

CURRICULUM VITAE

Jinying Zhao, MD, PhD, FAHA
Deans Endowed Chair and Professor
Director, Center for Genetic Epidemiology and Bioinformatics (GeneBio)
University of Florida, Gainesville, FL 32610

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Education

Bachelor of Medicine (Clinical Medicine, equivalent to M.D.), 1989
Zhengzhou University School of Medicine
Zhengzhou, China

Master of Science in Pathology, 1992
Zhengzhou University School of Medicine
Zhengzhou, China

Ph.D. in Molecular Genetics, 1999
Peking Union Medical College and Chinese Academy of Medical Sciences
Beijing, China

Ph.D. in Genetic Epidemiology & Statistical Genetics, 2005
University of Texas Health Science Center at Houston
Houston, TX

Appointments

1992 – 1996	Clinical Pathologist Department of Pathology, Henan People's Hospital Zhengzhou, China
2006 – 2009	Assistant Professor Department of Medicine Emory University School of Medicine Atlanta, GA
2009 – 2012	Associate Professor Department of Biostatistics and Epidemiology

	College of Public Health, University of Oklahoma Health Science Center, Oklahoma City, OK
2012 –2014	Associate Professor (with Tenure) Department of Epidemiology School of Public Health and Tropical Medicine Tulane University, New Orleans, LA
2014 – 2016	Professor (Tenured) Department of Epidemiology School of Public Health and Tropical Medicine Tulane University, New Orleans, LA
2016 – 2020	Dean's Professor (Preeminence hire) Director, Division of Genetic Epidemiology Department of Epidemiology, College of Public Health and Health Professions and College of Medicine, University of Florida, Gainesville, FL
2020 –	Deans Endowed Chair and Professor of Epidemiology Director, Center for Genetic Epidemiology and Bioinformatics (GeneBio) University of Florida, Gainesville, FL

Leadership Training Experience

2017-2018	Participated in the UF Academy for Emerging Leaders training workshop. This semester length workshop offers extensive training in leadership for approximately 20 UF faculty and professionals selected via a competitive application process.
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Awards and Honors

Elizabeth Barrett-Connor Research Award for Young Investigators, presented by the American Heart Association, 2006

Sandra Daugherty Award for Excellence in Cardiovascular Disease or Hypertension Epidemiology (Finalist), presented by the American Heart Association, 2009

Outstanding Faculty Award in Research or Scholarly Achievement, College of Public Health, University of Oklahoma Health Science Center, 2010

Roger R. Williams Award for Genetic Epidemiology in the Prevention and Treatment of Atherosclerosis, presented by the American Heart Association, 2012

Dean's Citation Award, Public Health and Health Professions, University of Florida, 2018

Professional Membership

- 1999 - American Society of Human Genetics
- 2006 - American Heart Association

National Professional Services

NIH Study Sections (*ad hoc*)

- 2011-2012 Special Emphasis - Research on Gulf War Veterans' Illnesses
- 2011-2012 The Biomedical Computing and Health Informatics (BCHI)
- 2012 -2013 Small Business Innovation Research (SBIR)
- 2011-2014 The Clinical and Integrative Cardiovascular Sciences (CICS)
- 2013 Tobacco Centers of Regulatory Science (TCORS)
- 2014 IMST-R computational epigenomics study section
- 2015 The Kidney, Nutrition, Obesity and Diabetes (KNOD) Study Section
- 2015 Biobehavioral Mechanisms of Emotion, Stress and Health (MESH) Study Section
- 2016 ZEY1 VSN (02) 1, NEI Data Analysis and Epidemiology Grant Applications
- 2017 ZDK1-GRB-2-M1 & M2, NIDDK
- 2017 ZHL1-CSR-1-M1, NHLBI
- 2017 ZES- LWJ-K-R, NIEHS
- 2017 ZDK1-GRB-2-O1 & O2, NIDDK
- 2017 ZRG1-PSE-P-02, CSR
- 2018 ZDK1-GRB-2-M1 & M2, NIDDK
- 2019 DEM Fellowship Review Panel, NIDDK
- 2019 NIDDK ZDK1 GRB-2 (M1&2) Review Panel
- 2019 R35 (RIVER) Review Panel, NIEHS
- 2019 ZRG1 MOSS-R (70) NIH Director's New Innovator Award Stage 1 Review Panel, NIH
- 2020 ZRG1 PSE- E 02 (Chronic disease and epidemiology), NIH

American Heart Association

- 2013-2015 Abstract reviewer, EPI/NPAM Scientific Sessions

Editorial Board

- 2009- Epidemiology: Open Access

Ad Hoc Journal Reviewer (since 2010, partial list)

American Journal of Human Genetics; American Journal of Epidemiology; International Journal of Epidemiology; Genetic Epidemiology; Diabetes; Diabetes Care; Circulation;

International Journal of Obesity; Europe Journal of Human Genetics; Epigenetics; Aging; Bioinformatics; Molecular Psychiatry; JACC; PLOS Genetics; PLOS Med; PLOS Computational Biology & (multiple others)

Other National Professional Services

- 2015- Member, The Strong Heart Study (SHS) Steering Committee
- 2018- Member, The National Heart, Lung, and Blood Advisory Council (NHLBAC) Working Group on Emerging Issues in Data Sharing (EIDS), appointed by the Director of NHLBI

Institutional Services

University of Florida

- 2016 - Faculty Search Committee, Department of Epidemiology
- 2016 - Curriculum Committee, Department of Epidemiology
- 2016 -2020 TAC - TL1 Advisory Committee, CTSI
- 2017 - Executive/Operations Committee, Department of Epidemiology
- 2017 - Gen Med T32 Executive Committee
- 2018 -2021 Academic Assessment Committee, University of Florida
- 2018 – 2019 Working Group on Faculty Assistance with Proposals, UF Office of Research
- 2018 - 2019 Chair, Faculty Search Committee, Department of Epidemiology
- 2020 - ROF fund Basic Biomedical Sciences Standing Committee

Tulane University

- 2014 – 2016 Appointment, Promotion and Tenure (APT) Committee, School of Public Health and Tropical Medicine
- 2014 – 2016 Faculty Search Committee, Department of Epidemiology, School of Public Health and Tropical Medicine
- 2015 – 2016 Nominating Committee for the Faculty Reelections, School of Public Health and Tropical Medicine
- 2015 – 2016 Mentor and Co-Lead, MS in Outcomes and Comparative Effectiveness Program School of Public Health and Tropical Medicine
- 2015 – 2016 Mentor and Co-I, COBRE Program, School of Public Health and Tropical Medicine

University of Oklahoma Health Science Center

- 2010 - 2011 Senator, Faculty Senate, OUHSC
- 2010 - 2012 Professional Development Committee, OUHSC

Graduate Courses Taught

University of Florida

2017- Genetic Epidemiology (Course master, 3 credit hours)
Department of Epidemiology, PHHP, University of Florida

Tulane University

2012- 2016 Genetic Epidemiology (Course master, 3 credit hours)
Department of Epidemiology,
School of Public Health and Tropical Medicine, Tulane University

University of Oklahoma Health Science Center

2010-2012 Statistical Methods in Genetic Epidemiology (Course master, 3 credit hours)
Department of Biostatistics and Epidemiology
College of Public Health, University of Oklahoma HSC

2011-2012 Molecular and Genetic Epidemiology (Course master, 3 credit hours)
Department of Biostatistics and Epidemiology
College of Public Health, University of Oklahoma HSC

2009-2012 Cancer Epidemiology (3 credit hours)
Department of Biostatistics and Epidemiology
College of Public Health, University of Oklahoma HSC

2010-2011 Problems in Biostatistics and Epidemiology (3 credit hours)
Department of Biostatistics and Epidemiology
College of Public Health, University of Oklahoma HSC

Academic Advising and Mentoring

PhD Committee Chair

1. Wenjie Zeng (2019-)
Department of Epidemiology
College of Public Health and Health Professions and College of Medicine
University of Florida
2. Mingjing Chen (2021-)
Department of Epidemiology
College of Public Health and Health Professions and College of Medicine
University of Florida
3. Xiaoxiao Wen (2021-)
Department of Epidemiology
College of Public Health and Health Professions and College of Medicine
University of Florida
4. Pooja Subedi (2017- 2021)
Department of Epidemiology
College of Public Health and Health Professions and College of Medicine
University of Florida

