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EDUCATION

2014 **Post-doctoral training** in genetic epidemiology
University of Michigan, Ann Arbor, MI
Supervisor: Dr. Sharon Kardia

2014 **Ph.D.** in Epidemiological Sciences
University of Michigan, Ann Arbor, MI
Dissertation: Genes, the environment, and depressive symptom scores in the Multi-Ethnic Study of Atherosclerosis
Advanced to Candidacy: Summer 2009
Oral defense: November 15, 2013
Advisor: Dr. Ana Diez-Roux, Previously: Dr. Sandro Galea

2013 **M.A.** in Statistics
University of Michigan, Ann Arbor, MI
Advisor: Dr. Ji Zhu

2008 **M.P.H.** in Public Health
University of Michigan, Ann Arbor, MI
Area of concentration: Epidemiology, mental health epidemiology
Advisor: Drs. Katherine Hoggatt, Sandro Galea

2006 **B.S.** in Mathematics, Sociology (*Cum Laude* and honors)
Minor: Religious Studies
Northern Michigan University, Marquette, MI

PROFESSIONAL RESEARCH APPOINTMENTS

| | |
|--|--|
| 2022 – Present | Faculty Associate <i>University of Michigan, Institute of Social Research Population Studies Center</i> |
| 2020 – Present | Faculty Affiliate <i>University of Michigan Michigan Alzheimer’s Disease Research Center</i> |
| 2019 – Present | Faculty Affiliate <i>University of Michigan, Institute of Social Research Population Studies Center Population Dynamics and Health Program</i> |
| August 2018 – Present | Research Assistant Professor <i>University of Michigan, Institute of Social Research Survey Research Center Population, Neurodevelopment, and Genetics</i> |
| 2017 – Present | Faculty Affiliate <i>University of Michigan, Institute of Social Research Michigan Center for the Demography of Aging</i> |
| Nov 2016 – Aug 2018 | Research Investigator <i>University of Michigan, Institute of Social Research Survey Research Center Population, Neurodevelopment, and Genetics</i> |
| Nov 2014 – Oct 2016 | Research Investigator <i>University of Michigan, Institute of Social Research Research Center for Group Dynamics Biosocial Methods Collaborative</i> |
| March 2014 – March 2015 | Research Analyst <i>University of Michigan, Institute of Social Research Army Study to Assess Risk and Resilience in Service members</i> |
| January 2014 – Oct. 2014 | Research Area Specialist – Post-doctoral training <i>University of Michigan, Department of Epidemiology Genomics, Life Science, and Community Collaborative Supervisor: Dr. Sharon Kardia</i> |
| Summer 2012 and 2013 May 2010 – August 2011 | Graduate Student Research Assistant, <i>University of Michigan</i> <i>School of Public Health, Center for Social Epidemiology and Population Health, Ann Arbor, MI</i> Advisor: Ana Diez-Roux, MD, DrPH *Robert Woods Johnson Foundation Health & Society Scholars Small Grant Award, August 2010-August 2011 |
| September 2008 – December 2009 | Graduate Student Research Assistant, <i>University of Michigan</i> <i>School of Public Health, Center for Social Epidemiology and Population Health, Ann Arbor, MI</i> Advisor: Sandro Galea, MD, DrPH |
| 2006 – September 2008 | Research Assistant, <i>University of Michigan School of Public Health,</i> <i>Center for Social Epidemiology and Population Health, Ann Arbor, MI</i> Advisor: George Kaplan, PhD |

PUBLICATIONS

Refereed articles and abstracts

Note on author order:

My work spans several disciplines but broadly, publication order follows the medical model. The first, second, and senior (last) author positions are reserved for those who guide, fund, perform, write, and conceptualize the bulk of analyses. I have noted places where I am the first, second, or senior author and when a student I have mentored is in one of those positions. Note also that I took parental leave in 2017/2018 and again in 2021/2022 resulting in decreased publications the following years.

Consortia publications: in genetic publications, the consortium allows each cohort spots for a primary analyst and a senior author who is typically the PI of the study. The analytic lead for each study would generally be considered a “second” author. I have noted places where I am the analytic lead for a genetic consortium.

2023

First, second, or senior author:

- Higgins Tejera C, **Ware EB**, Hicken M, Kobayashi LC, Zawistowski, Mukherjee B, Bakulski KM. Decomposing interaction and mediating effects of race/ethnicity and circulating cystatin c on cognitive status in the United States Health and Retirement Study. *Frontiers Human Neurology*. 2023/06;17:1052435. doi: 10.3389/fnhum.2023.1052435. PMID: 37323925; PMCID: PMC10267311.
- Reiner A, Bakulski KM, Fisher JD, Dou JF, Schnepfer L, Mitchell C, Notterman DA, Zawistowski M, **Ware EB**. Sex-specific DNA methylation in saliva from the multi-ethnic Future of Families and Child Wellbeing Study. *Epigenetics*. 2023/12;18(1):2222244. doi:10.1080/15592294.2023.2222244. PMID: 37300819; PMCID: PMC10259311.

Co-author:

- Razmi SE, Entezami P, Asarkar AA, Ware E, Hayden RE, Chang BA. Systematic review of the free thoracodorsal artery perforator flap for head and neck reconstruction. *Am J Otolaryngol*. 2023 Dec 12;45(2):104154. doi: 10.1016/j.amjoto.2023.104154. Epub ahead of print. PMID: 38113777.
- de Las Fuentes L, Schwander KL, Brown MR, ...**Ware EB**, et al. Gene-educational attainment interactions in a multi-population genome-wide meta-analysis identify novel lipid loci. *Front Genet*. 2023;14:1235337. doi: 10.3389/fgene.2023.1235337. PMID: 38028628; PMCID: PMC10651736.
- Birditt K, Turkelson A, Polenick CA, Cranford JA, Smith JA, **Ware EB**, Blow FC. Alcohol use and mortality among older couples in the United States: Evidence of individual and partner effects. *The Gerontologist*. Published online 2023/07:gnad101. doi:10.1093/geront/gnad101. PMID: 37487060.
- Entezami P, Tritter A, Shaha M, **Ware EB**, Chang B. A systematic review and meta-analysis on the outcomes of type I thyroplasty in the irradiated neck. *American Journal of Otolaryngology*. 2023/03;44(2):103769. doi:10.1016/j.amjoto.2022.103769. PMID: 36640533.

- Docherty AR, Mullins N, Ashley-Koch AE, ... **Ware EB**, et al. GWAS Meta-Analysis of Suicide Attempt: Identification of 12 Genome-Wide Significant Loci and Implication of Genetic Risks for Specific Health Factors. *Am J Psychiatry*. 2023;180(10):723-738. doi:10.1176/appi.ajp.21121266 PMID: 37777856; PMCID: PMC10603363.

Contributor not in author list:

- Kimbrel NA, Ashley-Koch AE, Qin XJ, Lindquist JH, Garrett ME, Dennis MF, Hair LP, Huffman JE, Jacobson DA, Madduri RK, Trafton JA, Coon H, Docherty AR, Mullins N, Ruderfer DM, Harvey PD, McMahon BH, Oslin DW, Beckham JC, Hauser ER, Hauser MA; Million Veteran Program Suicide Exemplar Workgroup, the International Suicide Genetics Consortium, the Veterans Affairs Mid-Atlantic Mental Illness Research, Education, and Clinical Center Workgroup, and the Veterans Affairs Million Veteran Program. Identification of Novel, Replicable Genetic Risk Loci for Suicidal Thoughts and Behaviors Among US Military Veterans. *JAMA Psychiatry*. 2023/02;80(2):135-145. doi: 10.1001/jamapsychiatry.2022.3896. PMID: 36515925; PMCID: PMC9857322.

2022

Co-author:

- Kolli A, Zhou Y, Chung G, **Ware EB**, Langa KM, Ehrlich JR. Interaction between the Apolipoprotein E4 gene and modifiable risk factors for cognitive impairment. *BMC Geriatrics*. 2022/12;22(1):938. doi: 10.1186/s12877-022-03652-w. PMID: 36474172; PMCID: PMC9724385.
- Zhang X, Ammous F, Lin L, Ratliff SM, **Ware EB**, Faul JD, Zhao W, Kardina SLR, Smith JA. The Interplay of Epigenetic, Genetic, and Traditional Risk Factors on Blood Pressure: Findings from the Health and Retirement Study. *Genes*. 2022/10;13(11):1959. doi: 10.3390/genes13111959. PMID: 36360196; PMCID: PMC9689874.
- Mullins N, Kang J, Campos AI, ... **Ware EB**, et al. Dissecting the shared genetic architecture of suicide attempt, psychiatric disorders and known risk factors. *Biological Psychiatry*. 2022/02;91(3):313-327. doi: 10.1016/j.biopsych.2021.05.029. Epub 2021 Sep 9. PMID: 34861974; PMCID: PMC8851871.
- Middleton LYM, Dou JF, Fisher J, Heiss JA, Nguyen V, Just AC, Faul JD, **Ware EB**, Mitchell C*, Colacino JA*, Bakulski KM*. Saliva cell type DNA methylation reference panel for epidemiology studies in children. *Epigenetics*. 2022/01-02;17(2):161-177. doi: 10.1080/15592294.2021.1890874. Epub 2021 Feb 22. PMID: 33588693 PMCID: PMC8865319.
- Blostein FA, Fisher J, Dou J, Schneper L, **Ware EB**, Notterman DA, Mitchell C, Bakulski KM. Polymethylation scores for prenatal maternal smoke exposure persist until age 15 and are detected in saliva in the Fragile Families and Child Wellbeing cohort. *Epigenetics*. 2022/12;17(13):2223-2240. doi: 10.1080/15592294.2022.2112815. Epub 2022 Aug 18. PMID: 35980258; PMCID: PMC9665138.

Contributor not in author list:

- Okbay A, Wu Y, Wang N, ..., Beauchamp JP, Benjamin DJ, Young AI. Polygenic prediction of educational attainment within and between families from genome-wide association analyses in 3 million individuals. *Nature Genetics*. 2022/04;54(4):437-449. doi: 10.1038/s41588-022-01016-z. Epub 2022 Mar 31. PMID: 35361970; PMCID: PMC9005349.

