case-control association analysis: a new test and its application to genome-wide study on rheumatoid arthritis. (Vols. 3). (Suppl 7), pp. S111. BMC Proceedings. PMID: 20017976. PMCID: PMC2795883.
30. Xiao, X., Zhang, Y. & **Wang, K.** (2009). Association of KCNB1 to rheumatoid arthritis via interaction with HLA-DRB1. (Vols. 3). (Suppl 7), pp. S134. BMC Proceedings. PMID: 20018001. PMCID: PMC2795908.
31. **Wang, K.** (2009). Testing for genetic association in the presence of population stratification in genome-wide association studies. (Vols. 33). (7), pp. 637-645. Genet Epidemiol. PMID: 19235185.
32. Hu, D., Lehmler, H., Martinez, A., **Wang, K.** & Hornbuckle, K. C. (2010). Atmospheric PCB congeners across Chicago. (Vols. 44). (12), pp. 1550-1557. Atmos Environ. PMID: 21918637. PMCID: PMC3171135.
33. Lively, G. D., Koehn, D., Hedberg-Buenz, A., **Wang, K.** & Anderson, M. (2010). Quantitative trait loci associated with murine central corneal thickness. (Vols. 42). (2), pp. 281-286. Physiological Genomics. PMID: 20423963. PMCID: PMC3032283.
34. Jacobus, J. A., Wang, B., Maddox, C., Esch, H., Lehmann, L., Robertson, L. W., **Wang, K.**, Kirby, P. & Ludewig, G. (2010). 3-Methylcholanthrene (3-MC) and 4-Chlorobiphenyl (PCB3) genotoxicity is gender-related in Fischer 344 transgenic rats. (Vols. 36). (8), pp. 970-979. Environ Int. PMID: 20739065. PMCID: PMC2949545.
35. Lively, G. D., Jiang, B., Hedberg-Buenz, A., Chang, B., Peterson, G. E., **Wang, K.**, Kuehn, M. H. & Anderson, M. G. (2010). Genetic dependence of central corneal thickness among inbred strains of mice. (Vols. 51). (1), pp. 160-171. Invest Ophthalmol Vis Sci. PMID: 19710407. PMCID: PMC2869057.
36. Martinez, A., **Wang, K.** & Hornbuckle, K. C. (2010). Fate of PCB congeners in an industrial harbor of Lake Michigan. (Vols. 44). (8), pp. 2803-2808. Environ Sci Technol. PMID: 20131898. PMCID: PMC3257175.

37. Xie, W., **Wang, K.**, Robertson, L. W. & Ludewig, G. (2010). Investigation of mechanism(s) of DNA damage induced by 4-monochlorobyphenyl (PCB3) metabolites. (Vols. 36). (8), pp. 950-961. Environment International. PMID: 20129669. PMCID: PMC2888624.
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Abstracts

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2. The Collaborative Linkage Study of Autism (CLSA) (1998). Results of a genomic screen for autism include strong evidence of linkage to chromosome 13. (Vols. 63). (Suppl), pp. 77. Am J Hum Genet.
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15. **Wang, K.** (2003). On asymptotic properties of affected-sib-pair linkage tests. (Vols. 25). pp. 132. Genet Epidemiol.
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19. Paola, J. D., Rickard, M., Murray, J., Burns, T., **Wang, K.** & Shapiro, A. (2006). A Genome-Wide Linkage Scan of a Large Amish Pedigree with Von Willebrand Disease (VWD) Identified Several Chromosomal Regions That May Contain Potential Modifiers of Von Willebrand Factor (VWF) Levels and Disease Variability. (Vols. 108). (11), pp. 56A. Blood.
20. Marek, R., **Wang, K.**, DeWall, J., Thorne, P. S. & Hornbuckle, K. C. (2012). PCBs and OH-PCBs in Serum from Children and Mothers in Urban and Rural Communities. SETAC North America 33rd Annual Meeting.
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Non-peer-reviewed journal articles

1. Mendell, N. R., Babron, M., Boddeker, I., Chiu, Y., Grigull, J., Eerdewegh, P. V. & **Wang, K.** (2001). Introduction: Heterogeneity. (Vols. 21). (Suppl 1), pp. S42-S43. Genet Epidemiol.
2. König, I. R., Nsengimana, J., Papachristou, C., Simonson, M. A., **Wang, K.** & Weisburd, J. A. (2011). Multiple Testing in High-Throughput Sequence Data: Experiences from Group 8 of the Genetic Analysis Workshop 17. GAW 17.

Conference Proceedings

1. **Wang, K.** (2016). A robust statistical method for constructing 3D chromosome structure using Hi-C chromatin interaction data. Phuket: Proceedings of International Conference on Applied Statistics 2016.
2. Xu, Y., Dai, D. & **Wang, K.** (2016). A flexible penalized integrated analysis of mRNA and miRNA expression levels as biomarkers for endometrial cancer classification. pp. 53-58. Singapore: Proceedings of the 5th Annual Global Healthcare Conference (GHC 2016).
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Software

1. **Wang, K.** (2012). R package iGasso. https://cran.r-project.org/web/packages/iGasso/
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Research Interests/Current Projects

- Causal Inference (Mendelian randomization)
- Deep learning
- Statistical genetics/genomics
- Collaborative research on all the funded projects
- Mediation analysis
- Bioinformatics

Grants and Contracts

Active (Funded)

1. PCB-mediated dysbiosis of the gut microbiome: A missing link in PCB-mediated neurodevelopmental disorders?; National Institutes of Health; Wang, Kai (Co-Investigator), Lehmler, Hans-Joachim (Principal Investigator)
    - R01 ES031098
    - Feb 1, 2020 - Nov 30, 2024
    - Amount: $3,124,660.00, 6% effort
2. Iowa Superfund Research Program: Airborne PCBs: Sources, Exposures, Toxicities, Remediation; National Institutes of Health; Wang, Kai (Co-Investigator), Hornbuckle, Keri (Principal Investigator)
    - P42 ES013661
    - May 12, 2006 - Jan 31, 2025
    - Amount: $54,450,883.00, 13% effort
    - This is the technology transfer administrative supplement for the Iowa Superfund Research Program and provides administrative oversight, statistical consulting, research results reporting, and serves as a liaison between the stakeholders, University officials, and the SRP.
3. Environmental Factors in Pathobiology of Dementia: the Role of PCB Exposure, Microbiome, and Tissue Barrier Dysfunction; National Institutes of Health; Wang, Kai (Co-Investigator), Lehmler, Hans-Joachim (Principal Investigator)
    - R01 ES034691
    - Jan 1, 2023 - Nov 30, 2025
    - Amount: $2,186,707.00, 5% effort
4. VA-IPA: Effect of Gut Microbiome Dysbiosis in the Pathology of Multiple Sclerosis; US Department of Veterans Affairs, Iowa City; Wang, Kai (Principal Investigator)
    - No Contract #
    - Feb 1, 2021 - Jan 31, 2026
    - Amount: $128,480.00, 10% effort
    - Dr. Kai Wang will serve as a Professor of Biostatistics for Dr. Ashutosh Mangalam in the execution of the VACO funded Merit Review entitled "Effect of Gut Microbiome Dysbiosis in the Pathobiology of Multiple Sclerosis."
5. Multidisciplinary Investigations in Visual Science; National Institutes of Health; Wang, Kai (Co-Investigator), Sheffield, Val (Principal Investigator)
    - P30 EY025580
    - Sep 1, 2016 - Jun 30, 2026