5. Yun Zhu (2014-2016)
Department of Epidemiology
School of Public Health and Tropical Medicine, Tulane University
6. Yun Zhu (2016-2018)
Department of Epidemiology
College of Public Health and Health Professions and College of Medicine,
University of Florida
7. Joseph Struzeski (2019-2020)
Department of Epidemiology
College of Public Health and Health Professions and College of Medicine
University of Florida
8. Qiang An (2013-2015)
Department of Epidemiology
School of Public Health and Tropical Medicine, Tulane University

PhD Committee Member

1. Akemi Wijayabahu (2019-2021)
Department of Epidemiology
College of Public Health and Health Professions and College of Medicine
University of Florida
2. Mmadili N, Ilozumba (2019-)
Department of Epidemiology
College of Public Health and Health Professions and College of Medicine
University of Florida
3. Yi Zheng (2018-2021)
Department of Epidemiology
College of Public Health and Health Professions and College of Medicine
University of Florida
4. Yimei Huang (2020 -)
Department of Pharmacotherapy and Translational Research, College of Pharmacy,
University of Florida
5. Zhaoyi Chen (2016 -2019)
Department of Epidemiology, College of Public Health and Health Professions, UF
6. Changwei Li (2013 – 2015)
Department of Epidemiology, School of Public Health and Tropical Medicine, Tulane
University, New Orleans, LA
7. Yu Deng (2014 – 2016)
Department of Biostatistics, University of North Carolina at Chapel Hill, NC
8. Weiwei Ouyang (2014 – 2016)
Department of Biostatistics and Bioinformatics
School of Public Health and Tropical Medicine, Tulane University, New Orleans, LA
9. Sheldon Waugh (2016-2017)
Department of Epidemiology
College of Public Health and Health Professions and College of Medicine, UF

10. Tiffany A. Brunson (2006 – 2010)
Cardiovascular Research Institute
Morehouse School of Medicine, Atlanta, GA
11. Isfahan Chambers (2006 – 2010)
Cardiovascular Research Institute
Morehouse School of Medicine, Atlanta, GA

Postdoctoral Fellows Mentored

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| 1. Helena G. Palma, PhD
Current Position | 2021 – present
Postdoc Associate, Department of Epidemiology
University of Florida |
| 2. Cheng Go, PhD
Current Position | 2021 – present
Postdoc Associate, Department of Epidemiology
University of Florida |
| 3. Guanhong Miao, PhD
Current Position | 2021 – present
Postdoc Associate, Department of Epidemiology
University of Florida |
| 4. Lewen Yang, PhD
Current Position | 2018-2019
Senior Scientist, Guangzhou Regenerative
Medicine and Health, Guangzhou, China |
| 5. Stefano Nembrini, PhD
Current Position | 2017-2018
Biostatistician, College of Medicine, University of Florida,
Gainesville, FL |
| 6. Hao Peng, PhD
Current Position | 2015-2017
Associate Professor, Soochow University, Suzhou, China |
| 7. Shufeng Chen, MD, PhD
Current Position | 2013-2014
Professor, Peking University Medical College, Beijing,
China |
| 8. Jingyun Yang, PhD
Current Position | 2009-2011
Assistant Professor, Rush University Medical Center,
Chicago, IL |

Junior Faculty Mentored at UF (Primary Mentor)

1. Hui Hu, PhD (2016 – present)
Assistant Professor, Department of Epidemiology, UF PHHP & COM
2. Huaizhen Qin, PhD (2018 – present)
Research Assistant Professor, Department of Epidemiology, UF PHHP & COM
3. Zhiguang Huo, PhD (2017 – 2021)
Assistant Professor, Department of Biostatistics, UF PHHP & COM
4. Yun Zhu, PhD (2019 –2020)
Research Assistant Scientist, Department of Epidemiology, UF PHHP & COM

MS, MPH Students (Academic Advisor, partial list, since 2012)

Department of Epidemiology, Tulane University:

Sai Ma, Sagar Mehta, Yun Zhu, Qiang An, Xiaotao Zhang, Junwei Jiang, Jingxin Li, Oliva Bell, Yunlong Geng, Hayato Oka, Woneata Stallworth

Department of Epidemiology, University of Florida (partial list, since 2016):

Erica Swilley, Dakota Derry, Lara Saikaly, Emily Klann, Yosra Hagag

Active Research Projects

<u>1R01AG068865-01</u>	(Zhao PI)	09/10/2020 - 05/31/2025
NIH/NIA		\$3,067,698
Gut microbiome, aging and cardiometabolic diseases in American Indians		

The goal of this project is to identify key gut microbiota features associated with aging and cardiometabolic diseases in American Indians in the Strong Heart Study (SHS). The project will collect fecal samples from about 2,000 participants and conduct deep metagenomic sequencing, followed by sophisticated statistical and bioinformatics analysis to identify functional features associated with accelerated aging and cardiometabolic diseases including diabetes, obesity, cardiovascular disease, chronic kidney disease and their risk factors.

<u>1R01AG064786</u>	(Zhao PI)	09/01/2019 - 08/30/2024
NIH/NIA		\$3,676,978
Genome-wide mapping and integrative analysis of DNA 6mA methylome in human AD brain		

The goal of this project is to examine the potential causal role of 6mA in AD neuropathology. Innovative statistical and bioinformatics tools for multi-omics data integration will also be developed in this project.

<u>7RF1AG052476</u>	(Zhao PI)	06/15/2016 - 08/31/2021
NIH/NIA		\$3,721,756
Genome-wide profiling of brain DNA hydroxymethylome in Alzheimer's disease		

The goal of this project is to generate the first detailed map for a new layer of epigenetic marker (5-hmC) in 1,200 postmortem brain tissue samples and examine its potential role in AD

<u>7RF1AG052476S1</u>	(Zhao PI)	01/15/2019-08/31/2021
NIH/NIA		\$340,882
Genome-wide profiling of brain DNA hydroxymethylome in Alzheimer's disease		

The goal of this supplementary grant is to develop novel statistical and bioinformatics algorithms for big data and integrative multi-omics analysis of brain aging and Alzheimer's disease neuropathology.

1R01DK107532-01A1 (Zhao PI) 08/01/2016 - 07/30/2022
 NIH/NIDDK \$3,076,642
 Novel metabolic predictors of diabetes in American Indians

The goal of this project is to identify novel metabolic markers predictive of early onset and progression of type 2 diabetes in American Indians, a minority group suffering from the highest prevalence and incidence of type 2 diabetes. This is the first large-scale longitudinal profiling of lipidomics and metabolomics in over 7,000 plasma samples. Innovative tools for big data and trans-omics will be developed and applied to identify novel mechanistic markers tailored to the American Indian communities.

R01MH097018 (Zhao PI) 08/15/13-07/31/2021
 NIH/NIMH \$3,127,223
 Epigenetic determinants for depression: a monozygotic discordant twin study

The goal of this project is to decipher the epigenetic mechanisms implicated in the pathogenesis of major depression using a monozygotic discordant twin design. A total of 180 twin pairs discordant on major depression will be recruited and deeply phenotyped (both clinically and molecularly). Innovative statistical and bioinformatics approaches will be used to identify potential causative epigenetic mechanisms underlying major depression.

R01MH097018-06S1 (Zhao PI) 08/15/2013-07/31/2021
 NIH/NIMH \$63,000
 Epigenetic determinants for depression: a monozygotic discordant twin study

The goal of this supplementary grant is to request additional funds for a long-term storage of biospecimen collected in the twin study. Partial funds will also be used for novel biomarker assays.

1RF1AG074549-01 (Arvanitakis PI) 08/15/2021-07/31/2024
 NIH/NIA \$3,275,232
 The role of blood and brain 5-hydroxymethylcytosine in linking vascular risk factors to ADRD in older White and Black persons.
 Role: Consultant

The goal of this project is to examine the role of blood and brain DNA 5-hmC in the relationship between vascular risk factors and ADRD in a biracial population

R01MD011727 (Kertes PI) 08/14/2017-04/30/2022
 NIH/NIMHD \$375,023
 Epigenetic mechanisms of emotional/behavioral health among impoverished African-American youth
 Role: Co-Investigator

The goal of this project is to examine whether and how epigenetic mechanisms mediate the effects of negative emotional/behavioral health on chronic disease outcomes among African-American youth.