First, second, or senior author:

- Bakulski KM, Vadari HS, Faul JD, Heeringa SG, Kardia SLR, Langa KM, **Ware EB**. Cumulative genetic risk and APOE ϵ 4 are independently associated with dementia status in a multiethnic, population-based cohort. *Neurology Genetics*. 2021/04;7(2):e576. doi:10.1212/nxg.0000000000000576.
- Faul JD, **Ware EB**, Kabeto MU, Langa KM. The effect of childhood socioeconomic position and social mobility on cognitive function and change among older adults: A comparison between the United States and England. *Journal of Gerontology B Psychological Sciences and Social Sciences*. 2021/06;76(S):S51–S63. doi:10.1093/geronb/gbaa138
- Fu M, Bakulski KM, Higgins C, **Ware EB**. Mendelian randomization of dyslipidemia on cognitive impairment among older Americans. *Frontiers in Neurology*. 2021/06;12:1002. doi:10.3389/fneur.2021.660212
- Gard AM, **Ware EB**, Hyde LW, Schmitz L, Faul J, Mitchell C. Phenotypic and genetic markers of psychopathology in a population-based sample of older adults. *Translational Psychiatry*. 2021/04;11:239. doi:10.1038/s41398-021-01354-2
- **Ware EB**, Morataya C, Fu M, Bakulski KM. Type 2 diabetes and dementia in the Health and Retirement Study: A Mendelian randomization approach. *Frontiers in Genetics*. 2021/03;12:634767. doi:10.3389/fgene.2021.634767

Co-author:

- Bakulski KM, Fisher JD, Dou JF, Gard A, Schnepfer L, Notterman DA, **Ware EB**, Mitchell C. Prenatal particulate matter exposure is associated with saliva DNA methylation at age 15: Applying cumulative DNA methylation scores as an exposure biomarker. *Toxics*. 2021/10;9(10):262. doi:10.3390/toxics9100262
- Jhun MA, Mendelson M, Wilson R, Gondalia R, Joehanes R, Salfati E, ... **Ware EB**, et al. A multi-ethnic epigenome-wide association study of leukocyte DNA methylation and blood lipids. *Nature Communications*. 2021/06;12:3987. doi:10.1038/s41467-021-23899-y
- Stein MB, Jain S, Campbell-Sills L, **Ware EB**, Choi KW, He F, et al. Polygenic risk for major depression is associated with lifetime suicide attempt in US soldiers independent of personal and parental history of major depression. *American Journal of Medical Genetics B Neuropsychiatric Genetics*. 2021/07. Advance online publication. doi:10.1002/ajmg.b.32868
- West BT, Little RJA, Andridge RR, Boonstra PS, **Ware EB**, Pandit A, Alvarado-Leiton F. Assessing selection bias in regression coefficients estimated from nonprobability samples with applications to genetics and demographic surveys. *Annals of Applied Statistics*. 2021/09;15(3):1556-1581. doi:10.1214/21-AOAS1453

Health and Retirement Study analytic lead (“second author”) in a consortium:

- Bressler J, Davies G, Smith AV, ... **Ware EB**, ..., Seshadri S, Mosley TH, Deary IJ. Association of low-frequency and rare coding variants with information processing speed. *Transl Psychiatry*. 2021 Dec 4;11(1):613. doi: 10.1038/s41398-021-01736-6. PMID: 34864818; PMCID: PMC8643353.
- de las Fuentes L, Sung, YJ, Noordam R, Winkler T, Feitosa, MF, Schwander K., . . . **Ware EB**, et al. Gene-educational attainment interactions in a multi-ancestry genome-wide meta-analysis identify

novel blood pressure loci. *Molecular Psychiatry*. 2021/05;26(6):2111-2125. doi:10.1038/s41380-020-0719-3

- Graff M, Justice AE, Young KL, Marouli E, Zhang X, ... **Ware EB**, et al. Discovery and fine-mapping of height loci via high-density imputation of GWASs in individuals of African ancestry. *American Journal of Human Genetics*. 2021/04;108(4):564-582. doi:10.1016/j.ajhg.2021.02.011
- Sun D, Richard MA, Musani SK, Sung YJ, Winkler TW, Schwander K, ... **Ware EB**, et al. Multi-ancestry genome-wide association study accounting for gene-psychosocial factor interactions identifies novel loci for blood pressure traits. *Human Genetics and Genomics Advances*. 2021/01;2(1):100013. doi:10.1016/j.xhgg.2020.100013

2020

First, second, or senior author:

- **Ware EB**, Faul JD, Mitchell C, Bakulski KM. Considering the APOE locus in polygenic scores for Alzheimer's disease. *BMC Medical Genomics*. 2020/11;13(1):164. doi:10.1186/s12920-020-00815-9

Co-author:

- Brown KM, Diez-Roux AV, Smith JA, Needham BL, Mukherjee B, **Ware EB**, et al. Social regulation of inflammation related gene expression in the Multi-Ethnic Study of Atherosclerosis. *Psychoneuroendocrinology*. 2020/05;117:104654. doi:10.1016/j.psyneuen.2020.104654
- Kho M, Smith JA, Verweij N, Shang L, Ryan KA, Zhao E, **Ware EB**, et al. Genome-wide meta-analysis identifies suggestive loci for sodium intake, potassium intake, and their ratio measured from 24-hour or half-day urine samples. *American Journal of Clinical Nutrition*. 2020/08:nxaa241. doi:10.1093/jn/nxaa241
- Logue MW, Miller MW, Wolf EJ, Huber BR, Morrison FG, Zhou Z, ... **Ware EB**, ... and the Traumatic Stress Brain Study Group. An epigenome-wide association study of posttraumatic stress disorder in US veterans implicates several new DNA methylation loci. *Clinical Epigenetics*. 2020/03;12(1):46. doi:10.1186/s13148-020-0820-0
- Weiss J, Puterman E, Prather AA, **Ware EB**, Rehkopf DH. A data-driven prospective study of dementia among older adults in the United States. *PLoS One*. 2020/10;15(10):e0239994. doi:10.1371/journal.pone.0239994

2019

First, second, or senior author:

- Schmitz LL, Gard AM, **Ware EB**. Examining sex differences in pleiotropic effects for depression and smoking using polygenic and gene-region aggregation techniques. *American Journal of Medical Genetics B: Neuropsychiatric Genetics*. 2019/09;180(6):448-468. doi:10.1002/ajmg.b.32748
- Taylor JY*, **Ware EB***, Wright ML, Smith JA, Kardia SLR. Using genetic burden scores for gene-by-methylation interaction analysis on metabolic syndrome in African Americans. *Biological Research in Nursing*. 2019/02;21(3):279-285. doi:10.1177/1099800419828486
*Co-first authors
- **Ware EB**, Smith JA, Zhao W, Ganesvoort RT, Curhan G, Pollak M, et al. Genome-wide association study of 24-hour urinary excretion of calcium, magnesium, and uric acid. *Mayo Clinic Proceedings: Innovations, Quality & Outcomes*. 2019/11;3(4):448-460. doi:10.1016/j.mayocpiqo.2019.08.007

Co-author:

- Brown KM, Diez-Roux AV, Smith JA, Needham BL, Mukherjee B, **Ware EB**, et al. Expression of socially sensitive genes: The multi-ethnic study of atherosclerosis. *PLoS One*. 2019/04;14(4), e0214061. doi:10.1371/journal.pone.0214061

Health and Retirement Study analytic lead (“second author”) in a consortium:

- Bentley AR, Sung YL, Brown MR, ..., **Ware EB**, et al. CHARGE gene x lifestyle working group. Multi-ancestry genome-wide gene-smoking interaction study of 387,272 individuals identifies new loci associated with serum lipids. *Nature Genetics*. 2021/03;51(4):636-648. doi:10.1038/s41588-019-0378-y
- Deelen J, Evans DS, Arking DE, Tesi N, Nygaard M, Liu X, . . . **Ware EB**, et al. A meta-analysis of genome-wide association studies identifies multiple longevity genes. *Nature Communications*. 2019/08;10(1):3669. doi:10.1038/s41467-019-11558-2
- De Vries PS, Brown MR, Bentley AR, ... **Ware EB**, et al. Multi-ancestry genome-wide association study incorporating gene-alcohol interactions identifies new lipid loci. *American Journal of Epidemiology*. 2019/01;188(6):1033-1054. doi:10.1093/aje/kwz005
- Kilpelainen TO, Bentley AR, Noordam R,... **Ware EB**, et al. Multi-ancestry study of blood lipid levels identifies four loci interacting with physical activity. *Nature Communications*. 2019/01;10:376. doi:10.1038/s41467-018-08008-w
- Sung YJ, de Las Fuentes L, Chasman DI, Bentley AR, Kraja AT, . . . **Ware EB**, et al. A multi-ancestry genome-wide study incorporating gene–smoking interactions identifies multiple new loci for pulse pressure and mean arterial pressure. *Human Molecular Genetics*. 2019/08;28(15):2615-2633. doi:10.1093/hmg/ddz070

Genomic Epidemiology Network of Arteriopathy analytic lead (“second author”) in a consortium:

- Wang H, Nandakumar P, Tekola-Ayele F, Tayo BO, **Ware EB**, Gu CC, et al. Combined linkage and association analysis identifies rare and low frequency variants for blood pressure at 1q.31. *European Journal of Human Genetics*. 2019/02;27(2):269-277. doi:10.1038/s41431-018-0277-1

2018

First, second, or senior author:

- Wright ML, **Ware EB**, Smith JA, Kardina SLR, Taylor JY. Joint influence of SNPs and DNA methylation on lipids in African Americans from hypertensive sibships. *Biological Research in Nursing*. 2018/01;20(2):161-167. doi:10.1177/1099800417752246

Co-author:

- Kattah AG, Suarez MLG, Milic N, Kantarci K, Zeydan B, Mosley T, Turner ST, **Ware EB**, et al. Hormone therapy and urine protein excretion: a multiracial cohort study, systematic review, and meta-analysis. *Menopause*. 2018/06;25(6):625-634. doi:10.1097/GME.0000000000001062
- Liu J, Zhao W, **Ware EB**, Turner ST, Mosley TH, Smith JA. DNA methylation in the APOE genomic region is associated with cognitive function in African Americans. *BMC Medical Genomics*. 2018/05;11(1):43. doi:10.1186/s12920-018-0363-9