- Amount: $5,721,807.00, 2% effort

6. MMP-9 based immune-driven mechanisms of neovascular AMD; National Institutes of Health; Wang, Kai (Co-Investigator), Sohn, Elliott (Principal Investigator)
    - R01 EY035435
    - Sep 1, 2023 - Jan 31, 2027
    - Amount: $2,161,756.00, 3% effort
7. Environmental Health Sciences Research Center; National Institutes of Health; Wang, Kai (Co-Investigator), Lehmler, Hans-Joachim (Principal Investigator)
    - P30 ES005605
    - Sep 29, 1990 - Mar 31, 2027
    - Amount: $48,536,606.00, 10% effort
    - Building on a 26-year history, the Environmental Health Sciences Research Center (EHSRC) will advance and translate cutting edge research that addresses environmental health problems across the urban-rural continuum. The EHSRC vision is to be the primary environmental health sciences (EHS) resource for improving the health of rural residents by stimulating and translating innovative EHS research. Center goals are to: 1) Develop, support and expand innovative interdisciplinary EHS research in key Thematic Areas; 2) Recruit, mentor and nurture talented new and mid-level investigators in EHS; and 3) Engage with communities and policy makers to translate research findings toward improving the health and environment of rural people in the Midwest and the nation.
8. Genetic Factors for Glaucoma in the OHTS: Risk, Progression and Mechanism; National Institutes of Health; Wang, Kai (Co-Investigator), Fingert, John (Principal Investigator)
    - R01 EY035266
    - Sep 30, 2023 - Jan 31, 2028
    - Amount: $2,016,265.00, 10% effort

<u>Completed</u>

1. A collaborative linkage study of autism; National Institutes of Health; Wang, Kai (Co-Investigator), Sheffield, Val (Principal Investigator)
    - R01
    - Mar - May 2001
    - 21% effort
2. Linkage analysis under linkage disequilibrium and disease locus heterogeneity; College of Public Health-College of Medicine New Investigator Award; Wang, Kai (Principal Investigator)
    - Jan - Dec 2001
    - 0% effort
3. Sampling models and methods for complex genetic diseases; NIMH; Wang, Kai (Co-Investigator), Vieland, Veronica (Principal Investigator)
    - R01
    - Mar 2001 - Jul 2003
    - 25% effort
4. Infrastructure to Facilitate Discovery of Autism Genes; National Institutes of Health; Wang, Kai (Co-Investigator), Vieland, Veronica (Principal Investigator)
    - R01
    - Aug 2002 - Jul 2003
    - 17% effort

5. A novel approach for finding genes in autism; NIMH; Wang, Kai (Co-Investigator), Wassink, Tom (Principal Investigator)
    - R01
    - Jul - Aug 2003
    - 25% effort
6. Genetic Mapping of Familial Adolescent Idiopathic Scoliosis; COM HHMI Pilot Collaborative project; Wang, Kai (Co-Investigator), Morcuende, Jose (Principal Investigator)
    - 2003 - 2005
    - 0% effort
7. Locating genes responsible for continuous traits: A software tool; University of Iowa, Mathematical & Physical Sciences Funding Program; Wang, Kai (Principal Investigator)
    - 2005
    - 0% effort
8. Molecular Biology of Syndromic Retinal Degeneration; National Institutes of Health; Wang, Kai (Co-Investigator), Sheffield, Val (Principal Investigator)
    - R01
    - Aug 1, 2002 - Jul 30, 2007
    - 10% effort
9. Elderly Cancer Survivors: Cognitive Outcomes and Markers of Neurodegeneration; National Institutes of Health; Wang, Kai (Co-Investigator), Schultz, Susan (Principal Investigator)
    - R01 CA122934
    - Jul 1, 2007 - Jun 30, 2008
    - 5% effort
10. Robust Statistical Methods for Studies of Susceptibility to Environmentally Induced Diseases; Environmental Health Sciences Research Center (EHSRC) Pilot Grant; Wang, Kai (Principal Investigator)
    - Apr 1, 2009 - Mar 31, 2010
    - Amount: $23,200.00, 0% effort
11. Prediction of Relapse in Schizophrenia; National Institutes of Health; Wang, Kai (Co-Investigator), Miller, Del (Principal Investigator)
    - U01 MH070010
    - Jul 1, 2008 - Dec 31, 2010
12. Molecular Genetics of Hereditary Glaucoma; National Institutes of Health; Wang, Kai (Co-Investigator), Sheffield, Val (Principal Investigator)
    - R01 EY010564
    - Sep 30, 1994 - Mar 30, 2011
    - Amount: $6,044,675.00, 12% effort
13. Neurobiological Predictors of Huntington's Disease – Biostatistics Core; High Q Foundation; Wang, Kai (Co-Investigator), Paulsen, Jane (Principal Investigator)
    - Dec 14, 2009 - Apr 30, 2011
    - Amount: $8,378,958.00, 15% effort
14. Genetic Modifiers of Von Willebrand Disease; National Institutes of Health; Wang, Kai (Co-Investigator), Paola, Jorge Di (Principal Investigator)
    - R01 HL084086
    - Feb 1, 2007 - Jan 31, 2012
    - Amount: $663,750.00, 10% effort

15. Elderly Cancer Survivors: Cognitive Outcomes and Markers of Neurodegeneration; National Institutes of Health; Wang, Kai (Co-Investigator), Schultz, Susan (Principal Investigator)
    - R01 CA122934
    - Jun 5, 2007 - Jun 30, 2012
    - Amount: $1,072,493.00, 4% effort
16. Choriocapillaris Activation in Macular Degeneration; National Institutes of Health; Wang, Kai (Co-Investigator), Mullins, Robert (Principal Investigator)
    - R01 EY017451
    - Sep 15, 2007 - Jul 31, 2013
    - Amount: $1,845,150.00, 10% effort
17. Genetics of Quantitative Traits Associated with Glaucoma; National Institutes of Health; Wang, Kai (Co-Investigator), Fingert, John (Principal Investigator)
    - 5 R01 EY018825
    - Jul 1, 2009 - Jun 30, 2014
    - Amount: $3,246,883.00, 10% effort
18. Molecular Genetics of Age Related Macular Degeneration; National Institutes of Health; Wang, Kai (Co-Investigator), Stone, Edwin (Principal Investigator)
    - R01 EY016822
    - Sep 1, 2010 - May 31, 2015
    - Amount: $3,954,664.00, 5% effort
    - This project aims to identify new AMD genes with next-generation sequencing and identify phenotypic-expression-based subtypes of disease.
19. Iowa Summer Institute in Biostatistics (ISIB); National Institutes of Health; Wang, Kai (Co-Investigator), Chaloner, Kathryn (Principal Investigator)
    - T15 HL097622
    - Aug 20, 2009 - Feb 28, 2016
    - Amount: $1,368,893.00, 4% effort
    - There is a nationwide shortage of biostatisticians and the shortage is having a negative impact on medical and public health research. The goal of this proposed program is to increase the number of minority undergraduates who enter graduate programs in Biostatistics or related areas. Instruction will be through case-based instruction of real biomedical research; computer laboratory training; projects; and clinical and translational research enrichment activities.
20. Genetic Determinants of Optic Nerve Head Structure; National Institutes of Health; Wang, Kai (Co-Investigator), Scheetz, Todd (Principal Investigator)
    - R01 EY023187
    - Mar 1, 2013 - Feb 28, 2017
    - Amount: $1,142,413.00, 10% effort
    - The ultimate goal of this research proposal is to identify biomarkers and/or genetic risk factors that accurately predict: (1) primary optic nerve head (ONH) structure (i.e. before age- or disease-related changes), (2) changes in ONH structure, and (3) the development of irreversible glaucomatous optic nerve damage before it occurs. These outcomes will improve the specificity and sensitivity of initial diagnosis of glaucoma, allowing clinicians to determine the proportion of ONH structure change that is damage from this disease, as opposed to normal variations in primary ONH structure. This in turn will allow the application of currently available and effective therapies to be instituted before vision is lost.