5T32HG008958 (Johnson PI) 01/01/2018-12/31/2022
 NIH/NHGRI
 Training Program for Applied Research and Development in Genomic Medicine (Johnson)

Role: Faculty Mentor & Executive Committee Member

The goal of this training grant is to foster the career of junior investigators (MDs, PhDs, PharmDs, and other clinical specialists at the doctoral level) who are interested in genomic/translational science and precision medicine.

1K01HL153797-01A1 (Hu PI) 06/01/2021-05/31/2026
NIH/NHLBI \$167,207/YR
Hypertensive Disorders of Pregnancy and Early Risk of Maternal CVD: Influence of the External Exposome
Role: Primary mentor

The goal of this K01grant is to nurture the career development of Dr. Hui Hu and train him to be an independent investigator in the fields of cardiovascular health, omics and exposome research, biomedical informatics and data science.

Selected Completed Research Projects

DRPD-ROF2017 (Zhao PI) 06/01/2018-05/31/2021
UF Office of Research \$95,000
Integrated multiomics analysis of MDS

The goal of this pilot grant is to collect preliminary data that will support the application of NIH grant proposal(s) for deep molecular phenotyping of MDS.

17SDG33630165 (Hu PI) 07/01/2017-06/30/2020
American Heart Association (AHA)
The Total Environment and Hypertensive Disorders of Pregnancy: A Precision Public Health Approach
Role: Primary mentor

The goals of this training grant are to: 1) promote career development for Dr. Hu to become an independent investigator in data science; and 2) generate preliminary data in support of larger grant applications.

1R01DK091369 (Zhao PI) 09/01/2011-05/31/2017
NIH/NIDDK \$1,093,562
Telomere attrition and diabetes risk in American Indians

The goal of this project is to examine the role of accelerated telomere shortening in diabetes pathogenesis, and determine the clinical utility of leukocyte telomere length in predicting diabetes risk among American Indian communities.

1R21HL092363-01A2 (Zhao PI) 09/30/2009 - 06/30/2013
NIH/NHLBI \$402,875
Genetic variations in the HPA axis and comorbidity of depression and CVD

The goal of this project is to identify genetic variants involved in the stress-related pathways and examine their roles in linking depression to cardiovascular disease.

1K01AG034259 (Zhao PI) 09/15/2009 - 08/31/2013
 NIH/NIA \$525,481
 Biological aging, mitochondrial variants and coronary artery disease

The goal of this grant is to foster the career development of Dr. Zhao as an independent investigator in the fields of genetic epidemiology, statistical genetics, bioinformatics, and data science.

AHA 0730100N (Zhao PI) 01/01/2007 - 08/31/2011
 American Heart Association \$260,000
 Common genetic pathways linking depression to cardiovascular disease: a twin study

The goal of this grant is to foster the career development of Dr. Zhao in the area of cardiovascular genetic epidemiology and statistical genetics.

ACTSI-KL2 (Zhao PI) 04/15/2008 - 03/31/2010
 NIH/ACTSI \$168,668
 Role of mitochondrial polymorphisms in CAD and adverse cardiovascular outcomes

The goal of this career development grant is to accelerate the career development of Dr. Zhao in the area of cardiovascular genetic epidemiology and generate preliminary data in support of NIH grants applications.

R01DK101505 (Kelly PI) 08/21/2015 - 05/31/2020
 NIH/NIDDK
 Whole-exome sequencing study of diabetic nephropathy
 Role: Co-Investigator

The overall objective of this study is to identify novel genes and functional variants associated with diabetic nephropathy (DN) by conducting whole-exome sequencing, follow-up targeted sequencing, and replication studies among DN cases and controls of African and European ancestry. (Relinquished due to leaving Tulane)

P20GM109036-01A1 (He PI) 03/10/2016 - 02/28/2021
 NIH/NIGMS
 Tulane COBRE for Clinical and Translational Research in Cardiometabolic Diseases
 Role: Faculty mentor & Co-Investigator

The long-term goal of this COBRE application is to promote and increase clinical, translational and implementation research in cardiometabolic diseases at Tulane University by establishing a Center of Excellence for Clinical, Translational and Implementation Research in Cardiometabolic Diseases. (Relinquished due to leaving Tulane)

Oklahoma Tobacco Research Center (Zhao PI) 7/1/2009-6/30/2011 \$55,000
 Genotype-specific effect of cigarette smoking on CAD in American Indians

The goal of this project is to examine gene – smoking interactions implicated in coronary artery disease among American Indians.

Emory University Heart and Vascular Center (Zhao PI) 7/1/2007-6/30/2009 \$300,000

Blood and tissue-banking for heart and vascular diseases: The Emory Heart and Vascular Center's Genomic Platform

The goal of this project is to establish a biobank of heart and vascular tissues that can be used for multiomics analysis and precision medicine of cardiovascular diseases.

Emory Center for Research on Symptoms Interactions and Health Outcomes

Emory University (Zhao PI) 7/1/07-6/30/08 \$30,000
Genetic pathways in depressive symptoms susceptibility

The goal of this project is to generate preliminary data and identify genetic pathways associated with depressive symptoms.

Emory University Research Committee (Zhao PI) 01/01/2008 -12/30/2008
Emory University \$25,000
Genetic pathways in coronary artery disease susceptibility

The goal of this project is to collect pilot data and identify genetic pathways implicated in CVD.

Peer-Reviewed Publications (After 1992. In reverse-chronological order. *Corresponding author*^{*}; *Trainee*^{*})

1. Mia G^{*}, Zhang Y, Huo Z, Zeng W^{*}, Zhu J, Umans JG, Wohlgemuth G, Pedrosa D, DeFelice B, Cole SA, Fretts AM, Lee ET, Howard BV, Fiehn O, **Zhao J**^{*}. Longitudinal plasma lipidome and risk for type 2 diabetes in a large sample of American Indians with normal fasting glucose: The Strong Heart Family Study. *Diabetes Care* (in press)
2. Sanchez TR, Hu X, **Zhao J**, Tran V, Loiacono N, Go YM, Goessler W, Cole S, Umans J, Jones DP, Navas-Acien A, Uppal K. An atlas of metallome and metabolome interactions and associations with incident diabetes in the Strong Heart Family Study. *Environ Int.* 2021 Aug 5;157:106810. doi: 10.1016/j.envint.2021.106810. Epub ahead of print. PMID: 34365318.
3. Ding YC, Hurley S, Park JS, Steele L, Rakoff M, Zhu Y, **Zhao J**, LaBarge M, Bernstein L, Chen S, Reynolds P, Neuhausen SL. Methylation biomarkers of polybrominated diphenyl ethers (PBDEs) and association with breast cancer risk at the time of menopause. *Environ Int.* 2021 Nov;156:106772. doi: 10.1016/j.envint.2021.106772. Epub 2021 Jul 19. PMID: 34425644; PMCID: PMC8385228.
4. Navas-Acien A, Domingo-Relloso A, Subedi P, Rizzo-Campos AL, Xia R, Gomez L, Haack K, Goldsmith J, Howard BV, Best LG, Devereux R, Tauqeer A, Zhang Y, Fretts AM, Pichler G, Levy D, Vasan RS, Baccarelli AA, Herreros-Martinez M, Tang WY, Bressler J, Fornage M, Umans JG, Tellez-Plaza M, Fallin MD, **Zhao J**, Cole SA. Blood DNA Methylation and Incident Coronary Heart Disease: Evidence From the Strong Heart Study. *JAMA Cardiol.* 2021 Aug 4:e212704. doi: 10.1001/jamacardio.2021.2704. Epub ahead of print. PMID: 34347013; PMCID: PMC8340006.
5. Darst BF, Huo Z, Jonaitis EM, Kosciuk RL, Clark LR, Lu Q, Kremen WS, Franz CE, Rana B, Lyons MJ, Hogan KJ, **Zhao J**, Johnson SC, Engelman CD. Metabolites Associated with Early Cognitive Changes Implicated in Alzheimer's Disease. *J Alzheimers Dis.* 2021;79(3):1041-1054. doi: 10.3233/JAD-200176. PMID: 33427733; PMCID: PMC8054536.