- Rudra P, Broadaway KA, **Ware EB**, Jhun MA, Bielak LF, Zhao W, et al. Testing cross-phenotype effects of rare variants in longitudinal studies of complex traits. *Genetic Epidemiology*. 2018/06;42(4):320-332. doi:10.1002/gepi.22121
- Ward-Caviness CK, Huffman JE, Evertt K, Germain M, ... **Ware EB**, et al. DNA methylation age is associated with an altered hemostatic profile in multi-ethnic meta-analysis. *Blood*. 2018/10;132(17):1842-1850. doi:10.1182/blood-2018-02-831347

Health and Retirement Study analytic lead (“second author”) in a consortium:

- Davies G, Lam M, Harris SE, Trampush JW, Luciano M, Hill WD, ... **Ware EB**, et al. Study of 300,486 individuals identifies 148 independent genetic loci influencing general cognitive function. *Nature Communications*. 2018/05;9(1):2098. doi:10.1038/s41467-018-04362-x
- Feitosa MF, Kraja AT, Chasman DI, Sung YJ, Winkler TW, Ntalla I, ..., **Ware EB**, et al. Novel genetic associations for blood pressure identified via gene-alcohol interaction in up to 570K individuals across multiple ancestries. *PLoS One*. 2018/06;13(6):e0198166. doi:10.1371/journal.pone.0198166
- Sung YJ, Thomas WW, de las Fuentes L, ... **Ware EB**, et al. A large-scale multi-ancestry genome-wide study incorporating gene-smoking interactions identifies 139 genome-wide significant loci for systolic and diastolic blood pressure. *American Journal of Human Genetics*. 2018/03;102(3):375-400. doi:10.1016/j.ajhg.2018.01.015
- Turcot V, Lu Y, Highland HM, Schurmann C, Justice AE, Fine RS, ... **Ware EB**, et al. Protein-altering variants associated with body mass index implicate pathways that control energy intake and expenditure in obesity. *Nature Genetics*. 2018/01;50(1):26-41. doi:10.1038/s41588-017-0011-x

Mutliethnic Study of Atherosclerosis analytic lead (“second author”) in a consortium:

- Haljas K, Amare AT, Behrooz AZ, Sneider H, Hsu Y, Mosley T, ... **Ware EB**, et al. Bivariate genome-wide association study of depressive symptoms with type 2 diabetes and quantitative glycemic traits. *Psychosomatic Medicine*. 2018/04;80(3):242-251. doi:10.1097/PSY.0000000000000555

2017

First, second, or senior author:

- Perinpam M, **Ware EB**, Smith JA, Turner STT, Kardina SLR, Lieske JC. Association of urinary citrate excretion, pH, and net gastrointestinal alkali absorption with diet, diuretic use, and diabetic risk factors. *Physiological Reports*. 2017/10;5(19):e13411. doi:10.14814/phy2.13411
- Stein MB, **Ware EB**, Mitchell C, Chen CY, Borja S, Cai T, et al. Genomewide association studies of suicide attempts in US soldiers. *American Journal of Medical Genetics B Neuropsychiatric Genetics*. 2017/09;174(8):786-797. doi:10.1002/ajmg.b.32594
- Zhao W, **Ware EB**, He Z, Kardina SLR, Faul JD, Smith JA. Interaction between social/psychosocial factors and genetic variants on Body Mass Index: A gene-environment interaction analysis in a longitudinal setting. *International Journal of Environmental Research Public Health*. 2017/09;14(10):1153. doi:10.3390/ijerph14101153

Co-author:

- Canales B, Smith JA, Weiner ID, **Ware EB**, Zhao W, Kardia SLR, et al. Polymorphisms in renal ammonia metabolism genes correlate with 24 hour urine pH. *Kidney International Reports*. 2017/11;2(6):1111-1121. doi:10.1016/j.ekir.2017.06.009
- Jhun MA, Smith JA, **Ware EB**, Kardia SLR, Mosley TH, Turner ST, et al. Modeling the causal role of DNA methylation in the association between cigarette smoking and inflammation in African Americans: A two-step epigenetic Mendelian randomization study. *American Journal of Epidemiology*. 2017/11;186(10):1149-1158. doi:10.1093/aje/kwx181
- Sofer T, Wong Q, Hartwig FP, Taylor K, Warren HR, Evangelou E, ... **COGENT-BP consortium***, et al. Genome-wide association study of blood pressure traits by Hispanic/Latino background: The Hispanic Community Health Study/Study of Latinos. *Scientific Reports*. 2017/09;7(1):10348. doi:10.1038/s41598-017-09019-1
*Highlighted as a collaborator

Health and Retirement Study analytic lead ("second author") in a consortium:

- Direk N, Williams S, Smith JA, Ripke S, Air T, ..., **Ware EB**, et al. An analysis of two genome-wide association meta-analyses identifies a new locus for broad depression phenotype. *Biological Psychiatry*. 201/02;82(5):322-329. doi:10.1016/j.biopsych.2016.11.013
- Liang J, Le TH, Edwards DRV, Tayo BO, ... **Ware EB**, et al. Single-trait and multi-trait genome-wide association analyses identify novel loci for blood pressure in African-ancestry populations. *PLoS Genetics*. 2017/05;13(5):e1006728. doi:10.1371/journal.pgen.1006728
***Top 10% most cited PLOS Genetics papers published in 2017
- Ng MCY, Graff M, Lu Y, ..., **Ware EB**, et al. Discovery and fine-mapping of adiposity loci using high density imputation of genome-wide association studies in individuals of African ancestry: African ancestry anthropometry genetics consortium. *PLoS Genetics*. 2017/04;13(4):e1006719. doi:10.1371/journal.pgen.1006719

Genomic Epidemiology Network of Arteriopathy analytic lead ("second author") in a consortium:

- He KY, Wang H, Cade BE, Nandakumar P, Giri A, **Ware EB**, et al. Rare variants in Fox-1 Homolog A (RFX1) are associated with lower blood pressure. *PLoS Genetics*. 2017/03;13(3):e1006678. doi:10.1371/journal.pgen.1006678
- Nandakumar P, Lee D, Richard MA, Tekola-Ayele F, Tayo BO, **Ware E**, et al. Rare coding variants associated with blood pressure in 15,914 individuals of African ancestry. *Journal of Hypertension*. 2017/07;35(7):1381-1389. doi:10.1097/HJH.0000000000001319

2016

First, second, or senior author:

- Perinpan M, **Ware EB**, Smith JA, Turner ST, Kardia SLR, Lieske JC. Key influence of sex on urine volume and osmolality. *Biological Sex Differences*. 2016/02;7:12. doi:10.1186/s13293-016-0063-0
- Smith JA, **Ware EB**, Zhao W, Faul JD, Kardia SL. Abstract P207: Gene-by-Psychosocial factor interactions on blood pressure in older non-Hispanic whites and African Americans: A genomic region-level analysis. *Circulation*. 2016/03;133(S1):AP207.

- **Ware EB**, Smith JA, Faul JD, Kardia SL. Abstract P091: Ethnic disparities in social and psychosocial factors modify the effect of genes on body mass index. *Circulation*. 2016/03;133(S1):AP091. doi:10.1161/circ.133.suppl_1.p091
- **Ware EB**, Smith JA, Mukherjee B, Lee S, Kardia SL, Diez-Roux AV. Applying novel methods for assessing individual- and neighborhood-level social and psychosocial environment interactions with genetic factors in the prediction of depressive symptoms in the multi-ethnic study of atherosclerosis. *Behavior Genetics*. 2016/01;46(1):89-99. doi:10.1007/s10519-015-9734-6

Co-author:

- Broadaway KA, Cutler DJ, Duncan R, Moore JL, **Ware EB**, Jhun MA, et al. A statistical approach for testing cross-phenotype effects of rare variants. *American Journal of Human Genetics*. 2016/03;98(3):525-540. doi:10.1016/j.ajhg.2016.01.017
- Lieske JC, Turner ST, Edeh SN, **Ware EB**, Kardia SL, Smith JA. Heritability of dietary traits that contribute to nephrolithiasis in a cohort of adult sibships. *Journal of Nephrology*. 2016/04;29(1):45-51. doi:10.1007/s40620-015-0204-2
- Stein M, Chen CY, Ursano R, ... **Ware EB**, et al. Genome-wide association studies of Posttraumatic Stress Disorder in 2 cohorts of US Army Soldiers. *JAMA Psychiatry*. 2016/07;73(7):695-704. doi:10.1001/jamapsychiatry.2016.0350

Health and Retirement Study analytic lead ("second author") in a consortium:

- Joehanes R, Just AC, Marioni R, ... **Ware EB**, et al. Epigenetic signatures of cigarette smoking. *Circulation*. 2016/09;9(5):436-447. doi:10.1161/circgenetics.116.001506
- Marioni RE, Ritchie SJ, Joshi PK, Hagenaars SP, Okbay A, ... **Ware EB**, et al. Genetic variants linked to education predict longevity. *Proceedings of the National Academy of Science U S A*. 2016/11;113(47):13366-13371. doi:10.1073/pnas.1605334113
- Okbay A, Beauchamp JP, Fontana MA, Lee JJ, Pers TH, Rietveld CA, Turley P, ... **Ware EB**, et al. Genome-wide association study identifies 74 loci associated with educational attainment. *Nature*. 2016/05;533(7604):539-542. doi:10.1038/nature17671

2015

First, second, or senior author:

- Perinpan M, **Ware EB**, Smith JA, Turner ST, Kardia SLR, Lieske JC. Effect of Demographics on Excretion of Key Urinary Factors Related to Kidney Stone Risk. *Urology*. 2015/10;86(4):690-6. doi:10.1016/j.urology.2015.07.012
- Smith JA, **Ware EB**, Middha P, Beacher L, Kardia SLR. Current applications of genetic risk scores to cardiovascular outcomes and subclinical phenotypes. *Current Epidemiological Reports*. 2015/07;2(3):180-190. doi:10.1007/s40471-015-0046-4
- **Ware EB***, Riehle E*, Smith JA, Zhao W, Turner ST, Kardia SLR, Lieske JC. SLC2A9 genotype is associated with SLC2A9 gene expression and urinary uric acid concentration. *PLoS One*. 2015/07;10(7):e0128593. doi:10.1371/journal.pone.0128593