21. Genetic Dissection of Pigmentary Glaucoma; National Institutes of Health; Wang, Kai (Co-Investigator), Anderson, Michael (Principal Investigator)
    - R01 EY017673
    - Apr 1, 2008 - Jan 31, 2018
    - Amount: $3,142,847.00, 1% effort
    - Glaucoma is a leading cause of irreversible blindness and visual disability that has a major impact on the quality of life and productivity of millions of Americans. With no new pharmaceutical classes for treating glaucoma introduced into clinical practice since the 1990s, there remains a continuing need for improved regimes that treat glaucoma more effectively. Our long-term goal is to contribute to the development of these improved therapies by utilizing synergistic genetic approaches with mice and humans. Our objective in this proposal is to utilize and build on these resources to study molecular events contributing to pigment dispersion and its conversion to pigmentary glaucoma. To accomplish this, we propose: (SA1) to identify suppressors of pigmentary glaucoma using hereditary mouse models, (SA2) to define predictors of ocular responses to pigment dispersion using inducible mouse models, and (SA3) to identify genes linked with pigmentary glaucoma using human patient cohorts.
22. Prospective Investigation of Environment Exposure to BPA and BPA Substitutes in Early Pregnancy in Relation to Pregnancy Complications; Environmental Health Sciences Research Center; Wang, Kai (Co-Investigator), Liu, Buyun (Principal Investigator)
    - EHSRC Pilot Grant
    - Sep 1, 2017 - Aug 31, 2018
    - Amount: $40,000.00
23. Interactive Multimedia Consent for Biobanking; National Institutes of Health; Wang, Kai (Co-Investigator), Klein, David (Principal Investigator)
    - R01 HG008348
    - Aug 10, 2015 - May 31, 2019
    - Amount: $1,763,794.00, 10% effort
    - To support next-generation genomic research and science, many biobanks in the U.S. consent thousands of contributors of biospecimens and health information. There is growing interest in the efficiency of electronic consenting (e-consent) given the scale of these efforts. The long-term objective of this three-year (R01) study is to improve the efficiency and effectiveness of informed consent through use of systematically developed e-consent tools. Overall, the study is expected to contribute to ethical, cost-effective genomic research recruitment efforts through in-depth empirical knowledge of IM consenting technology.
24. Vulnerability of the Adolescent Brain to Organophosphorus Pesticides; National Institutes of Health; Wang, Kai (Co-Investigator), Rohlman, Diane (Principal Investigator)
    - R01 ES022163
    - Mar 4, 2013 - Oct 31, 2019
    - Amount: $2,710,726.00, 5% effort
    - Despite evidence from human and animal studies that clearly identifies neurotoxicity as the primary adverse endpoint, the long-term effects of repeated occupational and environmental exposures to organophosphorus pesticides (OPs) remain poorly understood. There is also a critical need to investigate the susceptibility of children and adolescents to pesticides, since the developing brain may be uniquely sensitive to the neurotoxic effects of these agents. We propose a longitudinal study to investigate the relationship between sensitive and specific biomarkers of pesticide exposure, effect and susceptibility and multiple measures of neurobehavioral function in this unique cohort over a 5-year period to assess cumulative and potentially reversible effects.

25. Early Pathogenesis of Cystic Fibrosis Related Diabetes; NIH; Wang, Kai (Co-Investigator), Engelhardt, John (Investigator)
    - R24 DK096518
    - Aug 15, 2012 - Jun 30, 2020
    - Amount: $1,511,641.00, 5% effort
    - Cystic Fibrosis (CF) is the most common life-threatening autosomal recessive condition among Caucasians, with over $450 million dollars spent annually on clinical care of CF patients in the U.S. alone. Cystic fibrosis related diabetes (CFRD) is the most common severe complication of CF and is well known to be associated with increased mortality and a decline in lung function. This study will characterize early disease mechanisms that lead to the development of CFRD in animal models and humans, with the long-term goal of developing improved therapies and biomarkers for early diagnosis and treatment of this disease.
26. EnVision CF Multicenter Study of Glucose Tolerance in Cystic Fibrosis; Cystic Fibrosis Foundation; Wang, Kai (Co-Investigator), Larson Ode, Katie (Principal Investigator)
    - LARSON18A0
    - Sep 1, 2018 - Aug 31, 2020
    - Direct Cost: $459,419.00, 5% effort
    - Cystic Fibrosis Related Diabetes (CFRD) has been identified by the cystic fibrosis (CF) community as one of the top ten priorities for CF research. We know that high blood sugars caused by not enough insulin lead to worse lung function in CF even before diabetes develops. However, we do not know which people with abnormal blood sugars will have long term problems. In our study, we will obtain blood sugar levels, insulin (the hormone that controls blood sugar) and C-peptide (a protein that tells us about the body's ability to make insulin) levels from frequently-sampled Oral Glucose Tolerance Testing (fsOGTT). We will save all the extra blood from the fsOGTT tests to make a biobank (a bank of stored blood samples) which can be used for future studies to better understand diabetes and abnormal blood sugar in CF.
27. Pregnancy-associated microRNAs in plasma as predictors of gestational diabetes; National Institutes of Health; Wang, Kai (Co-Investigator), Bao, Wei (Principal Investigator)
    - R21 HD091458
    - Sep 10, 2017 - Jun 30, 2021
    - Amount: $419,375.00, 5% effort
28. Unraveling the 10q AMD Risk Locus; National Institutes of Health; Wang, Kai (Co-Investigator), Stone, Edwin (Principal Investigator)
    - R01 EY026087
    - Sep 1, 2016 - Aug 31, 2021
    - Amount: $1,983,012.00, 8% effort
    - In this study, we will take advantage of molecular genetics, state of the art computer-assisted image analysis, large patient populations, donor eye tissue, induced pluripotent stem cells and CRISPR based genome editing to determine the molecular mechanism through which variations at the 10q AMD locus increase the risk of AMD.
29. PCB Enantiomers Implicated in Neurodevelopmental Disorders: Identification of Individual Metabolic Factors that Determine Risk and Vulnerability; National Institutes of Health; Wang, Kai (Co-Investigator), Lehmler, Hans-Joachim (Principal Investigator)
    - R21 ES027169
    - Sep 1, 2017 - Aug 31, 2021
    - Amount: $409,771.00, 10% effort

- The long-term goal of this project is to determine how inter-individual differences in enantioselective PCB metabolism affect the susceptibility to PCB-mediated neurodevelopmental disorders following environmental exposures and, ultimately, reduce the burden of these diseases.