6. Zheng Y, Wen X, Bian J, **Zhao J**, Lipkind HS, Hu H. Racial, Ethnic, and Geographic Disparities in Cardiovascular Health Among Women of Childbearing Age in the United States. *J Am Heart Assoc*. 2021 Aug 25:e020138. doi: 10.1161/JAHA.120.020138. Epub ahead of print. PMID: 34431309.
7. Bailey LS, Huang F, Gao T, **Zhao J**, Basso KB, Guo Z. Characterization of glycosphingolipids and their diverse lipid forms through two-stage matching of LC-MS/MS spectra. *Analytical Chemistry* **2021** 93 (6), 3154-3162 DOI: 10.1021/acs.analchem.0c04542
8. Huo Z,[‡] Rana BK, Elman JA, Dong R, Engelman CD, Johnson SC, Lyons MJ, Franz CE, Kremen WS, **Zhao J**^{*}. Metabolic profiling of cognitive aging in midlife. *Front Aging Neurosci* 05 November 2020. <https://doi.org/10.3389/fnagi.2020.555850>
9. Hu H,[‡] **Zhao J**, Savitz DA, Prosperi M, Zheng Y, Pearson TA. An external exposome-wide association study of hypertensive disorders of pregnancy. *Environ Int* 2020; 141: 105797. doi: 10.1016/j.envint.2020.105797. Epub 2020 May 12
10. Hu Z, Jian R, Wang J, Wang P, Zhu Y,[‡] **Zhao J**, De Jager P, Bennett DA, Jin L, Xiong M. Shared causal paths underlying Alzheimer's dementia and type 2 diabetes. *Sci Reports* 2020 Mar 5;10(1):4107. doi: 10.1038/s41598-020-60682-3.
11. Zheng Y, Chen Z, Pearson T, **Zhao J**, Prosperi M, Hu H[‡]. Design and Methodology Challenges of Environment-Wide Association Studies: A Systematic Review. *Environ Res*. 2020 Apr; 183:109275. doi: 10.1016/j.envres.2020.109275
12. Hu H[‡], Jiang B, **Zhao J**. Ambient Air Pollution and Preeclampsia: Looking Back and Moving Forward. *Hypertension*. 2020;75(3):618-619. doi: 10.1161/HYPERTENSIONAHA.119.13269
13. Huo Z[‡], Lei Y, Yang J[‡], Zhu Y[‡], Bennett DA, **Zhao J**^{*}. Corrigendum to brain and blood metabolome for Alzheimer's dementia: findings from a targeted metabolomics analysis. *Neurobiol Aging*. 2020 Feb; 86:123-133. PMID: 32312579. PMCID: [PMC7265994](https://pubmed.ncbi.nlm.nih.gov/PMC7265994/). DOI: [10.1016/j.neurobiolaging.2020.04.004](https://doi.org/10.1016/j.neurobiolaging.2020.04.004)
14. Qin H, Ouyang W, **Zhao J**. High-Order Association Mapping for Expression Quantitative Trait Loci. *Methods Mol Biol*. 2020;2082:147-155. doi: 10.1007/978-1-0716-0026-9_10. PMID: 31849013
15. Huo Z[‡], Zhu L, Ma T, Liu H, Han S, Liao D, **Zhao J**, Tseng G. Two-way horizontal and vertical omics integration for disease subtype discovery. *Stat Biosci* 2020; **12**(1), 1–22. <https://doi.org/10.1007/s12561-019-09242-6>
16. Huo Z[‡], Yu L, Yang J, Zhu Y,[‡] Bennett DA, **Zhao J**^{*}. Brain and blood metabolome for Alzheimer's dementia: findings from a targeted metabolomics analysis. *Neurobiol Aging*. 2020 Feb;86:123-133. doi: 10.1016/j.neurobiolaging.2019.10.014. Epub 2019 Nov 5. Erratum in: *Neurobiol Aging*. 2020 Jul;91:169. PMID: 31785839; PMCID: PMC6995427.
17. Subedi S[‡], Nembrini S[‡], An Q[‡], Zhu Y[‡], Peng H[‡], Yeh F, Cole SA, Rhoades DA, Lee ET, **Zhao J**^{*}. Telomere length and cancer mortality in American Indians: The Strong Heart Study. *Geroscience*. 2019;41 (3):351-361.
18. Zhu Y[‡], Strachan E, Fowler E, Bacus T, Roy-Byrne P, **Zhao J**^{*}. Genome-wide profiling of DNA methylome and transcriptome in peripheral blood monocytes for major depression: a monozygotic discordant twin study. *Translational Psychiatry*. 2019; 9:215
19. Qin H,[‡] **Zhao J**, Zhu X. Identifying rare variant associations in admixed populations. *Sci Rep*. 2019; 9: 5458.

20. Sullivan S, Hammadah M, Al Mheid I, Shah A, Sun Y, Kutner M, Ward L, Blackburn E, **Zhao J**, Lin J, Bremner JD, Quyyumi AA, Vaccarino V, Lewis T. An Investigation of Racial/Ethnic and Sex Differences in the Association between Experiences of Everyday Discrimination and Leukocyte Telomere Length among Patients with Coronary Artery Disease. *Psychoneuroendocrinology* . 2019;106:122-128.
21. Qin H,^{*} Niu T, **Zhao J**. Identifying multi-omics causers and causal pathways for complex traits. *Front. Genet.* 2019 10:110. doi: 10.3389/fgene.2019.00110
22. Peng H^{*}, Zhu Y^{*}, Goldberg J, Vaccarino V, **Zhao J**^{*}. DNA methylation of five core circadian genes jointly contributes to glucose metabolism: a gene-set analysis in monozygotic twins. *Front. Genet.* 2019 10:329. doi: 10.3389/fgene.2019.00329
23. Huo Z, ^{*} Zhu Y, ^{*} Yu L, Yang J, De Jager P, Bennett DA, **Zhao J**^{*}. DNA methylation variability in Alzheimer's disease. *Neurobiology of Aging* 2019; 76: 35-44
24. Grau-Perez M, **Zhao J**, Pierce B, Goessler W, Francesconi KA, Zhu Y, ^{*} An Q, ^{*} Umans J, Best L, Cole SA, Navas-Acien, A, Tellez-Plaza M. Urinary metals and leukocyte telomere length in American Indian communities: The Strong Heart and the Strong Heart Family Study. *Env Pollution* 2019; 246:311-318
25. Strachan E, **Zhao J**, Roy-Byrne P, Fowler E, Bacus T. Study design and rationale for the Mood and Methylation Study: a platform for multi-omics investigation of depression in twins. *Twin Res Hum Genet* 2018; 28:1-7
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Manuscripts under review or in preparation (*Trainee; *Corresponding author)

1. Yu L, Huo Z, Yang J, Boyle, PA, Schneider, JA, Bennett DA, **Zhao J**. Human brain and blood N-glycome profiling in AD/ADRD. *Alzheimer's & Dementia (under review)*.
2. Zeng W[‡], Huynh K, Beyene H, Subedi P,[‡] Fiehn O, Meikle P, Curran J, Blangero J, Subedi P, [‡] Zhang Y, Cole SA, Franceschini N, Umans JG, Lee ET, Howard BV, Fiehn O, **Zhao J**.^{*} Longitudinal profiling of fasting plasma lipidome for risk of CKD in American Indians. *Kidney International (under review)*
3. Subedi P[‡], Fiehn O, Best LG, Lee ET, Howard BV, **Zhao J**.^{*} Lipidomic profiling of biological aging in American Indians: the Strong Heart Family Study (under review)
4. Huang F, Bailey LS, Gao T, Jiang W, Yu L, Bennett DA, **Zhao J**, Basso KB, Guo Z. Analysis of Biologically Derived Glycosphingolipids through Two-Stage Matching of MS/MS Spectra (under review)
5. Zeng W[‡], Subedi P, [‡] Zhang Y, Cole SA, Franceschini N, Umans JG, Lee ET, Howard BV, Fiehn O, **Zhao J**.^{*} Longitudinal fasting plasma lipidome and risk for hypertension in American Indians (in preparation)
6. Zeng W[‡], Chen M, [‡] Zhang Y, Cole SA, Franceschini N, Umans JG, Lee ET, Howard BV, Fiehn O, **Zhao J**.^{*} Longitudinal profiling of fasting plasma lipidome for risk of CVD in American Indians (in preparation)
7. Mia G,[‡] Huynh K, Beyene H, Zeng W, [‡] Fiehn O, Meikle P, Curran J, Blangero J, **Zhao J**.^{*} Fasting plasma lipidome and prevalent diabetes in American Indians and European Caucasians (in preparation)
8. Mia G,[‡] Zeng W, [‡] Deen J, Fretts AM, Lee ET, Howard BV, Fiehn O, **Zhao J**.^{*} Fasting plasma lipidome and risk of major depression in American Indians (in preparation)
9. Mia G,[‡] Zeng W, [‡] Roman MJ, Howard BV, Lee ET, Fiehn O, **Zhao J**.^{*} Longitudinal profiling of fasting plasma lipidome for risk of carotid atherosclerosis in American Indians (in preparation)