*Co-first authors

- **Ware EB**, Mukherjee B, Sun YV, Diez-Roux AV, Kardia SL, Smith JA. Comparative genome-wide association studies of a depressive symptom phenotype in a repeat measures setting by race/ethnicity in the multi-ethnic study of atherosclerosis. *BMC Genetics*. 2015/10;16(1):118 doi:10.1186/s12863-015-0274-0

Co-author:

- Epstein MP, Duncan R, **Ware EB**, et al. A statistical approach for rare-variant association testing in affected sibships. *American Journal of Human Genetics*. 2015/04;96(4):543-554. doi:10.1016/j.ajhg.2015.01.020
- He Z, Payne EK, Mukherjee B, Lee S, Smith JA, **Ware EB**, et al. Association between stress response genes and features of diurnal cortisol curves in the multi-ethnic study of atherosclerosis: A new multi-phenotype approach for gene-based association tests. *PLoS One*. 2015/05;10(5):e0126637. doi:10.1371/journal.pone.0126637
- Joshi PK, Esko T, Mattsson H, Eklund N, Gandin I, Nutile T, ... **Ware EB**, et al., for ROHGEN. Directional dominance on stature and cognition in diverse human populations. *Nature*. 2015/07;523:459-462. doi:10.1038/nature14618
- Olfson E, Saccone LN, Johnson EO, Chen LS, Culverhouse R, Doheny K,... **Ware EB**, et al. Rare, low frequency, and common coding variants in *CHRNA5* and their contribution to nicotine dependence in European and African Americans. *Molecular Psychiatry*. 2015/08;21(5):601-607. doi:10.1038/mp.2015.105

2013

- Hek K, Demirkan A, Lahti J,...**Bakshis E**, et al. A Genome-wide Association Study of Depressive Symptoms. *Biological Psychiatry*. 2013/04;73(7):667-78. doi:10.1016/j.biopsych.2012.09.033

2011

- Uddin M, de los Santos R, **Bakshis E**, Cheng C, Aiello AE. Building conditions, 5-HTTLPR genotype, and depressive symptoms in adolescent males and females. *Journal of Adolescent Health*. 2011/10;49(4):379-85. doi:10.1016/j.jadohealth.2011.01.013

2010

- Uddin M, Koenen K, de los Santos R, **Bakshis E**, Aiello AE, Galea S. Gender differences in the genetic and environmental determinants of adolescent depression. *Depression and Anxiety*. 2010/03;27(7):658-66. doi:10.1002/da.20692

2009

- Koenen KC, Aiello AE, **Bakshis E**, et al. Modification of the association between serotonin transporter genotype and risk of posttraumatic stress disorder in adults by county-level social environment. *American Journal of Epidemiology*. 2009/03;169(6):704-711. doi:10.1093/aje/kwn397

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- Ahern J, Jones MR, **Bakshis E**, Galea S. Revisiting rose: Comparing the benefits and costs of population-wide and targeted interventions. *Milbank Quarterly*. 2008/12;86(4):581-600. doi:10.1111/j.1468-0009.2008.00535.x

Pre-prints

Note on preprint servers:

As open science becomes more prominent, and based in part on the speed of technological advances in genomics, posting preprints on engines such as arXiv, medRxiv, biorXiv is particularly imperative to my work. While these are not formally peer-reviewed, they are indeed open to all scientists and often receive more critical, comprehensive, and diverse commentary and critiques than the traditional submission process. I have removed preprint manuscripts that have been published. All manuscripts I have listed here are simultaneously under review in high impact journals such as the *American Journal of Epidemiology*, *PLoS One*, *Journal for Alzheimer's Disease*, and the *Epigenetics*.

First, second, or senior author:

- Wang H, Bakulski KM, Blostein F, Porath BR, Dou JF, Higgins-Tejera C, **Ware EB**. Depressive symptoms are associated with DNA methylation age acceleration in a cross-sectional analysis of adults over age 50 in the United States. medRxiv 2023.04.24.23289052; doi: <https://doi.org/10.1101/2023.04.24.23289052>
- Reiner A, Bakulski KM, Fisher JD, Dou JF, Schnepfer L, Mitchell CM, Notterman DA, Zawistowski M, **Ware EB**. Sex-specific DNA methylation in saliva from the multi-ethnic Future of Families and Child Wellbeing Study medRxiv 2022.12.22.22283872; doi: <https://doi.org/10.1101/2022.12.22.22283872>
- Higgins C, **Ware EB**, Kobayashi LC, Fu M, Hicken M, Zawistowski M, Mukherjee B, Bakulski KM. Decomposing Interaction and Mediating Effects of Race/Ethnicity and Circulating Cystatin C on Cognitive Status in the United States Health and Retirement Study. medRxiv 2022.09.09.22279743; doi: <https://doi.org/10.1101/2022.09.09.22279743>
- Higgins Tejera C, **Ware EB**, Hicken MT, Kobayashi LC, Wang H, Adkins-Jackson PB, Blostein F, Zawistowski M, Mukherjee B, Bakulski KM. The Mediating Role of Systemic Inflammation and Moderating Role of Race/Ethnicity in Racialized Disparities in Incident Dementia: A Decomposition Analysis. medRxiv 2023.03.22.23287593; doi: <https://doi.org/10.1101/2023.03.22.23287593>
- **Ware EB**, Higgins-Tejera C, Harris S, Fisher JD, Bakulski KM. Additive interaction and mediation-interaction decomposition: DNA methylation age acceleration, education, and cognitive impairment in the Health and Retirement Study. medRxiv 2022.12.23.22283919; doi: <https://doi.org/10.1101/2022.12.23.22283919>
- **Ware EB**, Schmitz LL, Faul JD, Gard AM, Smith JA, Mitchell CM, Weir DR, Kardina SLR. (2017). Heterogeneity in polygenic scores for common human traits. *bioRxiv*. <https://doi.org/10.1101/106062>
- Fu M, Faul JD, Jin Y, **Ware EB***, Bakulski KM*. (2019) Mendelian randomization of smoking behavior on cognitive status among older Americans. *medRxiv*. <https://doi.org/10.1101/2019.12.11.19014522>
*Authors contributed equally to this work

Co-author:

- Weiss J, Puterman E, Prather AA, **Ware EB**, Rehkopf DH. A data-driven prospective study of dementia among older adults in the United States. *arxiv:2006.13275*

Books and book chapters

- Gard AM, **Ware EB**. (2021). Chapter 7 - Linking gene regions jointly with environment and depression. In C. R. Martin, L.-A. Hunter, V. B. Patel, V. R. Preedy, & R. Rajendram (Eds.), *The*

Neuroscience of Depression (pp. 69-76). Academic Press.
<https://doi.org/https://doi.org/10.1016/B978-0-12-817935-2.00003-9>

- **Ware EB**, Faul JD. (2021). Chapter 4 - Genomic data measures and methods: a primer for social scientists. In K. F. Ferraro & D. Carr (Eds.), *Handbook of Aging and the Social Sciences (Ninth Edition)* (pp. 49-62). Academic Press. <https://doi.org/https://doi.org/10.1016/B978-0-12-815970-5.00004-8>
- Uddin M, **Bakshis EJ**, de los Santos R. (2012). Childhood maltreatment and county-level deprivation jointly moderate the relation between serotonin transporter promoter genotype and depressive symptoms in adolescent girls. In *Mental Illness – Book 1*. Rijeka, Croatia: *Intec-Open Access Publisher*.

Revise and Resubmit

- Reiner A, Bakulski KM, Fisher JD, Dou JF, Schnepfer L, Mitchell CM, Notterman DA, Zawistowski M, **Ware EB**. Sex-specific DNA methylation in saliva from the multi-ethnic Future of Families and Child Wellbeing Study. *Epigenetics*
- Birditt K, Turkelson A, Polenick CA, Cranford JA, Smith JA, **Ware EB**, Blow FC. Alcohol Use and Mortality among Older Couples in the United States: Evidence of Individual and Partner Effects. *The Gerontologist*

Under review

- CHARGE Gene-Lifestyle working group. Gene-educational attainment interactions in a multi-ancestry genome-wide meta-analysis identify novel lipid loci. *In review – Molecular Psychiatry*
- Courtin E, Greener R, Weiss J, **Ware EB**, Dowd JB, Rehkopf DH. The changing relationship between genetic risk and cognitive decline across birth cohorts. *In review*.

Data products

- **Ware EB**, Skehan M, Kasper JD, Freedman VA, Schrack JA. 2022. Polygenic score documentation – National Health and Aging Trends Study. *Forthcoming*.
- **Ware EB**, Battle SL, Skehan M, Arking DE, Freedman VA, Schrack JA, Kasper JD. 2022. Quality Control and Imputation Report for Genotypic data – National Health and Aging Trends Study. *Forthcoming*.
- **Ware EB**, Fisher J, Mitchell C. CDS-2014 Polygenic Scores – Early Release 1. In Sastry N, Fomby P, Tsai Y. Panel Study of Income Dynamics, Child Development Supplement 2014: User Guide to Genomic Data
- **Ware EB**, Gard AM, Schmitz LL, Faul JD. HRS Polygenic Scores – Release 4. Ann Arbor, MI: Survey Research Center, Institute for Social Research, University of Michigan; 2020.
- **Ware EB**, Gard AM, Schmitz LL, Faul JD. HRS Polygenic Scores – Release 3. Ann Arbor, MI: Survey Research Center, Institute for Social Research, University of Michigan; 2019.
- **Ware EB**, Gard AM, Schmitz LL, Faul JD. HRS Polygenic Scores – Release 2. Ann Arbor, MI: Survey Research Center, Institute for Social Research, University of Michigan; 2018.
- **Ware EB**, Schmitz LL, Faul JD. HRS Polygenic Scores – Release 1. Ann Arbor, MI: Survey Research Center, Institute for Social Research, University of Michigan; 2017.