30. Early Pathogenesis of Cystic Fibrosis Related Diabetes; National Institutes of Health; Wang, Kai (Co-Investigator), Engelhardt, John (Principal Investigator)
    - RC2 DK124207
    - Apr 30, 2021 - Mar 31, 2024
    - 5% effort
31. Non-Syndromic Hearing Loss - A Collaborative Study; National Institutes of Health; Wang, Kai (Co-Investigator), Smith, Richard (Principal Investigator)
    - R01 DC002842
    - Sep 30, 1996 - Nov 30, 2024
    - Amount: $13,924,795.00, 8% effort
    - The identification of ARNSD genes lead to the development of novel therapies to treat deafness; the ability to recognize specific types of genetic deafness has made comparative studies of genotype, phenotype and habilitative outcome feasible; and the use of genetic testing to diagnose many types of ARNSD has changed the medical evaluation of the deaf person. This grant will continue to focus on these three areas by completing specific aims: 1) to identify novel ARNSD genes; 2) to define genotype-phenotype associations in persons with DFNB1 deafness; 3) to study Pendred syndrome as a complex disease, focusing on the role of FOXI1 and its interacting partners in the Pendred syndrome phenotype.

Presentations

Keynote/Plenary Address

Jul 2024 Wang, K. Inference on causal effect in two sample summary data Mendelian randomization. The 10th International Statistical Genetics and Genomics Meeting. Wuhan, China

Oral Presentations

2002 Wang, K. Efficient Score Statistics for Mapping Quantitative Trait Loci Using Multiple Phenotypes. Annual meeting of the International Genetic Epidemiology Society, New Orleans, Louisiana.

2002 Wang, K. Score statistics for mapping quantitative trait loci with extended pedigrees. Annual meeting of the American Society of Human Genetics, Baltimore, Maryland.

2003 Wang, K. Using trait data and marker data in selected samples simultaneously: QTL mapping adaptive to the extent of selection. Annual meeting of the International Genetic Epidemiology Society. Redondo Beach, California

2004 Wang, K. Some issues related to the use of SNP data. Dr. Val Sheffield Lab Meeting. University of Iowa, Iowa City, Iowa

2005 Wang, K. A constrained likelihood approach to marker-trait association studies. Presented at The Joint Meeting of the Chinese Society of Probability and Statistics and the Institute of Mathematical Statistics, Beijing, China.

2005 Wang, K. A constrained-likelihood approach to genotype-trait association studies. Annual meeting of the American Society of Human Genetics, Salt Lake City, Utah.

2005 Wang, K. A multiallelic test for marker-trait association studies. Annual meeting of the International Genetic Epidemiology Society, Park City, Utah.

2006 Wang, K. Statistical methods for testing for 1) overdominance, 2) linkage jointly to two loci, and 3) association using DNA pooling with SNP chips. Dr. Val Sheffield Lab Meeting. University of Iowa, Iowa City, Iowa.

2007 Wang, K. Statistical analyses of an autism follow-up study. Dr. Val Sheffield Lab Meeting. University of Iowa, Iowa City, Iowa.

2008 Wang, K. Detection of and correcting for the effect of population stratification in the association analysis of big human project data. Dr. Val Sheffield's Lab Meeting. University of Iowa, Iowa City, Iowa.

2008 Wang, K. Statistical analysis of data from the big human project. Dr. Val Sheffield Lab Meeting. University of Iowa, Iowa City, Iowa.

2008 Wang, K. Visualization and evaluation of complex microarray datasets. Dr. Larry Robertson's Lab Meeting. University of Iowa, Iowa City, Iowa.

Sep 2008 Wang, K. Testing genetic association in the presence of population stratification. Annual Meeting of the International Genetic Epidemiology Society, St. Louis, Missouri.

2009 Wang, K. Detection of and correcting for the effect of population stratification in genetic association analysis with application to an eye disease study. International Workshop on Probability Theory, Statistics and Their Application to Biology, Beijing, China.

2010 Wang, K. Population structure and studies of susceptibility to environmentally induced diseases. EHSRC Retreat. University of Iowa, Iowa City, Iowa.

Aug 4, 2013 Wang, K. Exact LASSO linear regression. Joint Statistical Meetings, Montreal, Canada.

Jul 14, 2014 Wang, K. An efficient variance components model for genome-wide association studies with structured population. International Workshop on Statistics Frontier and Related Topics, Urumqi, Xinjiang, China.

2015 Wang, K. Robust estimation of 3-D chromosome structure from Hi-C chromatin interaction data. ENAR. Miami, Florida

Jul 2016 Wang, K. A flexible penalized integrated analysis of mRNA and miRNA expression levels as biomarkers for endometrial cancer classification. The 5th Annual Global Healthcare Conference, Global Science and Technology Forum, Singapore, Singapore.

Jul 2016 Wang, K. Robust estimation of 3-D chromosome structure from Hi-C chromatin interaction data. International Conference on Applied Statistics 2016, Thai Statistical Association, Phuket, Thailand.

Aug 2016 Wang, K. Conditional Inference for the kernel association test. Joint Statistical Meetings 2016, Chicago, Illinois.

Mar 14, 2017 Wang, K. Mediation analysis in observational studies via likelihood. ENAR 2017 Spring Meeting, Washington DC.

May 10, 2017 Wang, K. Simple bias formulas for mediation analysis with unmeasured confounding. The 9th EMR-IBS and Italian Region Conference, Thessaloniki, Greece.

Jul 1, 2018 Wang, K. An accurate normalization method for RNA-Seq data. The 8th International Forum on Statistics, Renmin University of China, Beijing, China.

Jul 3, 2019 Wang, K. Maximum likelihood analysis of linear mediation models with treatment-mediator interaction. 2019 International Chinese Statistical Association China Conference, Tianjin, China.

Jul 19, 2019 Wang, K. Maximum likelihood analysis of linear mediation models with treatment-mediator interaction. 2019 International Meeting of the Psychometric Society, Psychometric Society, Santiago, Chile.

Jul 28, 2019 Wang, K. A likelihood-based analysis of the effects of a treatment on an outcome. 2019 Joint Statistical Meetings, Denver, Colorado.

May 2020 Wang, K. Treatment effects on an outcome under nonlinear modeling. 2020 Meeting of the International Society for Data Science and Analytics. (Virtual Conference Received one of the two Best Paper Awards.