10. Qin H, ^{*} Subedi P[‡], Cole SA, Plaza MT, Domingo-Relloso A, Haack K, Fallin D, Tang WY, Liu S, Needham BL, Lee ET, Umans JG, Howard BV, Liu Y, Aviv A, Levy D, Vasan RS, Navas-Acien A, **Zhao J.**^{*} Telomere length, DNA methylation and risk for cardiovascular disease: meta-analysis in multi-ethnic groups. (in preparation)
11. Hu H, ^{*} Wen X, ^{*} Zheng Y, Fowler E, Glen D, Strachan E, **Zhao J.** An External Exposome-Wide Association Study of Depressive Symptoms: A Monozygotic Twin Study (in preparation)
12. Qin H, ^{*} Cole SA, Harrin K, Navas-Acien A, **Zhao J.**^{*} Lipidome QTL in American Indians: the strong heart family study (in preparation)
13. Chen M, ^{*} Wen X, ^{*} Peng H, ^{*} Huo Z, ^{*} Gang Hu, Anton S, Brantley P, **Zhao J.**^{*} Altered blood metabolome in response to bariatric surgery predicts diabetes remission in severely obese patients: findings from a pilot study. (in preparation)
14. Wen X, ^{*} Chen M, ^{*} Peng H, ^{*} Huo Z, ^{*} Gang Hu, Anton S, Brantley P, **Zhao J.**^{*} Altered DNA methylation in response to bariatric surgery predicts diabetes remission in severely obese patients: findings from a pilot study. (in preparation)
15. Gu T, Gao C, ^{*} Yang J, Yu L, Jin P, Bennet DA, **Zhao J.**^{*} Large-scale genome-wide mapping of brain DNA hydroxymethylation in human AD brain (in preparation)
16. Palma HG, ^{*} Huo Z, ^{*} Yang J, Yu L, Jin P, Bennet DA, **Zhao J.**^{*} Targeted DNA methylation sequencing identified potential causal genes associated with AD pathology (in preparation)
17. Eisele M, Miao G, ^{*} Fiehn O, Ali T, Cole SA, Fretts AM, Umans JG, Reese J, Malloy K, Best LG, Devereux RB, Howard BV, Lee ET, Zhang Z, **Zhao J.**^{*} Lipidomic profiling and perceived stress in American Indians: The Strong Heart Family Study (in preparation)
18. Zhu Y, ^{*} Yao B, Jin P, Bennett DA, **Zhao J.**^{*} Genome-wide mapping of brain 6mA methylome in AD: findings from a pilot study. (in preparation)

Selected published abstracts and presentations *(In reverse chronological order.*

^{}Correspondence; [‡]Trainee)*

1. Zeng W[‡], Miao G[‡], Chen M[‡], Zhang Y, Umans JG, Cole SA, Lee ET, Howard BV, Fiehn O, **Zhao J.** Longitudinal lipidomics profiling of risk for hypertension in American Indians: The Strong Heart Study. Will be presented at the American Heart Association Scientific Sessions 2021
2. Zeng W[‡], Miao G[‡], Chen M[‡], Zhang Y, Umans JG, Cole SA, Lee ET, Howard BV, Fiehn O, **Zhao J.** Lipidomics profiling and risk for cardiovascular disease: a longitudinal study in American Indians. Will be presented at the American Heart Association Scientific Sessions 2021
3. Miao G[‡], Zeng W[‡], Roman MJ, Devereux RB, Zhang Y, Lee ET, Howard BV, Fiehn O, **Zhao J.** Lipidomics profiling of risk for subclinical atherosclerosis: a longitudinal study in American Indians in the Strong Heart Study. Will be presented at the American Heart Association Scientific Sessions 2021

4. Goode C, **Zhao J**, Devereux R, Murthy S, Merkler A, Singh S, Umans J, Howard BV, Cole S, Fretts A, Best LG, Ali T, Lee E, Stoner J, Zhang Y. Leukocyte Telomere Length And Risk Of Stroke: The Strong Heart Family Study. Presented at the American Heart Association Scientific Sessions 2020, Nov 13-17
5. Zhu Y[‡], Zhang Y, Zhu J, Umans JG, Cole SA, Lee ET, Howard BV, Fiehn O, **Zhao J**^{*}. Novel plasma lipids predict risk of diabetes: a longitudinal lipidomics study in American Indians. Platform presentation at the American Heart Association EPI/LIFESTYLE Scientific Sessions 2020, March 3-6, Phoenix, AZ
 *The abstract won the prestigious Scott Grundy Fellowship Award for Excellence in Metabolism Research, presented by the AHA.
6. Almuwaqqat Z, Nye J, Moazzami K, Brookhaven GA, Lima BB, Shah AJ, Blackburn E, **Zhao J**, Lin J, Sun Y, Quyyumi AA, Vaccarino V, Bremner JD. Brain regions activation during stress and accelerated biological aging. Platform presentation at the American Heart Association EPI/LIFESTYLE Scientific Sessions 2020, March 3-6, Phoenix, AZ
7. Navas-Acien a, Domingo-Relloso A, Tellez-Plaza M, Gomez L, Herreros M, Devereux RB, Baccarelli A, Umans JG, Howard BV, **Zhao J**, Cole SA. Blood DNA methylation signatures of incident coronary heart disease: an epigenome-wide analysis in the Strong Heart Study. Moderated presentation at the American Heart Association EPI/LIFESTYLE Scientific Sessions 2020, March 3-6, Phoenix, AZ
8. Subedi S[‡], Qin H[‡], Cole SA, Plaza MT, Domingo-Relloso A, Haack K, Fallin D, Tang WY, Liu S, Needham BL, Lee ET, Umans JG, Howard BV, Liu Y, Aviv A, Levy D, Vasan RS, Navas-Acien A, **Zhao J**. Telomere length, DNA methylation, and risk of CVD: a meta-EWAS of four multi-ethnic prospective cohorts. Poster presentation at the American Heart Association EPI/LIFESTYLE Scientific Sessions 2020, March 3-6, Phoenix, AZ
9. Zheng Y[‡], Bian J, Lipkinid HS, **Zhao J**, Pearson TA, Hu H[‡]. Racial/ethnic and geographic disparities in cardiovascular health among pregnant women in the U.S. Poster presentation at the American Heart Association EPI/LIFESTYLE Scientific Sessions 2020, March 3-6, Phoenix, AZ
10. Hu Hi[‡], Bian J, Pearson TA, Lipkind HS, Zheng Y[‡], **Zhao J**. Development of predictive models for cardiovascular health to support its use in real-world data. Poster presentation at the American Heart Association EPI/LIFESTYLE Scientific Sessions 2020, March 3-6, Phoenix, AZ
11. Hu H[‡], **Zhao J**, Bian J, zheng Y[‡], Pearson TA. A polyexposomic risk score for hypertensive disorders of pregnancy using external exposome data. Poster presentation at the American Heart Association EPI/LIFESTYLE Scientific Sessions 2020, March 3-6, Phoenix, AZ
12. Subedi P[‡], Nembrini S, An Q, Peng H, Yeh F, Cole SA, Rhoades DA, Lee ET & **Zhao J**^{*}. Telomere length and cancer mortality in American Indians: The Strong Heart Study. Poster presentation at APHA, Oct 2018
13. Zhu Y[‡], Strachan E, Fowler E, Bacus T, Roy-Byrne P, **Zhao J**^{*}. EWAS for major depression: a monozygotic discordant twin study. Poster presentation at ASHG, Oct 2018
14. Huo Z[‡], Zhu Y[‡], Yu L, Yang J, De Jager P, Bennett DA, **Zhao J**^{*}. Altered DNA methylation variability associated with Alzheimer's disease. Poster presentation at ASHG, Oct 2018
15. **Zhao J**^{*}, Zhu Y[‡], Eric Strachan, Emily Fowler, Tamara J. Bacus, Peter Roy-Byrne. Genome-wide profiling of DNA methylome and transcriptome in peripheral blood