GRANTS

Current research is supported by the following funding sources:

R01 AG076032 (NIH/NIA) Perry (PI) 09/01/22-04/30/27

Epigenetic Mechanisms Underlying the Direct and Moderating Effects of Social Connectedness on Complex Diseases in Aging

Role: Co-Investigator

R25 AG053227 (NIH/NIA) Faul/Mitchell/Ware (MPI's) 08/01/22-07/31/27

Genomic Analysis for Social-Behavioral Scientists

R01 MH123458 Sripada (PI) 06/01/21-03/31/26

Building a multi-factor etiological model of the emergence of general psychopathology (the "P factor") in adolescence with multi-modal neuroimaging in ABCD

Role: Co-Investigator

R01 HL156991 Rao (PI) 04/27/21-03/31/25

A Multi-Ancestry Study of Gene-Lifestyle Interactions and Multi-Omics in Cardiometabolic Traits

Role: Co-Investigator

R01 AG071071 Mitchell/Faul/Gaydosch (MPI's) 03/15/21-02/28/26

Biological Aging Across the Life Course: Harmonizing Cohort Biospecimen Archives

Role: Co-Investigator

R01 AG067592 Bakulski & Ware (MPI's) 09/01/20-08/31/25

DNA Methylation, Genetics, and Modifiable Risk Factors of Dementia in a Nationally Representative, Multi-Ethnic Cohort

R01 HD099135 (NIH/NICHD) Axinn (PI) 06/15/20-02/28/25

Intergenerational Influences on Marriage, Divorce, Contraception and Childbearing

Role: Co-Investigator

R01 AA026687 (NIH/NIAAA) Birditt (PI) 09/20/19-08/31/23

Alcohol consumption and cardiovascular health among older couples: The roles of genetics and marital quality

Role: Co-Investigator

R01 HD076592 (NIH/NICHD) Notterman and Mitchell (MPI's) 05/01/19-04/30/24

Biological and social mediators of child wellbeing among ethnic groups in Fragile Families

Role: Co-Investigator

R01 MD011716 (NIH/NIMHD) Mitchell (PI) 08/01/18-05/31/23

Epigenetic Mediation of Adverse Social Context on Stress Response, Socioemotional Development, and Health in a Population-based Study of Minority and Low SES Children and Adolescents

Role: Co-Investigator

R01 MD011716-S1 (NIH/NIMHD) Mitchell (PI) 08/01/18-05/31/23

Epigenetic Mediation of Adverse Social Context on Stress Response, Socioemotional Development, and Health in a Population-based Study of Minority and Low SES Children and Adolescents - Supplement

Role: Co-Investigator

R01 AG055406 (NIH/NIA) Ware & Bakulski (MPI's) 09/01/17-05/31/23

Characterizing disparities in late-onset Alzheimer's disease risk through polygenic risk and epidemiologic factors in the Health and Retirement Survey

Role: MPI

U01 AG009740 (NIH/NIA) Weir (PI) 01/01/18-12/31/23

Health and Retirement Study Yrs 29-34

Role: Collaborator

Previous research was supported by the following grants:

RF1 AG055654 (NIH/NIA) Galama & Faul (MPI's) 09/15/17-06/30/23

Identifying modifiable aspects of gene-by-SES and gene-by-work interplay in later-life cognitive decline

Role: Co-Investigator

R25 AG053227 (NIH/NIA) Faul/Kardia/Mitchell (MPI's) 09/15/16-07/31/22

Genomic Analysis for Social-Behavioral Scientists

Role: Co-Investigator, Lab instructor

R25 AG053227-04S1 (NIH/NIA) Faul, Kardia, Mitchell (MPI's) 09/01/19-07/31/22

Genomic Analysis for Social-Behavioral Scientists - Administrative Supplement

Role: Co-Investigator, Lab instructor

U24 AG058556 (NIH/NIA) Kritchevsky (PI) 04/01/20-03/31/22

Examining Sex Differences in Pleiotropic Effects for Depression and Alzheimer's Disease Across the Life Course (Pilot)

Role: pilot Principal Investigator

P30 ES017885 (NIH/NIEHS) Richardson (PI) 04/01/18-03/31/19

Pilot Award

Mitchell (PI)

Cell type reference for saliva DNA methylation studies in children for environmental epidemiology

Role: Pilot Co-Investigator

P30 AG012846 (NIH/NIA) Bound (PI) 07/01/16-06/30/18

Michigan Center on the Demography of Aging Pilot Grant

Pilot Award

Ware & Schmitz (MPI's)

Demographic and socioeconomic differences in polygenic risk of cardiovascular health in the Health and Retirement Study

Role: Pilot MPI

U01 AG009740 (NIH/NIA) Weir (PI) 01/01/98-12/31/17

Health and Retirement Study Yrs 23-28

Role: Collaborator

BioSocial Methods Collaborative (University of Michigan Provost Funds) 01/01/13-12/31/18

Gonzalez (Director)

Role: Research Investigator

R01 HL133221 (NIA/NHLBI) Smith (PI) 07/01/16-06/30/20
Epigenetics of Arteriosclerosis in African American Hypertensive Sibships
Role: Research Investigator

R01 HL119443 (NIH/NHLBI) Kardia (PI) 09/01/14-08/31/18
Genetic Mechanisms of Arteriosclerosis in Hypertensive Sibships
Role: Research Investigator

1U01MH08798101 (NIH/NIMHD) Heeringa (PI) 07/16/09-06/30/15
Modifiable Risk and Protective Factors for Suicidal Behaviors in the US Army
Role: Research Investigator

R03 AG046389 (NIH/NIA) Kardia (PI) 09/30/13-08/31/15
Genetic and Psychosocial Predictors of Blood Pressure and Body Mass Index
Role: Key Personnel Research Investigator

R01 HL086694 (NIH/NHLBI) Chakravarti (PI) 08/05/11-5/30/15
Kardia (PI of UM subcontract)
Genome-Wide Association Analysis in Essential Hypertension
Role: Staff scientist

R01 HL101161 (NIH/NHLBI) Diez Roux (PI) 06/15/10-6/30/15
Stress, Gene-Environment Interaction and Cardiovascular Disease
Role: Graduate Student Research Assistant

N012549-399788 Bakshis (Ware) (pilot PI) 05/15/10-08/31/10
RWJF
Gene X social environment interactions and depressive symptom scores
Role: Pilot PI

AWARDS AND HONORS

2021-2023 *National Institutes of Health Loan Repayment Awardee – Health Disparities*
2017-2019 *National Institutes of Health Loan Repayment Awardee – Health Disparities*
2017 *National Institute on Aging – Butler-Williams Scholar*
2016 *A. Regula Herzog Young Investigator Award, Institute for Social Research*
2016 *Fragile Families Data Workshop Selectee, Princeton University and Columbia University*
2016 *MiCDA Small grant awardee, University of Michigan*
2015 *Michigan Road Scholar, University of Michigan*
2013 *Michigan SAS Users Group Student Scholarship*
2012 *SAS Global Forum Student Scholarship Award*
2011 *Michigan SAS Users Group Student Scholarship*
2010-2011 *Robert Wood Johnson Foundation Health & Society Scholars Grant Winner*
2010 *Dolores Zohrab Liebmann Fellowship, National Competition, Finalist*
2009 *Shapiro/Malik Award, University of Michigan*
2009-2010 *Elected PhD Student Representative to the Admissions Committee, Department of Epidemiology, University of Michigan*
2009 *Rackham Travel Grant, University of Michigan*

2009 *Epidemiology Travel Block Grant, University of Michigan*
2003-2006 *Northern Michigan University Scholars Award*
2003-2006 *National Academic Award, Northern Michigan University*
2005-2006 *Mary L. Campbell Scholarship Winner, Northern Michigan University*
2005 *Honors Program Leadership Award, Northern Michigan University*
2003-2006 *Dean's list, Northern Michigan University, 8 Semesters*

INVITED TALKS

- April 2022* **Invited talk** (“Connecting genomics, social science, and health: Applying novel methods to gene-environment interactions on depressive symptoms and beyond”) National Institute on Aging, Laboratory of Epidemiology and Population Science Seminar, Virtual, April 27, 2022
- November 2021* **Invited talk** (Examining Sex Differences in Pleiotropic Effects for Depression and Cognition Using Gene Aggregation Techniques) National Institute on Aging Cross-center initiative, Research Center Collaborative Network, Virtual, November 4, 2021
- August 2021* **Invited lecturer, recorded** (*Online resources for epigenomics*) *University of Michigan*, Institute for Social Research, Genomics for Social Scientists (R25, PI: Mitchell/Faul/Kardia) *Epigenetics*
- March 2021* **Invited lecturer** (*Sociogenomics and polygenic scores*) *University of Michigan*, Institute for Social Research, Population Dynamics and Health Program Workshop Series. March 16, 2021
- January 2021* **Invited lecturer, recorded** (*Online resources for epigenomics*) *University of Michigan*, Institute for Social Research, Genomics for Social Scientists (R25, PI: Mitchell/Faul/Kardia) *Epigenetics*
- May 2018* **Invited talk** (Measuring the Impact of Chemical Pollutants on the Brain Across the Lifespan). With Bakulski KM. Alzheimer’s Disease Summit. National Institute of Aging. Bethesda, MD. May 24, 2018.
- February 2018* **Invited talk** (Moving Beyond European Only Genetic Association) with Faul JD. Eastern Sociological Society, Baltimore MD, February 22-24, 2018
- March 2009* **Invited lecture** (The joint influence of genetic and social factors on population health: examples from psychiatric epidemiology). *Galea S, Koenen K, Aiello A, **Bakshis E**, Uddin M. American Epidemiological Society. Seattle, WA. March 2009.

PRESENTATIONS

- Higgins C, **Ware EB**, Hicken M, Zawistowski M, Kobayashi LC, Mukherjee B, Bakulski KM. The Moderating and Mediating Role of Systemic Inflammation on Racial Disparities in Incident Dementia: A Decomposition Analysis. American Public Health Association Boston, Massachusetts (November 2022).