Aug 2020 Wang, K. A general method for mediation analysis without using counterfactuals. 2020 Joint Statistical Meetings. (Virtual Conference)

Jul 2022 Wang, K. Some new results on summary data Mendelian randomization. The Fifth ICSA-Canada Chapter Symposium, Banff, Canada.

Jun 2024 Wang, K. An explicit method for SNP-heritability estimation with summary statistics. International Chinese Statistical Association 2024 China Conference. Wuhan, China

Aug 2024 Wang, K. Summary data Mendelian randomization accounting for relatedness among summary statistics. The Joint Statistical Meetings 2024. Portland

Posters

1997 Wang, K., Huang, J. & Vieland, V. Combining Results in Linkage Study: An Empirical Bayes Approach. American Society of Human Genetics, Baltimore, Maryland.

1998 Wang, K., Huang, J. & Vieland, V. A Bayesian Approach to Replication of Linkage Studies. Presented at Genetic Analysis Workshop 11, Arachon, France.

1998 Wang, K., Huang, J. & Vieland, V. Combining Results in Linkage Study: An Empirical Bayes Approach. Presented at Inter-Iowa Genetics Symposia, Grinnell, Iowa.

1998 Wang, K., Braun, T., Scheetz, T., Munn, K., Casavant, T., Stone, E., Vieland, V. & Sheffield, V. Utilizing Genomap (a distributed laboratory information management system) in a Genomic Screen for Genes Underlying Autism. Presented at Inter-Iowa Genetics Symposia, Grinnell, Iowa.

1999 Wang, K., Vieland, V. & Huang, J. A New Linkage Analysis Method for Complex Disorders Based on Multiple Sets of Data. American Society of Human Genetics, San Francisco, California.

1999 Wang, K., Vaughan, W., Cagnoni, P., Fernandez, H., Hu, W., Kashyap, A., Gian, V., Wingard, J., Tarantolo, S. & Andersson, B. Body Surface Area (BSA) Dosing Using Actual Body Weight (ABW) Yields Less Variation in Area Under the Concentration X on Time Curve (AUC) for High Dose IV Busulfan (BU) than BSA Dosing Using Ideal Body Weight (IBW), Adjusted Ideal Body Weight (AIBW) or Dosing Using ABW, IBW or AIBW Directly. American Society of Clinical Oncology, Atlanta, Georgia.

1999 Wang, K., Goedken, R., Crowe, R., Deng, Z., Fyer, A., Haghighi, V., Heiman, G., Hodge, S., Knowles, J., Vieland, V. & Weissman, M. Drawbacks of Genehunter for Larger Pedigrees: Application to Panic Disorder. Presented at World Congress on Psychiatric Genetics, Monterey, California.

2000 Wang, K. On the Maximization Procedure of the Heterogeneity LOD in Genehunter. Annual meeting of the International Genetic Epidemiology Society, San Antonio, Texas.

2000 Wang, K., Braun, T. & Sheffield, V. A Novel Method for Estimation of Short Tandem Repeat Polymorphic Marker Allele Frequencies from Pooled DNA Samples. Annual meeting of the American Society of Human Genetics, Philadelphia, Pennsylvania.

2000 Wang, K., Vieland, V. & Huang, J. Summed vs. Averaged LOD Scores: Which Represents the True Evidence for Linkage Based on Multiple Independent Data Sets?. Annual meeting of the International Genetic Epidemiology Society, San Antonio, Texas.

2000 Wang, K., Huang, J. & Vieland, V. The Null Distribution of the Heterogeneity LOD Score (HLOD) Does Depend on the Assumed Genetic Model for the Trait. Annual meeting of the International Genetic Epidemiology Society, San Antonio, Texas.

2000 Wang, K., Vieland, V., Ludington, E. & Huang, J. The Posterior Probability of Linkage (PPL) Incorporating Prior Genomic Information is Efficient for Detection of Linkage and Estimation of Male/Female Recombination Rates for Complex Disorders. Annual meeting of the American Society of Human Genetics, Philadelphia, Pennsylvania.

2000 Wang, K., Huang, J. & Vieland, V. The Use of Summed LOD Score as a Simple and Approximate Measure of Evidence for Linkage Based on Multiple Independent Data Sets. Annual meeting of the American Society of Human Genetics, Philadelphia, Pennsylvania.

2003 Wang, K. Locus Heterogeneity Models for Quantitative Traits and Related Test Statistics. Annual meeting of the International Genetic Epidemiology Society, Redondo Beach, California.

2003 Wang, K. On Asymptotic Properties of Affected-sib-pair Linkage Tests. Annual meeting of the International Genetic Epidemiology Society, Redondo Beach, California.

Oct 2009 Wang, K. A novel efficient genome-wide association study design: Application to glaucoma and age-related macular degeneration. Annual Meeting of the American Society of Human Genetics, Honolulu, Hawaii.

Oct 2009 Di Paola, J, Rickard, M, Murray, J, Burns, T, Wang, K, Shapiro, A. Linkage analysis in a large Amish pedigree with von Willebrand disease identifies regions suggestive of linkage and candidate modifier genes. Annual Meeting of the American Society of Human Genetics, Honolulu, Hawaii.

Mar 2010 Evaluation of embryonic and perinatal myosins as candidate genes for idiopathic clubfoot. Annual Meeting of the American Association of Orthopaedic Surgeons, New Orleans, Louisiana.

Jun 2010 Evaluation of embryonic and perinatal myosin gene mutations and the etiology of congenital idiopathic clubfoot. The 11th EFORT Congress, Madrid, Spain.

Jun 2010 Evaluation of GPR50, hMel-1B, and ROR-alpha melatonin-receptors and the etiology of adolescent idiopathic scoliosis. The 11th EFORT Congress, Madrid, Spain.

Oct 2010 Wang, K. & Huang, J. Treating phenotype as given: A novel resampling method for genome-wide association studies. Genetic Analysis Workshop 17, Boston, Massachusetts.

Apr 2016 Wang, K. Boosting the power of the sequence kernel association test (SKAT) by properly estimating its null distribution. Iowa Informatics Showcase Symposium. University of Iowa, Iowa City, Iowa.

May 2016 Wang, K. Boosting the power of the sequence kernel association test (SKAT) by properly estimating its null distribution. The European Human Genetics Conference 2016. Barcelona, Spain.

Seminars

1998 Wang, K. A Bayesian Approach to Replication of Linkage Studies. Comprehensive Cancer Center. University of Alabama at Birmingham.

1998 Wang, K. A Bayesian Approach to Replication of Linkage Studies. Department of Health Sciences Research. Mayo Clinic and Foundation.

1998 Wang, K. A Bayesian Approach to Replication of Linkage Studies. Department of Statistics. Carnegie Mellon University.

1998 Wang, K. A Bayesian Approach to Replication of Linkage Studies. Division of Human Cancer Genetics. Ohio State University.

1999 Wang, K. A Bayesian Approach to Replication of Linkage Studies. Division of Biostatistics. University of Iowa.

2002 Wang, K. Efficient Score Statistics for Mapping Quantitative Trait Loci. Department of Mathematics & Statistics, Memorial University of Newfoundland, Canada.