- monocytes for major depression: a monozygotic discordant twin study. Platform presentation at the 2017 Behavioral Genetics Meeting, Oslo, Norway June 28-July 1, 2017
16. Zhu Y[‡], Eric Strachan, Emily Fowler, Tamara J. Bacus, Peter Roy-Byrne, **Zhao J**^{*}. An Epigenomewide Association Study (EWAS) on Alcohol Consumption: A Monozygotic Twin Study. Platform presentation at the 2017 Behavioral Genetics Meeting, Oslo, Norway June 28-July 1, 2017
 17. Peng H[‡], Yeh F, Zhang Y, de Simone G, Best LG, Lee ET, Howard BV, **Zhao J**^{*}. Plasminogen Activator Inhibitor-1 Predicts the Risk of Hypertension in American Indians: Findings from the Strong Heart Study. Accepted for oral presentation at the American Heart Association Scientific Sessions, New Orleans Nov 12-16, 2016
 18. Zhao Q, Zhu Y[‡], Yeh F, Lin J, Zhang Y, Calhoun D, Cole SA, Lee ET, Howard BV, **Zhao J**^{*}. Depression Is Associated with Leukocyte Telomere Length in American Indians: Findings from the Strong Heart Family Study. Accepted for poster presentation at the American Heart Association Scientific Sessions, New Orleans Nov 12-16, 2016
 19. Hu Z[‡], Wan P, Zhu Y, [‡] Bennett DA, **Zhao J**, Xiong M. A novel causal methylation network approach to Alzheimer's disease. Human Genome Meeting 2016, Houston, February 28-March 2, 2016
 20. Lin N, Wang P, Zhu Y, [‡] **Zhao J**, Calhoun VD, Xiong M. Integrative large-scale causal network analysis of brain imaging and genomic data and its application to schizophrenia. Human Genome Meeting 2016, Houston, February 28-March 2, 2016
 21. Peng H, [‡] Fawn Y, Cole SA, Best LG, Roman MJ, Lee ET, Howard BV, **Zhao J**^{*}. Prospective Association of Allostatic Load with Incident CVD in American Indians: The Strong Heart Study. EPI/Lifestyle, American Heart Association, Phoenix, February 29-March 4, 2016.
 22. Li C, [‡] He J, Hixson JE, Gu D, Rao DC, Shimmin LC, Huang J, Gu CC, Chen J, Li J, Chen J, **Zhao J**, Kelly KN. Genomewide Gene-Potassium Interaction Analyses on Blood Pressure: the GenSalt study. EPI/Lifestyle, American Heart Association, Phoenix, February 29-March 4, 2016.
 23. Kelly TN, Ajami NJ, Bazzano LA, **Zhao J**, He J. Gut microbiota diversity and specific microbial genera associate with cardiovascular disease risk: Findings from the Bogalusa Heart Study. EPI/Lifestyle, American Heart Association, Phoenix, February 29-March 4, 2016.
 24. An Q, [‡] Zhu Y, [‡] Goldberg J, Vaccarino V, **Zhao J**^{*}. Alterations in DNA methylation of circadian-related genes are associated with metabolic traits: a gene promoter-based and gene-set analysis in monozygotic twins. EPI/Lifestyle, American Heart Association, Phoenix, February 29-March 4, 2016.
 25. Pimple PM, Wilmot K, Mheid IA, **Zhao J**, Lin J, Blackburn E, Rooks C, Goetz M, Sun Y, Bremner JD, Quyyumi AA, Vaccarino V. Adherence to the Mediterranean diet is associated with longer telomere length in patients with coronary artery disease. EPI/Lifestyle, American Heart Association, Phoenix, February 29-March 4, 2016.
 26. **Zhao J**^{*}, Zhu Y, Xiong M. A novel quadratically regularized canonical correlation analysis for genetic pleiotropic analysis of multiple phenotypes. The Human Genome Meeting, Houston, February 28 – March 2, 2016

27. Zhu Y,[‡] An Q,[‡] Best LG, Lee ET, Howard BV, Devereux RB, Roman MJ, **Zhao J.** ^{*} Novel metabolic markers for the risk of carotid plaque progression in American Indians. EPI/Lifestyle, American Heart Association, Baltimore, March 3-6, 2015.
28. An Q,[‡] Vaccarino V, Goldberg J, **Zhao J.** ^{*} Promoter Methylation of the MAOA Gene Is Associated with Fasting Plasma Glucose: A Monozygotic Twin Study. EPI/Lifestyle, American Heart Association, Baltimore, March 3-6, 2015.
29. **Zhao J.** ^{*} Mete M, Desale S, Fretts AM, Cole SA, Best LG, Lin J, Matsuguchi T, Blackburn E, Lee ET, Howard BV. Life's simple 7 and telomere length in American Indians. EPI/Lifestyle, American Heart Association, Baltimore, March 3-6, 2015.
30. Zhu Y,[‡] He J, Best LG, Lee ET, Howard BV and **Zhao J.** ^{*} Metabolic predictors of type 2 diabetes in American Indians: The Strong Heart Family Study. The Nutrition, Physical Activity and Metabolism and the Cardiovascular Disease Epidemiology and Prevention, American Heart Association, San Francisco, March 18-21, 2014.
31. **Zhao J.** ^{*} Zhu Y,[‡] He J, Lin J, Matsuguchi T, Blackburn E, Lee ET, Howard BV. Metabolic profiles of biological aging in American Indians: The Strong Heart Family Study. The Nutrition, Physical Activity and Metabolism and the Cardiovascular Disease Epidemiology and Prevention, American Heart Association, San Francisco, March 18-21, 2014.
32. Chen S,[‡] Yeh F, Lin J, Matsuguchi T, Blackburn E, Lee ET, Howard BV, **Zhao J.** ^{*} Short leukocyte telomere length is associated with obesity in American Indians: The Strong Heart Family Study. The Nutrition, Physical Activity and Metabolism and the Cardiovascular Disease Epidemiology and Prevention, American Heart Association, San Francisco, March 18-21, 2014.
33. Li S, Zhu Y,[‡] Wang G, Yun M, McLachlan JA, Chen W, He J, Whelton PK, **Zhao J.** ^{*} Urinary triclosan concentrations are associated with body mass index and waist circumference in US population, NHANES 2003-2010. The Nutrition, Physical Activity and Metabolism and the Cardiovascular Disease Epidemiology and Prevention, American Heart Association, San Francisco, March 18-21, 2014.
34. **Zhao J.** ^{*} Zhu Y,[‡] Xiong M. Gene-gene interaction analysis for next-generation sequencing. The 63rd Annual Meeting of the American Society of Human Genetics in Boston, October 22-26, 2013. (*Platform presentation*)
35. Chen S,[‡] Roman RJ, Yeh F, Lin J, Matsuguchi T, Blackburn E, Devereux RB, Lee ET, Howard BV, and **Zhao J.** ^{*} Prospective association of leukocyte telomere length and incident carotid atherosclerosis in American Indians. The American Heart Association Scientific Session, Dallas, Nov 16-20, 2013. (*Platform presentation, this abstract has been interviewed by the American Heart Association*)
36. Zhu Y,[‡] Lee ET, Cole SA, Haack K, Best LG, Howard BV, **Zhao J.** ^{*} Genetic variants involved in telomere maintenance and type 2 diabetes in American Indians: a pathway association analysis. The American Heart Association Scientific Session, Dallas, Nov 16-20, 2013.
37. Zhu Y,[‡] Lee ET, Cole SA, Haack K, Best LG, Howard BV, **Zhao J.** ^{*} Joint association of 31 mitochondrial variants with type 2 diabetes: The Strong Heart Family Study. The 63th Annual Meeting of the American Society of Human Genetics, Boston, Oct 22-26, 2013.