- Higgins C, **Ware EB**, Hicken M, Zawistowski M, Kobayashi LC, Mukherjee B, Bakulski KM. Identifying Pathways of Physiological Deterioration to Understand Racial Disparities in Cognitive Status: A 4-way Mediation-Interaction Decomposition Analysis. Alzheimer's Association International Conference (AAIC), Los Angeles, California. August 2, 2022. Poster presentation. Supported by the Mezy Junior Investigator Conference Award
- Higgins C, **Ware EB**, Hicken M, Zawistowski M, Kobayashi L, Mukherjee B, & Bakulski KM. (2022, June) The Mediating Role of Systemic Inflammation on Racial Disparities in Dementia Incidence. Society for Epidemiologic Research. Chicago, IL. June 2022
- Higgins C, **Ware EB**, Hicken M, Zawistowski M, Bakulski KM. Circulating Cystatin-C is Associated with Dementia in a Racial and Ethnically Diverse Cohort: An Interaction Decomposition Analysis. Alzheimer's Association International Conference. July 26-30, 2021. Hybrid.
- Higgins C, **Ware EB**, Hicken M, Zawistowski M, Bakulski KM. Systemic Inflammation is Associated with Dementia Status in the Health and Retirement Study. Alzheimer's Association International Conference. July 26-30, 2021. Hybrid.
- Mitchell CM, Fisher JD, Faul JD, **Ware EB**, Schnepfer L, Dou J, Bakulski KM, Notterman D. Longitudinal Assessment of Methylation Profiles in a Multiethnic Population of Children and Adolescents. Session: Biomarker Applications to Population Health Research. Population Association of America annual conference. May 5-8, 2021. Virtual.
- West BT, Little RJA, Andridge RR, Boonstra P, **Ware EB**, Pandit A, Alvarado-Leiton F. Measures of Selection Bias in Regression Coefficients Estimated from Non-Probability Samples. JSM. Survey Research Methods Section. Seattle, WA. Aug 7-12, 2021.
- Middleton LYM, Dou JF, Fisher J, Heiss JA, Nguyen V, Just AC, Faul JD, **Ware EB**, Mitchell C, Colacino JA, Bakulski KM. 2021. Saliva cell type DNA methylation reference panel for epidemiology studies in children. Great Lakes Pediatric Research Day. April 1, 2021. Virtual oral presentation. ***Awarded top trainee talk
- Middleton LYM, Dou JF, Fisher J, Heiss JA, Nguyen V, Just AC, Faul JD, **Ware EB**, Mitchell C, Colacino JA, Bakulski KM. Saliva cell type DNA methylation reference panel for epidemiology studies in children. Epigenomics of Common Disease (ECD) meeting. Hinxton, United Kingdom. November 20, 2020. Virtual lightning presentation.
- Hickman R, Bakulski KM, Brandt DJ, Faul JD, **Ware EB**. Higher self-rated physical work demands are associated with poorer cognition in the Health and Retirement Study. University of Michigan Department of Epidemiology Capstone Symposium. Ann Arbor, MI. November 5, 2020. Poster Presentation.
- Zhang L, Bakulski KM, **Ware EB**. The Association between Blood Pressure and Dementia: Mendelian Randomization in the Health and Retirement Study. University of Michigan Department of Epidemiology Capstone Symposium. Ann Arbor, MI. November 5, 2020. Poster Presentation.
- Schrank MJ, **Ware EB**, Middleton L, Bakulski KM. Are Environmental Chemical Concentrations Associated with Mild Cognitive Impairment in the National Health and Nutrition Examination Survey (NHANES)? University of Michigan Department of Epidemiology Virtual Poster Session. Ann Arbor, MI. November 6, 2020. Poster Presentation.
- **Ware EB**, Fu M, Gard AM, Schmitz LL, Bakulski KM. Cognition, Depression, and Genetics: Examining Sex Differences Using Polygenic and Genetic Inference Techniques. Gerontological Society of America. Philadelphia, PA, Nov 4-6, 2020. [VIRTUAL DUE TO COVID-19]

- **Ware EB**, Gard AM, Fu M, Schmitz LL, Bakulski KM. Fostering Multi-Disciplinary Solutions in Aging: The Research Centers Collaborative Network. Sex Differences in Genetic Effects Using Two Gene Aggregation Techniques: Depression and Cognition. Gerontological Society of America. Philadelphia, PA, Nov 4-6, 2020. [VIRTUAL DUE TO COVID-19]
- West BT, Little RJA, Andridge RR, Boonstra P, **Ware EB**, Pandit A, Alvarado-Leiton F. Measures of Selection Bias in Regression Coefficients Estimated from Non-Probability Samples. BigSurv20. Utrecht, Netherlands. Nov 4-6, 2020. [VIRTUAL DUE TO COVID-19]
- Morataya C, **Ware EB**, Fu M, Bakulski KM. Type 2 diabetes and dementia in the Health and Retirement Study: A Mendelian randomization approach. World Non-Communicable Disease Congress 2020. Ann Arbor, MI. Aug 1-6, 2020. [POSTPONED DUE TO COVID-19]
- **Ware EB**, Morataya C, Fu M, Bakulski KM. Type 2 diabetes and dementia in the Health and Retirement Study: A Mendelian randomization approach. Alzheimer's Association International Conference. Amsterdam, Netherlands. July 27-31, 2020. [VIRTUAL DUE TO COVID-19]
- Bakulski KM, Fu M, Faul JD, Jin Y, **Ware EB**. Mendelian randomization of smoking behavior on cognitive status among older Americans. Alzheimer's Association International Conference. Amsterdam, Netherlands. July 27-31, 2020. [VIRTUAL DUE TO COVID-19]
- Faul JD, **Ware EB**, Kabeto MU, Langa KM, Llewellyn DJ, Galama T. Lifestyle and genetic risk: Revisiting the association with incident dementia. Alzheimer's Association International Conference. Amsterdam, Netherlands. July 27-31, 2020. [VIRTUAL DUE TO COVID-19]
- West BT, Little RJA, Andridge RR, Boonstra P, **Ware EB**, Pandit A, Alvarado-Leiton F. Measures of Selection Bias in Regression Coefficients Estimated from Non-Probability Samples. American Association for Public Opinion Research. Atlanta, GA. May 14-17, 2020. [POSTPONED DUE TO COVID-19]
- **Ware EB**, Fisher J, Faul JD, Mitchell CM. Defining analytic genetic ancestry: using approaches from machine learning. Biomarker Network Meeting - Population Association of America. Washington DC. April 22, 2019 [POSTPONED DUE TO COVID-19]
- Mitchell CM, **Ware EB**, Fisher JD, Bakulski KM, Dou J, Faul JD, Schneper L, Notterman D. Longitudinal DNA Methylation Change in a Multi-ethnic Cohort. Epigenetics Biomarker Network Meeting - Population Association of America. Washington DC. April 21, 2020. [VIRTUAL DUE TO COVID-19]
- Benbow MD, Bakulski KM, **Ware EB**. Association between neighborhood characteristics and polygenic score on dementia in the Health and Retirement Study. University of Michigan Department of Epidemiology Capstone Symposium. Ann Arbor, MI. November 6, 2019. Poster Presentation.
- Tournat T, Bakulski KM, **Ware EB**. A Mendelian randomization framework for testing the causality between depressive symptom genetics, depressive symptoms, and dementia in the Health and Retirement Study. University of Michigan Department of Epidemiology Capstone Symposium. Ann Arbor, MI. November 6, 2019. Poster Presentation.
- Morataya C, Bakulski KM, **Ware EB**. Type 2 diabetes and dementia in the Health and Retirement Study: A Mendelian randomization approach. University of Michigan Department of Epidemiology Capstone Symposium. Ann Arbor, MI. November 6, 2019. Poster Presentation.

- Fu M, Bakulski KM, **Ware EB**. Smoking Behavior and Cumulative Genetic Risk for Smoking on Cognitive Status among Older Americans. Presentation at the Big Data Neuroscience Workshop | Advanced Computational Neuroscience Network (ACNN). Ann Arbor, MI. September 19-20, 2019
- **Ware EB**, Stein MB, Mitchell CM, Chen CY, Smoller JW. Genome Wide Association Studies of Suicide Attempts in US Soldiers. Paper presentation at the Joint Statistical Meeting | American Statistical Association. Denver, CO. July 27-August 1, 2019.
- **Ware EB**, Faul JD, Mitchell CM. Investigating Array Effects in Polygenic Score Creation for Use in the Social Sciences. Paper presentation at the European Survey Research Association meeting. Zagreb, Croatia. July 15-19, 2019.
- *Woods AD, Gard AM, **Ware EB**, Notterman D, Mitchell CM. Using polygenic scores for educational attainment to probe genetic effects on schooling outcomes among fragile families. Paper Presentation. Population Association of America annual meeting. Austin, TX. April 10-13, 2019.
- ***Ware EB**. Session 142 Genes and Health - Using Polygenic Scores. Discussant. Population Association of America annual meeting, Austin, TX. April 10-13, 2019.
- *Schmitz LL, Gard AM, **Ware EB**. Examining Sex Differences in Pleiotropic Effects for Depression and Smoking Using Polygenic and Gene-Region Aggregation Techniques. Paper presentation at the NIA sponsored Biomarker Network meeting, Austin, TX. April 10, 2019.
- *Woods AD, Gard AM, **Ware EB**, Notterman D, Mitchell CM. Using Polygenic Scores for Educational Attainment to Probe Genetic Effects on Schooling through Adolescence. Society for Research on Child Development Biennial meeting. Baltimore, MD. March 21-23, 2019.
- *Gard AM, **Ware EB**, Hyde L, Schmitz LL, Faul JD, Notterman D, Mitchell CM. Assessing the Phenotypic and Genetic Structure of Psychopathology Across the Life Course. Society for Research on Child Development Biennial meeting. Baltimore, MD. March 21-23, 2019.
- *Gaydos L, Harris KM, Mitchell CM, Schmitz LL, **Ware EB**, Faul JD, McLanahan S, Notterman D. Polygenic Penetrance on Life Course BMI Across Cohorts. Society for Research on Child Development Biennial meeting. Baltimore, MD. March 21-23, 2019.
- ***Ware EB**. Calculating Polygenic Scores: Important methodological questions and replication. Population, Neurodevelopment, and Genetics meeting. Ann Arbor, MI. December 14, 2018.
- ***Ware EB**, Vadari H, Bakulski KM. Polygenic risk for Alzheimer's disease and early life head injury on risk of dementia in the Health and Retirement Study. Advances in Health and Aging Research Across the Translational Spectrum. Ann Arbor, MI. October 30, 2018. Poster presentation.
- *Faul JD, **Ware EB**. From GWAS to pathway enrichment: Exploring Gene Ontology as a tool to create biologically-informed genetic scores for trans-ethnic analyses. Integrating Genetics in the Social Sciences. Boulder, CO. October 11-13, 2018.
- *Gregoire A, **Ware EB**, Bakulski KM. Applying genome-wide association study methodology to environmental toxicants and depressive phenotypes. Integrating Genetics in the Social Sciences. Boulder, CO. October 11-13, 2018.
- ***Ware EB**, Faul JD, Mitchell CM. Investigating array effects in polygenic score creation for use in the social sciences. Integrating Genetics in the Social Sciences. Boulder, CO. October 11-13, 2018.