2002 Wang, K. Mapping quantitative trait loci with general pedigrees. Department of Statistics and Actuarial Sciences, University of Iowa, Iowa CIty, Iowa.

2002 Wang, K. Score tests for mapping quantitative trait loci with general pedigrees: Two-locus models. Department of Biostatistics, University of Iowa, Iowa City, Iowa

2003 Wang, K. Using trait data and marker data in selected samples simultaneously: QTL mapping adaptive to the extent of selection. Program in Public Health Genetics, University of Iowa, Iowa City, Iowa.

2004 Wang, K. A statistical method for detection and estimation of deletion length from a very dense set of markers. Program in Public Health Genetics, University of Iowa, Iowa City, Iowa.

2004 Wang, K. Quantitative-trait-loci mapping with selected samples. Department of Statistics, Nankai University, Tianjin, China.

2005 Wang, K. Statistical genetics: overview, theory and application. College of Mathematics and System Science, Xinjiang University, Urumqi, China.

2006 Wang, K. A likelihood ratio test of incomplete dominance versus overdominance and/or under dominance. Department of Statistics and Actuarial Sciences, University of Iowa, Iowa City, Iowa

2006 Wang, K. A score-based approach to quantitative trait loci mapping in inbred lines using flanking markers. Department of Biostatistics, University of Iowa, Iowa City, Iowa.

2006 Wang, K. A score-based approach to quantitative trait loci mapping in inbred lines using flanking markers. Department of Population Health Sciences, University of Wisconsin, Madison, Wisconsin.

2009 Detection of and correcting for the effect of population stratification in the association analysis of big human project data. BSAC Seminar, University of Iowa, Iowa City, Iowa.

2010 Wang, K. Statistical methods for genetic association studies. Department of Biostatistics, University of Iowa, Iowa City, Iowa.

Oct 8, 2012 Wang, K. Statistical methods in genetic association studies: cryptic relatedness, population stratification, and rare variants. Department of Biostatistics, University of Iowa, Iowa City, Iowa.

Jul 30, 2013 Wang, K. Association test in the presence of population stratification. Wellcome Trust Statistical Genetics Workshop. Wellcome Genome Campus, Hinxton, England.

Apr 25, 2014 Wang, K. An efficient variance components model for genome-wide association study with structured populations. Department of Epidemiology and Biostatistics, Indiana University Bloomington, Bloomington, Indiana.

2015 Wang, K. Robust estimation of 3-D chromosome structure from Hi-C chromatin interaction data. Applied Mathematical and Computational Sciences (AMCS) Program, University of Iowa, Iowa City, Iowa.

2015 Wang, K. Robust estimation of 3-D chromosome structure from Hi-C chromatin interaction data. Division of Biostatistics, University of Minnesota, Minneapolis, Minnesota.

Apr 24, 2017 Wang, K. Statistical mediation analysis via likelihood. Department of Biostatistics, University of Iowa, Iowa City, Iowa.

Jun 24, 2018 Wang, K. Big genomic data analysis and its implications. Department seminar, Department of Mathematics, Yili Normal University, Yining, China.

Jul 4, 2018 Wang, K. Methods for genomic association mapping: Regularized regressions and SKAT+. Department seminar, School of Mathematical Sciences, Nankai University, Tianjin, China.

Nov 1, 2018 Wang, K. Effects of a treatment on the likelihood of a mediator and an outcome. Department of Statistics and Actuarial Science, The University of Iowa, Iowa City, Iowa.

Jun 12, 2019 Wang, K. Maximum likelihood analysis of linear mediation models with treatment-mediator interaction. Department of Information and Computer Science, Wuhan University, Wuhan, China.

Jun 25, 2019 Wang, K. Maximum likelihood analysis of linear mediation models with treatment-mediator interaction. School of Mathematics and Statistics, Lanzhou University, Lanzhou, China.

Apr 18, 2022 Wang, K. Two sample two stage least squares Mendelian randomization using summary statistics from heterogeneous samples. Department of Biostatistics, University of Iowa, Iowa City, Iowa.

Feb 2024 Wang, K. Two sample summary data Mendelian randomization analysis. Applied Mathematical and Computational Sciences Program, University of Iowa, Iowa City, Iowa

Oct 2024 Wang, K. Estimation of causal effects in two-sample summary-data Mendelian randomization fully accounting for measurement error. Department of Biostatistics, University of Nebraska Medical Center, Omaha, Nebraska

Workshops

May 2024 Wang, K. ANOVA: design and analysis in R. ISRP AC+DMAC+RETCC Weekly Research Meeting, University of Iowa, Iowa City, Iowa

Other Presentations

Apr 14, 2022 Wang, K. An introduction to Mendelian randomization using summary statistics. Journal Club, Department of Biostatistics, University of Iowa, Iowa City, Iowa

Service

Professional Service

Professional Organizations

2005 - 2006 ENAR (International Biometric Society), Member

1999 - 2012 International Genetic Epidemiology Society, Member

1999 - 2016 The American Society of Human Genetics, Member

2022 - 2023 Iowa Chapter, American Statistical Association, Iowa City, Iowa, Organizer

2013 - Present American Statistical Association (ASA), Member

2015 - Present International Chinese Statistical Association (ICSA), Member

2018 - Present American Association for the Advancement of Science (AAAS), Member

2024 - Present Iowa Chapter, American Statistical Association, Iowa City, Iowa, Chair