38. Yang J,^{*} Zhu Y,^{*} Cole SA, Haack K, Howard BV, Best LG, Mary RJ, Devereux RB, Lee ET and **Zhao J.**^{*} Joint impact of 61 genetic variants in seven nicotinic acetylcholine receptor genes on subclinical atherosclerosis in American Indians: a gene-set analysis. The Nutrition, Physical Activity and Metabolism and the Cardiovascular Disease Epidemiology and Prevention, American Heart Association, New Orleans, March 19-22, 2013 (*Platform presentation, Hot Of Press*)
39. **Zhao J.**^{*} Zhu Y,^{*} Xiong M. A smooth functional principle component analysis of next generation sequencing data. The 62th Annual Meeting of the American Society of Human Genetics, San Francisco, Nov 6-10, 2012. (*Platform presentation*)
40. **Zhao J.**^{*} Goldberg J, Vaccarino V. Promoter methylation of glucocorticoid receptor gene is associated with subclinical cardiovascular disease: a monozygotic twin study. The Nutrition, Physical Activity and Metabolism and the Cardiovascular Disease Epidemiology and Prevention, American Heart Association, San Diego, March 13-16, 2012. (*Platform presentation. This abstract won the Rogers R. Williams Award for Genetic Epidemiology, presented by the American Heart Association, 2012*)
41. Yang J,^{*} Cole SA, Haack K, Howard BV, Best LG, Mary RJ, Devereux RB, Lee ET and **Zhao J.**^{*} Joint impact of 61 genetic variants in seven nicotinic acetylcholine receptor genes on subclinical atherosclerosis in American Indians: a gene-set analysis. The Nutrition, Physical Activity and Metabolism and the Cardiovascular Disease Epidemiology and Prevention, American Heart Association, San Diego, March 13-16, 2012
42. Yang J,^{*} Cole SA, Haack K, Howard BV, Best LG, Roman RJ, Devereux RB, Lee ET and **Zhao J.**^{*} A pathway analysis of 32 genetic variants in leukotriene genes and subclinical atherosclerosis in American Indians: the Strong Heart Family Study. The Nutrition, Physical Activity and Metabolism and the Cardiovascular Disease Epidemiology and Prevention, American Heart Association, San Diego, March 13-16, 2012.
43. Yang J,^{*} Cole SA, Haack K, Howard BV, Best LG, Devereux RB, Lee ET and **Zhao J.**^{*} Gene and pathway-based analysis of 61 genetic variants in the nicotinic acetylcholine receptor genes and insulin resistance in American Indians. The 61th Annual Meeting of the American Society of Human Genetics, Montreal, Quebec, Canada, October 11-15, 2011
44. **Zhao J.**^{*} Cowan LD, Yang J,^{*} Zhang Y,^{*} Cole SA, Haack K, Howard BV, Lee ET. Leukotriene haplotype, diet and insulin resistance: the Strong Heart Study. The Nutrition, Physical Activity and Metabolism and the Cardiovascular Disease Epidemiology and Prevention, American Heart Association, Atlanta, March 22-25, 2011
45. Yang J,^{*} Cowan LD, Zhang Y,^{*} Cole SA, Haack K, MacCluer JW, Howard BV, Lee ET, **Zhao J.**^{*} NOS3 genotype, dietary intake and insulin resistance: The Strong Heart Family Study. The Nutrition, Physical Activity and Metabolism and the Cardiovascular Disease Epidemiology and Prevention, American Heart Association, Atlanta, March 22-25, 2011
46. Yang J,^{*} Zhang Y,^{*} Cowan LD, Cole SA, Haack K, MacCluer JW, Howard BV, Lee ET and **Zhao J.**^{*} Cumulative association of 62 genetic variants in a smoking-metabolizing

pathway with insulin resistance in American Indians: The Strong Heart Family Study. The Nutrition, Physical Activity and Metabolism and the Cardiovascular Disease Epidemiology and Prevention, American Heart Association, Atlanta, March 22-25, 2011

47. **Zhao J**, * Forsberg CF, Yang J,[†] Goldberg J, Smith NL, Vaccarino V. MAOA methylation is associated with subclinical atherosclerosis in a monozygotic twin sample. American Heart Association Scientific Session, Chicago, IL, Nov 13-17, 2010
48. **Zhao J**, * Wu X, Zhu Y,[†] Xiong M. A novel statistic for testing genetic interactions between linked loci. The 60th Annual Meeting of the American Society of Human Genetics, Washington, DC, Nov 2-6, 2010
49. Yang J, * Bouzyk M, Goldberg J, Vaccarino V, **Zhao J**. * Interaction between monoamine oxidase A gene polymorphism and childhood emotional abuse on susceptibility to early atherosclerosis: a twin study. The 60th Annual Meeting of the American Society of Human Genetics, Washington, DC, Nov 2-6, 2010
50. **Zhao J**, * Goldberg J, Bremner JD, Jones L, Bouzyk M, Tang W, Vaccarino V. Dietary intake modifies the effect of leukotriene A4 hydrolase gene on subclinical atherosclerosis. The 49th Cardiovascular Disease Epidemiology and Prevention, American Heart Association, Palm Harbor, FL, March 10-14, 2009 (Platform presentation. *This abstract was selected as Finalist for the Sandra Daugherty Award for Excellence in Cardiovascular Disease or Hypertension Epidemiology, presented by the American Heart Association, 2009*)
51. **Zhao J**, * Goldberg J, Su S, Bouzyk M, Tang W, Bremner JD, Jones L, Murrah N, Vaccarino V. Leukotriene A4 hydrolase gene polymorphism is associated with subclinical atherosclerosis. The 49th Cardiovascular Disease Epidemiology and Prevention, American Heart Association, Palm Harbor, FL, March 10-14, 2009
52. Su S, **Zhao J**, * Bremner JD, Miller AH, Bouzyk M, Snieder H, Goldberg J, Vaccarino V. haplotypes of serotonin transporter gene associated with both depressive symptoms and interleukin-6 in middle-aged males: the twins heart study. The 49th Cardiovascular Disease Epidemiology and Prevention, American Heart Association, Palm Harbor, FL, March 10-14, 2009
53. **Zhao J**, * Bremner JD, Bouzyk M, Tang W, Goldberg J, Afzal N, Murrah N, Jones L, Vaccarino V. Tryptophan hydroxylase gene haplotypes modify the effect of childhood emotional abuse on symptoms of depression, American Heart Association Scientific Session, Orlando, FL, Nov 14-18, 2009
54. **Zhao J**, * Riyaz Patel,[†] A. Maziar Zafari, Viola Vaccarino, Arshed A. Quyyumi. A potential common genetic pathway linking depression to cardiovascular disease. The 58th Annual Meeting of the American Society of Human Genetics, Philadelphia, Nov 11-15, 2008
55. Luo L, Peng G, Siu H, Zhu Y,[†] Hu P, Hong S, **Zhao J**, Zhou X, Reveille J, Amos C, Jin L, Xiong M. Gene and pathway-based analysis second wave of GWAS. The 58th Annual Meeting of the American Society of Human Genetics, Philadelphia, Nov 11-15, 2008