- *Vadari H, Bakulski KM, Faul JD, Mitchell CM, **Ware EB**. Early life head injury and genetic contributions to adolescent cognitive development and later life cognition. Integrating Genetics in the Social Sciences. Boulder, CO. October 11-13, 2018.
- Bakulski K. (in collaboration with **Ware EB**). Measuring the Impact of Chemical Pollutants on the Brain across the Lifespan. Alzheimer's Association International Conference. Alzheimer's Association. July 23, 2018.
- **Ware EB**. Connecting genomics, social science, and health: Applying novel methods to gene-environment interactions on depressive symptoms. Ann Arbor, MI, May 3, 2018. Research Seminar.
- *Mitchell CM. (in collaboration with **Ware EB**, Schneper L, Notterman, D). Application of Late Life Cognition Genes to Early Life Cognitive Development, Population Association of America Biomarker Network meeting, April 25, 2018. Denver, CO. Oral presentation.
- *Vadari H, **Ware EB**, Bakulski KM. Polygenic risk for Alzheimer's disease and early life head injury on risk of dementia in the Health and Retirement Study. Advances in Health and Aging Research across the Translational Spectrum. Ann Arbor, MI. November 29, 2017. Poster presentation.
- Vadari H, **Ware EB**, Bakulski KM. Polygenic risk for Alzheimer's disease and early life head injury on risk of dementia in the Health and Retirement Study. University of Michigan Department of Epidemiology Capstone Symposium. Ann Arbor, MI. November 11, 2017. Poster Presentation.
- *Faul JD, **Ware EB**. Moving Beyond European Only Genetic Associations — an Examination of Within and Trans-Racial PGS and Gene-Region Associations. Integrating Genetics and Social Sciences Conference, Boulder, CO, October 19-21, 2017.
- *Gard AM, Schmitz LL, **Ware EB**, Faul JD, & Mitchell CM. Gene x environmental interaction models of latent psychopathology across the lifespan. Integrating Genetics and Social Sciences Conference, Boulder, CO, October 19-21, 2017.
- *Gaydosh L, Mullan-Harris K, Mitchell C, Schmitz LL, **Ware EB**, Faul JD. Childhood socioeconomic status and BMI across the lifecourse. Integrating Genetics and Social Sciences Conference, Boulder, CO, October 19-21, 2017.
- *Schmitz LL, Gard AM, **Ware EB**. The Impact of Cigarette Taxation and Polygenic Risk for Smoking on Smoking Behavior in the 20th and 21st Century. Integrating Genetics and Social Sciences Conference, Boulder, CO, October 19-21, 2017.
- *Vadari H, **Ware EB**, Bakulski KM. Polygenic risk for Alzheimer's disease and early life head injury on risk of dementia in the Health and Retirement Study. UM Developmental Origins of Metabolic Syndrome Symposia. Ann Arbor, MI. October 9, 2017. *Poster presentation*.
- ***Ware EB**, Schmitz LL, Faul JD, Gard AM, Mitchell CM, Smith JA, Zhao W. Heterogeneity in polygenic scores for common human traits in a Population-based cohort, Lisbon, Portugal, July 17-21, 2017. European Survey Research Association.
- ***Ware EB**, Schmitz LL, Faul JD, Gard AM, Mitchell CM, Smith JA, Zhao W. Implications of polygenic scores' estimation methods on gene-by-environment interaction analyses, Seattle, WA, June 20-23, 2017. Society for Epidemiological Research.
- *Liu J, Zhao W, **Ware EB**, Kardia SLR, Turner ST, Mosley TH, Smith JA. DNA methylation in APOE is associated with cognitive function in African Americans, Seattle, WA, June 20-23, 2017. Society for Epidemiological Research.

- ***Ware EB**, Schmitz LL, Faul JD, Gard AM, Mitchell CM, Smith JA, Zhao W. Methods of measurement: Implications of polygenic scores' estimation methods on gene-by-environment interaction analyses, Chicago, IL, April 26-28, 2017. Population Association of America.
- *Schmitz LL, Gard AM, **Ware EB**. Genetic and Social Contributions to Gender-Cohort Differences in Smoking Behavior. Population Association of America. Chicago, IL, April 26-28, 2017.
- *He KY, Wang H, Cade BE, Nandakumar P, Giri A, **Ware EB**, Haessler J, Liang J, Smith JA, Franceschini N, Kooperberg C, Edwards TL, Kardia SLR, Lin X, Chakravarti A, Redline S, Zhu X. Rare variants in Fox-1 homolog A (RBFox1) are protectively associated with blood pressure. American Society of Human Genetics Annual Meeting, Vancouver, Canada, October 18-22, 2016.
- *Smith JA, Faul JD, Zhao W, Kho M, Hillman TJ, **Ware EB**, Mitchell C. Gene-based association and gene-by-education interaction on episodic memory in the Health and Retirement Study. Integrating Genetics and Social Sciences Conference, Boulder, CO, October 21-22, 2016.
- *Zhao W, **Ware EB**, Smith JA, Faul JD, Kardia SLR. Social and psychosocial factors modify the effect of genetic variants on body mass index: A gene environment interaction analysis in a longitudinal setting. Integrating Genetics and Social Sciences Conference, Boulder, CO, October 21- 22, 2016.
- *Nandakumar P, Lee D, Richard MA, Tekola-Ayele F, Tayo B, **Ware EB**, Sung YJ, Salako B, Ogunniyi A, Gu CC, Grove ML, Fornage M, Kardia S, Rotimi C, Cooper R, Morrison A, Ehret G, Chakravarti A. Rare coding variants associated with blood pressure in 15914 individuals of African Ancestry. American Society of Human Genetics Annual Meeting, Vancouver, Canada, October 18-22, 2016.
- ***Ware EB**, Schmitz LL, Faul JD, Smith JA, Mitchell CM, Weir DR, Kardia SLR. Establishing best practices: generating polygenic scores in a population-representative cohort – Integrating Genetics in the Social Sciences, *Presenter/Panelist*. Denver, CO. October 21-23, 2016.
- Lieske JC, Perinpam M, **Ware EB**, Smith JA, Turner ST, Kardia SL. Higher blood glucose is associated with higher urine citrate excretion. 13th Annual Symposium on Urolithiasis, Makuhari, Japan, July 19-22, 2016.
- ***Ware EB**, Smith JA, Faul J, Kardia SLR. Ethnic disparities in social and psychosocial factors modify the effect of genes on body mass index. American Heart Association – EPILifestyles. Poster Presentation. Phoenix, AZ. March 1-4, 2016.
- *Smith JA, **Ware EB**, Zhao W, Faul JD, Weir DR, Kardia SLR. The effect of gene-by-social factor interactions on blood pressure in older non-Hispanic whites and African Americans: a genomic region-level analysis. American Heart Association – EPILifestyles. Poster Presentation. Phoenix, AZ. March 1-4, 2016.
- *Brown K, Kardia SLR, Diez-Roux AV, Liu Y, Smith JA, Needham B, Cole S, Mukherjee B, **Ware EB**, Seeman T. Getting “under the skin”: Human social genomics in the Multi-Ethnic Study of Atherosclerosis. Society for Epidemiological Research. Poster Presentation. Miami, FL, USA. June 21-24, 2016.
- *Kho MJ, Smith JA, Zhao W, **Ware EB**, Kardia SLR. Genome-wide meta-analysis of sodium intake and salty taste preference in multi-ancestry cohorts. University of Michigan Doctoral Day. Oral Presentation. Ann Arbor, MI. January 29, 2016.

- *Perinpam M, **Ware EB**, Smith JA, Turner ST, Kardia SLR, Lieske JC. Independent effect of blood glucose level on urinary citrate and pH. American Society of Nephrology Kidney Week 2015 Annual Meeting. Poster Presentation. San Diego, CA, USA. November 6, 2015.
- *Perinpam M, **Ware EB**, Smith JA, Turner ST, Kardia SLR, Lieske JC. Key influence of sex on urine volume and osmolality. American Society of Nephrology Kidney Week 2015 Annual Meeting. Poster Presentation. San Diego, CA, USA. November 6, 2015.
- *Epstein MP, Broadway A, Cutler D, Duncan R, Moore JL, **Ware EB**, Jhun MA, Bielak LF, Zhao W, Smith JA, Peyser PA, Kardia SLR. A statistical approach for testing pleiotropic effects of rare variants. Poster presentation. American Society of Human Genetics Annual Meeting, Baltimore, MD, October 6-10, 2015.
- Mitchell CM, **Ware EB**, Heeringa S, Little R. What is a representative genome? The challenges and benefits of applying complex survey weights to genome-wide data. European Survey Research Association, Reykjavik, Iceland, July 14-17, 2015.
- *Joshi PK, Esko T, Mattsson H, Eklund N, Gandin I, Jackson AU, Nutile T, Shurmann C, Polasek O, Wilson JF, ROHgen Consortium (**including Ware EB**). Evidence for directional dominance on complex traits relating to size and cognition in a wide range of human populations. Poster Presentation. European Human Genetics Conference. Glasgow, Scotland, UK. June 6-9, 2015.
- *Joshi PK, Esko T, Mattsson H, Eklund N, Gandin I, Jackson AU, Nutile T, Shurmann C, Polasek O, Wilson JF, ROHgen Consortium (**including Ware EB**). Evidence for inbreeding depression on complex traits related to size and cognition in a wide range of human populations. Poster Presentation. American Society of Human Genetics Annual Meeting. San Diego, CA. October 18-22, 2014.
- *Epstein MP, **Ware EB**, Jhun MA, Bielak LF, Zhao W, Smith J, Peyser PA, Kardia SLR, Satten GA. Statistical approaches for rare-variant association testing in affected sibships. Platform Presentation. American Society of Human Genetics Annual Meeting. San Diego, CA. October 18-22, 2014.
- *Schrager JN, **Ware EB**, Smith JA, Zhao W, Kardia SLR. RE-1 silencing transcription factor gene variation and gene expression in the Genetic Epidemiology Network of Arteriopathy study. Poster Presentation. University of Michigan School of Public Health Masters Student Poster Day. Ann Arbor, MI. October 17, 2014.
- ***Ware, EB**. Genes, the environment, and depressive symptom scores in the Multi-Ethnic Study of Atherosclerosis. Dissertation Defense. Ann Arbor, Michigan. November 2013.
- *Uddin, M, Koenen KC, de los Santos R, **Bakshis E**, Aiello AE, Galea S. Gender differences in the genetic and environmental determinants of adolescent depression. Poster Presentation. 100th Annual American PsychoPathological Association. New York, New York. **March 2010**.
- ***Bakshis, E**, Koenen KC, Aiello AE, Amstadter AB, Ruggiero KJ, Acierno R, Kilpatrick DG, Gelernter J, Galea S. County-level social environment modifies the association between serotonin transporter genotype and risk of post-traumatic stress disorder in adults. Poster Presentation. 42nd Annual SER Meeting. Anaheim, California. **June 2009**.
- Uddin, M, Koenen KC, de los Santos R, **Bakshis E**, Aiello AE, Galea S. County-level infant death deprivation, 5-HTTLPR genotype, and depressive symptoms in adolescent males and females. Oral