Journal Reviews/Referee Manuscripts

2000 Psychiatric Genetics, Reviewer

2000 Springer, Reviewer

2001 Arteriosclerosis, Thrombosis, and Vascular Biology, Reviewer

2002 Genetic Analysis Workshop 13, Reviewer

2003 Annals of Human Genetics, Reviewer

2003 Genome Research, Reviewer

2003 Human Genetics, Reviewer

2003 Human Heredity, Reviewer

2004 American Journal of Medical Genetics Part B: Neuropsychiatric Genetics, Reviewer

2004 Biometrics, Reviewer

2004 Journal of Mathematical Biology, Reviewer

2004 Journal of the American Statistical Association, Reviewer

2004 Physiological Genomics, Reviewer

2004 - 2005 Genetic Epidemiology, Reviewer

2005 Annals of Human Genetics, Reviewer

2006 Psychiatric Genetics, Reviewer

2007 Genetic Analysis Workshop 15, Reviewer

2007 Genetic Epidemiology, Reviewer

2008 Genetic Analysis Workshop 16, Reviewer

2008 Genome Research, Reviewer

2008 Human Genomics and Proteomics, Reviewer

2008 Special Issue of Environment International titled “PCBs: New Knowledge Gained from Old Pollutants”, Reviewer

2006 - 2009 Human Heredity, Reviewer

2009 Genetic Analysis Workshop 16, Reviewer

2009 Journal of Clinical Epidemiology, Reviewer

2009 Physiological Genomics, Reviewer

2007 - 2010 Annals of Human Genetics, Reviewer

2008 - 2010 BMC Genetics, Reviewer

2009 - 2010 BMC Informatics, Reviewer

2009 - 2010 Genetic Epidemiology, Reviewer

2010 Circulation, Reviewer

2010 - 2011 Biometrics, Reviewer

2011 BMC: Bioinformatics, Reviewer

2011 Circulation: Arrhythmia and Electrophysiology, Reviewer

2011 Env. Sci. and Technology, Reviewer

2011 Genetic Analysis Workshop 17, Reviewer

2012 Circulation: Heart Failure, Reviewer

2012 Frontiers in Evolutionary and Population Genetics, Reviewer

2013 Circulation: Heart Failure, Reviewer

2013 Frontiers in Evolutionary and Population Genetics, Reviewer

2013 Genetic Basis of Complex Disease, Garland Science, Reviewer

2013 Genetics, Reviewer

2013 Genome Research, Reviewer

2013 Human Heredity, Reviewer

2013 Journal of Computational and Graphical Statistics, Reviewer

2013 PloS One, Reviewer

2013 Bioinformatics, Reviewer

2014 Annals of Otology, Rhinology & Laryngology, Reviewer

2014 Annals of Statistics, Reviewer

2014 Circulation: Cardiovascular Interventions, Reviewer

2014 Computational Statistics and Data Analysis, Reviewer

2014 Genetic Epidemiology, Reviewer

2014 Genetics, Reviewer

2014 Human Heredity, Reviewer

2014 Human Heredity, Reviewer

2014 Journal of Computational and Graphical Statistics, Reviewer

2014 Ophthalmologica, Reviewer

2014 Translational Research, Reviewer

2015 Annals of Otology, Rhinology & Laryngology, Reviewer

2015 Circulation: Arrhythmia and Electrophysiology, Reviewer

2015 Statistics in Medicine, Reviewer

2015 PLoS One

2016 Circulation: Arrhythmia and Electrophysiology, Reviewer

2016 Genetic Epidemiology, Reviewer

2016 Statistica Sinica, Reviewer

2017 BMJ Open, Reviewer

2017 Human Heredity, Reviewer

2017 Journal of Community Medicine & Public Health Care, Reviewer

2018 Bioinformatics, Reviewer

2018 International Conference on Biological Information and Biomedical Engineering (BIBE) 2018, Reviewer

2018 Journal of Health Science Studies, Reviewer

2018 Statistical Methods in Medical Research, Reviewer

2019 Psychometrika, Reviewer

2019 Structural Equation Modeling: A Multidisciplinary Journal, Reviewer

2020 American Journal of Human Genetics, Reviewer

2020 Genetic Epidemiology, Reviewer

2020 International Journal of Biostatistics, Reviewer

2020 Psychometrika, Reviewer

2021 Frontiers in Psychology, Reviewer

2021 Frontiers in Psychology, Reviewer

2021 PLoS Genetics, Reviewer

2021 Frontiers in Applied Mathematics and Statistics, Reviewer

2021 PLoS One, Reviewer

2021 PLoS Genetics, Reviewer

2021 Bioinformatics, Reviewer

2021 Bioinformatics, Reviewer

2021 Genetic Epidemiology, Reviewer

2021 Nature Communication, Reviewer

2021 Psychometrika, Reviewer

2021 Psychometrika, Reviewer

2021 Frontiers in Psychology, Reviewer

2021 Frontiers in Psychology, Reviewer

2022 PLoS One, Reviewer

2022 Psychometrika, Reviewer

2022 Epidemiology, Reviewer

2022 Genes, Reviewer

2022 Genetic Epidemiology, Reviewer

2022 Genetic Epidemiology, Reviewer

2023 Biostatistics, Reviewer

2023 PLoS Genetics, Reviewer

2023 Human Genetics and Genomics Advances, Reviewer

2021 - 2023 Frontiers in Applied Mathematics and Statistics, Reviewer

2023 - 2024 Biostatistics, Reviewer

2024 Metrika, Reviewer

2024 Scientific Reports, Reviewer

2024 Scientific Reports, Reviewer

2024 Communications Biology, Reviewer

2024 Biostatistics, Reviewer

2024 Psychometrika, Reviewer

2024 Genome Biology, Reviewer

2024 International Journal of Epidemiology, reviewer

2024 BMC Bioinformatics, Reviewer

2025 Biomolecules

2025 Biostatistics

2025 BMC Cardiovascular Disorders, Reviewer

2025 Ophthalmic Genetics, Reviewer

2025 Genome Biology, Reviewer

2025 PLOS Genetics, Reviewer

2025 Statistical Methods in Medical Research

2025 Applied Earth Science

2026 PLOS Genetics, Reviewer

Review Panels

2002	A grant proposal to American Cancer Society, Reviewer
2012	Promotion and Tenure Review Committee, School of Public Health, University of Minnesota, Member
2014	Promotion and Tenure Review Committee, School of Public Health, Indiana University-Bloomington, Member
2014	Tenure Committee, School of Statistics and Management, Shanghai University of Finance and Economics, Member
2014	Reviewer, NIH Grant Proposals
2015	Promotion and Tenure Review Committee, School of Public Health, University of Minnesota, Member
2015	Promotion and Tenure Review Committee, University of Notre Dame, Member
2015	Reviewer, NIH Grant Proposals
2016	Promotion and Tenure Review Committee, School of Public Health, Indiana University-Bloomington, Member
2017	Promotion and Tenure Review Committee, College of Medicine, University of Illinois at Chicago, Member
2017	Promotion and Tenure Review Committee, School of Public Health and Tropical Medicine, Tulane University, Member
2019	Grant Proposal, Linz Institute of Technology, Austria, Reviewer
2021	Grant Proposal, Linz Institute of Technology, Austria, Reviewer
2021	Environmental Health Sciences Research Center (University of Iowa), Reviewer
2023	2024 JSM Biometrics Byar Award and Early Career Paper Awards review committee, American Statistical Association, Member
2024	NIEHS: The Exploratory Grants for a Climate Change and Health Developmental Center Review Committee (member)
2024	External reviewer for promotion committee, University of Minnesota
2024	Review Committee, 2025 Section on Statistics in Genomics and Genetics Student Paper Award Competition, Reviewer
2024	Arizona State University Regents Professor (Ding-Geng Chen). External Reviewer
2025	ICTS Pilot Grant Program 25-26, Reviewer
2025	EHSRC Pilot Grant Program Review Panel
2025	Hunsicker Rural Iowa Research Award Review Panel
2025	2026 SSGG Student Paper Award Review Committee

Organize Conferences, Sessions, etc.

2020	Invited Session/2020 ICSA China Conference, International Chinese Statistical Association, Wuhan, China, Organizer
2024 - Present	Session Chair, session "Bayesian Innovations in Public Health and Epidemiology". The Joint Statistical Meetings 2024.