56. **Zhao J**, * Quyyumi AA, Patel R, Qureshi I, Warren F, Zafari AM, Veledar E, Onufrak S, Gulcher JR and Vaccarino V. Gender-Specific Association of Depression and a Haplotype in Leukotriene A4 Hydrolase Gene. The 48th Cardiovascular Disease Epidemiology and Prevention, American Heart Association, Colorado Springs, CO, March 13-15, 2007
57. Veledar E, Narayan V, Wenger N, **Zhao J**, Shaw L, Wilson P, Vaccarino V. Trends in Coronary Heart Disease (CHD) Incidence and Mortality Rates in US Women. The 48th Cardiovascular Disease Epidemiology and Prevention, American Heart Association, Colorado Springs, CO, March 13-15, 2007
58. **Zhao J**, * Cheema FA, Bremner JD, Goldberg J, Su S, Snieder H, Maisano C, Jones L, Murrah N and Vaccarino V. Heritability of carotid intima-media thickness: a twin study. American Heart Association Annual Meeting, Chicago, Illinois, Nov 12-15, 2006 (*Platform presentation. This abstract won the Elizabeth Barrett-Connor Research Award in Epidemiology for Young Investigator, presented by the American Heart Association, 2006*)
59. **Zhao J**,* Cheema FA, Reddy U, Bremner JD, Su S, Goldberg J, Snieder H, and Vaccarino V. Heritability of flow-mediated dilation: a twin study. The 47th Cardiovascular Disease Epidemiology and Prevention, American Heart Association, Orlando, FL, Feb 28-Mar 3, 2006
60. **Zhao J**, Jin L and Xiong M. Nonlinear tests for genome-wide association studies. The 55th Annual Meeting of the American Society of Human Genetics, Salt Lake City, Utah, Oct 25-29, 2005
61. Wang Y, **Zhao J**, Zhou X, Wang W, Jin L and Xiong MM(2005) Identification of genetic interaction networks. The 55th Annual Meeting of the American Society of Human Genetics, Salt Lake City, Utah, Oct 25-29, 2005
62. Xiong M, **Zhao J**, Boerwinkle E and Amos C. Nonlinear transmission/disequilibrium test. The 55th Annual Meeting of the American Society of Human Genetics, Salt Lake City, Utah, Oct 25-29, 2005
63. **Zhao J** and Xiong M. Global test for genome-wide association studies. The American Journal of Human Genetics, A511. The 54th Annual Meeting of the American Society of Human Genetics, Toronto, Ontario, Canada, 2004
64. Xiong M, **Zhao J**, Boerwinkle E. Dynamic models for quantitative genetics. The American Journal of Human Genetics, A511. The 54th Annual Meeting of the American Society of Human Genetics, Toronto, Ontario, Canada, Oct 26-30, 2004
65. Zhou X, **Zhao J**, Arnett FC, Xiong M. Candidate pathway approach to genetic studies of complex traits. The 53th Annual Meeting of the American Society of Human Genetics, Los Angeles, CA, Nov 4-8, 2003
66. Xiong M and **Zhao J**. Genetic and transcriptional analysis of metabolic networks. The 53th Annual Meeting of the American Society of Human Genetics, Nov 4-8, Los Angeles, CA, Nov 4-8, 2003

67. Li Y, Liu L, **Zhao J**, Zuo J, Fang F. *Pank4*, a novel pantothenate kinase gene is a candidate gene for type 2 diabetes mellitus. The 53th Annual Meeting of the American Society of Human Genetics, Los Angeles, CA, 2003
68. Wu G, **Zhao J**, Yang C, Wang H, Zuo J, Wang Y, Liu Z, Zhang Y, Shen Y, Qiang B, Huang W, Zhu C, Fang F. Association analysis of genetic polymorphisms in *sac*, *pank4*, *casp9*, and *cdc22* genes with type 2 diabetes in Han Chinese of Northern China. The 53th Annual Meeting of the American Society of Human Genetics, Los Angeles, CA, Nov 4-8, 2003
69. **Zhao J** and Xiong M. Genetic analysis of function-valued traits. The 53th Annual Meeting of the American Society of Human Genetics, Los Angeles, CA, Nov 4-8, 2003
70. **Zhao J** and Xiong M. Unbiased quantitative population association test. The 52th Annual Meeting of the American Society of Human Genetics, Baltimore, Maryland, Oct 15-19, 2002
71. Sun H, **Zhao J**, Du W, Wang H, Zuo J, Qiang B, Shen Y, Yao Z, Huang W, Chen Z, Xiong M, Fang F. SNP analysis of candidate genes associated with type 2 diabetes in Chinese Han population. The 52th Annual Meeting of the American Society of Human Genetics, Baltimore, Maryland, Oct 15-19, 2002
72. **Zhao J** and Xiong M. The generalized T^2 test for biomarker identification using gene expression data. The 51th Annual Meeting of the American Society of Human Genetics, San Diego, CA, Oct 12-16, 2001
73. Xiong M, **Zhao J**, Li J, E Boerwinkle. Dynamic models for mapping quantitative traits with time-dependent genetic effects. The 51th Annual Meeting of the American Society of Human Genetics, San Diego, CA, Oct 12-16, 2001
74. Xiong M, **Zhao J**, Jin L, Boerwinkle E. Fine-scale mapping of quantitative traits loci by internal mapping in human population. The 50th Annual Meeting of the American Society of Human Genetics, Philadelphia, PA, Oct 3-7, 2000
75. **Zhao J**, Amos C, Boerwinkle E, Xiong M. Multiple-marker locus and multiple trait-locus linkage disequilibrium mapping of quantitative trait loci with epistasis. The 50th Annual Meeting of the American Society of Human Genetics, Philadelphia, PA, Oct 3-7, 2000
76. **Zhao J**, Xiong M, Huang W, Wang H, Zuo J, Chen Z, Qiang B, Zhang ML, Du WN, Chen JL, Ding W, Yuan WT, Zhao Y, Xu HY, Jin L, Li YX, Sun Q, Liu QY, Fang FD. Type 2 diabetes susceptibility loci maps on chromosomes 1 and 20 in Chinese Han families. The 49th Annual Meeting of the American Society of Human Genetics, San Francisco, CA, Oct 19-23, 1999

Book Chapters Published

Qin H, Ouyang W, and **Zhao J** (2020). High-order association mapping for expression quantitative trait loci. In: Xinghua Mindy Shi (1st edition): eQTL Analysis. Methods in Molecular Biology. 2020; 2082: 147–156. Springer Protocols. Humana, New York, NY. ISBN 978-1-0716-0025-2. <https://doi.org/10.1007/978-1-0716-0026-9>

Selected External Lectures/Seminars

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| 2008 | <i>Genetic Linkage and Association Analysis for Human Complex Disorders</i>
Cardiovascular Research Institute, Morehouse School of Medicine, Atlanta, GA |
| 2008 | <i>Genetic Susceptibility to Coronary Artery Disease</i>
Division of Biostatistics and Epidemiology
Medical University of South Carolina, Charleston, SC |
| 2009 | <i>Genetic Determinants of Type 2 Diabetes and Its Related Phenotypes</i>
Clinical Endocrinology and Metabolism Forum, Chinese Academy of Medical Science, Beijing, China |
| 2009 | <i>Genome-wide Linkage and Association Studies of Type 2 Diabetes</i>
Endocrinology Research Conference
University of Oklahoma Health Science Center, Oklahoma City, OK |
| 2010 | <i>Genetics of Type 2 Diabetes and Its Risk Factors</i>
School of Medicine, University of Oklahoma HSC, Oklahoma City, OK |
| 2012 | <i>Genetic mechanisms in Metabolic Disorders</i>
Emory University School of Public Health, Atlanta, GA |
| 2013 | <i>Telomeres and epigenetic factors in CVD risk</i>
Department of Biostatistics, University of North Carolina, Chapel Hill, NC |
| 2013 | <i>Biological aging and diabetes risk in American Indians</i>
Department of Biostatistics, Tulane University School of Public Health and Tropical Medicine, New Orleans |
| 2013 | <i>Genetic and epigenetic determines for CVD and type 2 diabetes</i>
Hayward Genetics Center, Tulane University School of Medicine, New Orleans, |
| 2014 | <i>Novel 'omics' markers for CVD, diabetes and their risk factors</i>
Department of Preventive Medicine, Northwestern University, Chicago, IL |
| 2014 | <i>Metabolomic profiling of CVD and diabetes: Findings from American Indians</i>
Chinese Heart Conference, Beijing, China |
| 2015 | <i>Novel Biomarkers for CVD and its Risk Factors</i>
Emory University School of Medicine, Atlanta, GA |
| 2015 | <i>Brain DNA hydroxymethylome in Alzheimer's disease: a pilot study</i>
Rush University Medical Center, Chicago, IL. |
| 2016 | <i>Novel 'Omics' Biomarkers for Human Complex Diseases: Genomics, Epigenomics, Transcriptomics, and Metabolomics</i>
Department of Epidemiology & Community Health, University of Minnesota, Minneapolis, MN |
| 2019 | <i>A longitudinal lipidomics profiling of diabetes risk in American Indians</i>
Rush University Medical Center, Chicago, IL |
| 2019 | <i>Precision Health to Human Complex Diseases: A Multi-Omics Approach</i>
Tulane University, New Orleans, LA |
| 2020 | <i>Identifying Novel Omics Markers for Human Complex Diseases</i>
Presented to the Department of Biostatistics, University of Florida, Gainesville FL |