National/International Committees

2021	Methodology, Measurement, and Statistics Program, National Science Foundation, Reviewer
2021	National Institute of Environmental Health Sciences (NIEHS), Reviewer
2022	Methodology, Measurement, and Statistics Program, National Science Foundation, Reviewer

Professionally Relevant Community Involvement

2021	Guess editor for one manuscript. PLoS Genetics
2020 - 2023	Editorial Board, Quantitative Psychology and Measurement (specialty section of Frontiers in Psychology and Frontiers in Applied Mathematics and Statistics)
2025	Academic Editor, Editorial Board, PLOS Genetics
2024 - Present	Handling Editor, Briefings in Bioinformatics. Oxford Academic

University, College, Department Service

University

2010 - 2013	CPH Faculty Council, College of Public Health, University of Iowa, Member
Sep 2012 - May 2013	Genetics Cluster Hire Search Committee, Member
2016 - 2019	EHSRC Internal Advisory Committee, Member
Apr 5, 2021	Spotlight Series-Summary of Campus Climate Survey, Iowa City, Iowa, Participant

College

2004 - 2005	Faculty Council, College of Public Health, University of Iowa, Member
2004 - 2005	New Investigator Research Award Review Committee, College of Public Health and Carver College of Medicine, University of Iowa, Member
2005 - 2007	Alumni Relations Council, College of Public Health, University of Iowa, Member
2009	Strategic Planning Initiative: Research Foci and Organization Subgroup, College of Public Health, University of Iowa, Member
Apr 2010	Graduate Student Poster Judge, Health Sciences Research Week
Sep - Nov 2012	CPH Faculty Council Best Practices Task Force, Member
2014	CPH Promotion and Tenure Committee, Member
2014 - 2015	CPH Curriculum Innovations Committee: Academic subgroup, Member
2015	Collegiate Consulting Group, Chair
2015	Post-Tenure Review Committee of Professor Shelly Campo, Member
2016	CCG for Promotion to Associate Professor (Dr. Kelli Rychman), Member
2016	CCG for Promotion to Clinical Professor (Dr. Anne Helene Skinstad), Member
2015 - 2017	CPH Faculty Council, Co-Chair
2017	CCG for Promotion to Full Professor (Dr. George Wehby), Member
2017	CCG for Promotion to Associate Professor (Dr. Padmaja Ayyagari), Member

2017	CCG for Promotion to Associate Professor (Dr. Xi Zhu), Member
2017	CCG for Promotion to Full Professor (Dr. Hans Lehmler), Member
2018	Post-Tenure Review Committee of Professor Paul Romitti, Member
2014 - 2019	CPH Faculty Council, College of Public Health, University of Iowa, Member
2016 - 2019	CPH Promotion and Tenure Committee, Member 2017: served as a member on 3 P&T committees and chaired another one.
Jul - Jan 2020	5-Year Post Tenure Review Committee for Dr. Jennifer Robinson, Member
2020 - 2021	CCG for Tenure for Dr. Rima Affifi, CBH, Member
Sep 1, 2021	CPH Spotlight on DEI Strategic Plans and Activities, Participant
2017 - 2022	CPH Faculty Council, Member
Aug 2022 - Jul 2023	Department of Epidemiology Faculty Search Committee, Member
2021 - 2024	CPH Research Council (Faculty Representative), Member
2024 - 2025	CPH Research Council (Faculty Representative), Chair

Department

2000 - 2001	Biostatistics Seminar Committee, College of Public Health, University of Iowa, Member
2000 - 2001	M.S. Core Exam Committee, Department of Biostatistics, College of Public Health, University of Iowa, Member
2001	Ph.D. Comprehensive Exam Committee, Department of Biostatistics, College of Public Health, University of Iowa, Member
2001	Statistical Genetics Faculty Search Committee, Department of Biostatistics, College of Public Health, University of Iowa, Member
1999 - 2003	Instructional Development and Evaluation Committee, College of Public Health, University of Iowa, Member
2002 - 2003	Student Admissions Committee, Department of Biostatistics, College of Public Health, University of Iowa, Member
2003 - 2004	Student Admissions Committee, Program in Public Health Genetics, College of Public Health, University of Iowa, Member
2004	Ph.D. Comprehensive Exam Committee, Program in Public Health Genetics, College of Public Health, University of Iowa, Member
2003 - 2006	Curriculum Committee, College of Public Health, University of Iowa, Member
2005 - 2006	Awards Committee, College of Public Health, University of Iowa, Member
2004 - 2007	Curriculum Committee, College of Public Health, University of Iowa, Member
2005 - 2007	Awards Committee, College of Public Health, University of Iowa, Member
2007 - 2008	Biostatistics Seminar Committee, Department of Biostatistics, College of Public Health, University of Iowa, Member
2007 - 2008	Departmental Self-Study Committee, Department of Biostatistics, College of Public Health, University of Iowa, Member

2007 - 2008	Doctoral Comprehensive Examination Committee, Program in Public Health Genetics, College of Public Health, University of Iowa, Chair
2007 - 2008	Faculty Search Committee, Department of Biostatistics, College of Public Health, University of Iowa, Member
2007 - 2008	Recruitment and Admissions Committee, Department of Biostatistics, College of Public Health, University of Iowa, Member
2008	Course Renumbering Committee, Department of Biostatistics, College of Public Health, University of Iowa, Member
2007 - 2009	M.S. Exam Committee, Department of Biostatistics, College of Public Health, University of Iowa, Member
2009	Internal Peer Review Committee (Patrick Breheny), Member
2009 - 2011	M.S. Exam Committee, Spring Chair, Department of Biostatistics, College of Public Health, University of Iowa, Member
2010 - 2011	Seminar Committee, Department of Biostatistics, College of Public Health, University of Iowa, Chair
2011	Theory Course Committee, Department of Biostatistics, College of Public Health, University of Iowa, Member
2009 - 2012	Admissions Committee, Bioinformatics PhD Program, College of Public Health, University of Iowa, Member
2013	M.S. Exam Committee, Member
2013	Biostatistics Seminar Committee, Member
Sep 2012 - May 2013	Clinical Trials Faculty Search Committee, Member
2014	M.S. Exam Committee: Fall, Member
2014	Ph.D. Comprehensive Examination Committee: Fall, Department of Biostatistics, Member
2015	Post-Tenure Review Committee of Professor Michael P. Jones, Chair
Sep - Jan 2015	M.S. Core Exam Committee (Summer), Member
Sep - Jan 2015	M.S. Core Exam Committee (Winter), Member
Sep 2011 - May 2015	Biostatistics Seminar Committee, Member
2016	Biostatistics Third-Year Review Committee for Professor Patrick Breheny, Member
2016	DCG for Tenure and Promotion to Associate Professor (Dr. Patrick Breheny), Member
2016 - 2017	DCG for Promotion to Full Professor (Dr. Brian Smith), Member
2017	Peer Review Committees for Promotion to Full Professor, Member
Jun 2017	Biostatistics PhD Comprehensive Exam: Question-writer
2017 - 2018	M.S. and Ph.D. Curriculum Committee, Member
2017 - 2018	Peer Review Committees for Promotion to Full Professor, Member
Sep - Jan 2020	M.S. Core Exam Committee (Summer), Member
2020 - 2021	DCG for Promotion of Ryan Cho and Dan Sewell, Member
Sep 2022 - Aug 2023	M.S. Core Exam Committee (Summer 2023), Member

Sep 2022 - Aug 2023	M.S. Core Exam Committee (Winter 2023), Member
2024	PhD Exam Steering committee
2024	DCG for Promotion of Dan Sewell and Emine Bayman, Member
2015 - Present	M.S. Core Exam Committee (Chair 2019-2021), Member