Presentation. 42nd Annual SER Meeting. Anaheim, California. **June 2009**.

- Uddin, M, Koenen KC, de los Santos R, **Bakshis E**, Aiello AE, Galea S. Social Environment Modifies the Relation Between 5-HTTLPR Genotype And Adolescent Depression: A Multilevel Instrumental Variable Analytic Approach. Poster Presentation. 42nd Annual SER Meeting. Anaheim, California. **June 2009**.
- ***Bakshis E**. Koenen KC, Aiello AE, Amstadter AB, Ruggiero KJ, Acierno R, Kilpatrick DG, Gelernter J, Galea S. County-level social environment modifies the association between serotonin transporter genotype and risk of post-traumatic stress disorder in adults. Poster Presentation. University of Michigan School of Public Health Doctoral Day, Ann Arbor, MI. **February 2009**.
- ***Bakshis E**, Koenen KC, Aiello AE, Amstadter AB, Ruggiero KJ, Acierno R, Kilpatrick DG, Gelernter J, Galea S. County-level social environment modifies the association between serotonin transporter genotype and risk of post-traumatic stress disorder in adults. Oral Presentation. University of Michigan School of Public Health Center for Social Epidemiology and Population Health Research Seminar, Ann Arbor, MI. **December 2008**.
- ***Bakshis E**, Koenen KC, Aiello AE, Amstadter AB, Ruggiero KJ, Acierno R, Kilpatrick DG, Gelernter J, Galea S. County-level social environment modifies the association between serotonin transporter genotype and risk of post-traumatic stress disorder in adults. Poster Presentation. University of Michigan School of Public Health 18th Annual Poster Session, Ann Arbor, MI. **October 2008**.
- ***Bakshis E**, Kaplan G, Galea S. Complex Systems Approach to Population Health: Agent Based Modeling of Cardiovascular Disease. Poster Presentation. University of Michigan School of Public Health 17th Annual Poster Session, Ann Arbor, MI. **October 2007**.

TEACHING AND MENTORING

Summer 2022

Lab Instructor Virtual

University of Michigan, Institute for Social Research, Genomics for Social Scientists (R25-S1, PI: Mitchell/Faul/Kardia) *Epigenetics*
Lab instructor, 20 professional/graduate students/professors/scientists

Summer 2022

Lead Lab Instructor

University of Michigan, Institute for Social Research, Genomics for Social Scientists (R25, PI: Mitchell/Faul/Kardia)
Lab instructor, 30 professional/graduate students/professors/scientists

Summer 2021

Lab Instructor Virtual

University of Michigan, Institute for Social Research, Genomics for Social Scientists (R25-S1, PI: Mitchell/Faul/Kardia) *Epigenetics*
Lab instructor, 20 professional/graduate students/professors/scientists

Summer 2021

Lead Lab Instructor Virtual

University of Michigan, Institute for Social Research, Genomics for Social Scientists (R25, PI: Mitchell/Faul/Kardia)
Lab instructor, 30 professional/graduate students/professors/scientists

Winter 2021

Lab Instructor Virtual

University of Michigan, Institute for Social Research, Genomics for Social Scientists (R25, PI: Mitchell/Faul/Kardia) Epigenetics
Lab instructor, 30 professional/graduate students/professors/scientists

Winter 2020

Lead Lab Instructor Virtual

University of Michigan, Institute for Social Research, Genomics for Social Scientists (R25, PI: Mitchell/Faul/Kardia)
Lab instructor, 30 professional/graduate students/professors/scientists

Fall 2019

Instructor

University of Michigan, School of Information, University of Michigan Math Methods for Data Scientists course for online Master's program
145 professional/graduate students in an online program

Summer 2019

Course Developer

University of Michigan, School of Information, University of Michigan Develop Math Methods for Data Scientists course for online Master's program, four week one credit course

Summers 2017 – 2019

Lead Lab Instructor

University of Michigan, Institute for Social Research, Genomics for Social Scientists (R25, PI: Mitchell/Faul/Kardia)
Lab instructor, 30 professional/graduate students/professors/scientists

Summer 2017

Instructor

University of Michigan, Department of Epidemiology, Summer Session EPID 759 – Introduction to SAS
6 professional/graduate students

*Winter 2016 –
Summer 2018*

Part-time Teaching Faculty

Wayne State University, School of Medicine, FPH7350 – Programming for the Public Health Professional, Detroit, MI
Three courses of ~20 graduate students; three semesters
FPH7240 – Introductory Epidemiology, Detroit, MI
One course of ~80 graduate students; one semester; flipped classroom

*Winter 2013 –
Summer 2016*

Instructor

Washtenaw Community College, Department of Mathematics, MTH160 – Basic Statistics, Ann Arbor, MI
Dean: Kris Good
16 classes of ~30 undergraduate students; twelve total semesters

Fall 2012

Fall 2013

Instructor of Record

University of Michigan, School of Information, SI544 - Introduction to statistics and data management, Ann Arbor, MI
One course of ~80 graduate students; two semesters

2007 – 2015

Individual Private Tutor

University of Michigan, Statistics courses, Ann Arbor, MI
Tutoring introductory statistics courses, primarily for non-traditional students and students with learning disabilities
Approximately 100 individual students over eight years

Summer 2012

Graduate Student Instructor

University of Michigan, Department of Epidemiology, Summer session, EPID 759 - Introduction to SAS; EPID 791 - Intermediate SAS, Ann Arbor, MI

Instructor: Kathy Welch
~15 professionals/graduate students

Fall 2011

Graduate Student Instructor

*University of Michigan, School of Information,
SI544 - Introduction to statistics and data management, Ann Arbor, MI*
Instructor: Dr. Qiaozhu Mei
One course of ~80 graduate students; one semester

*Winter 2011
Winter 2012
Winter 2013*

Graduate Student Instructor

*University of Michigan, Department of Epidemiology,
EPID640 - Introduction to SAS programming, Ann Arbor, MI*
Instructor: Dr. Sara Adar
Two labs of 26 graduate/medical students, three semesters

Summer, 2010

Graduate Student Instructional Aide

*University of Michigan, Epidemiology Summer Institute,
EPID 759 – Introduction to SAS programming, Ann Arbor, MI*
Instructor: Kathy Welch
~15 professionals/graduate students

*Winter 2010
Spring 2010*

Graduate Student Instructor

*University of Michigan, Department of Statistics, STAT350 – Introduction
to statistics and data analysis, Ann Arbor, MI*
Instructor: Drs. Brenda Gunderson, Tom Venable
Three labs of 30 undergraduate students; over two semesters

Formal Mentoring

Postdoctoral

2023 Frieda Blostein, Ph.D. (University of Michigan)

Ph.D. level

2020- César Higgins, Ph.D. candidate (University of Michigan), Committee member

2019/2020 Katherine Brieger, M.D. (student) /Ph.D. (University of Michigan), Committee member

Master's level

2022-2023 Yidan Zhang, MS (University of Michigan)

2022-2023 Xiaochun Shao, MPH (University of Michigan)

2020-2022 Allison Reiner, MS (University of Michigan)

2020/2021 Ruby Hickman, M.P.H. (University of Michigan)

2021 Elizabeth Macdonald, M.P.H. (University of Michigan)

2020/2021 Lichi Zhang, M.P.H. (University of Michigan)

2019/2020 Mikayla Benbow, M.P.H. (University of Michigan)

2019/2020 Ana Cristina Morataya Bustamante, M.D., M.P.H. (University of Michigan)

2019/2020 Troy Tournat, M.P.H. (University of Michigan)

2018/2019 Daniel Brandt, M.P.H. (University of Michigan)

2017 Ameen Masoodi, M.P.H. (Wayne State University)

Informal Mentoring

Faculty & Staff scientist

2021- Helen Meier, Ph.D. (Research Assistant Scientist; Population, Neurodevelopment and Genetics at University of Michigan)

- 2021- Kate Duchowny, Ph.D. (Research Assistant Professor; Social Environment and Health at University of Michigan)
- 2020- Grace Noppert, Ph.D. (Research Assistant Professor; Social Environment and Health at University of Michigan)

Post-Doc level

- 2023- Josh Goode, Ph.D. (Colorado University – Boulder, Post-Doc at University of Michigan)
- 2019-2020 Asta Breinholt, Ph.D (University of Copenhagen, Post-Doc at University of Michigan)
- 2019-2020 Arianna Gard, Ph.D. (University of Michigan, Post-Doc at University of Michigan)
- 2019-2020 Lauren Brown, Ph.D. (University of Southern California, Post-Doc at University of Michigan)
- 2018 Olesya Ajnakina, Ph.D. (Kings College London, Post-Doc at University College London)
- 2016-2019 Lauren Schmitz, Ph.D (The New School, Post-Doc at University of Michigan)

Ph.D. level

- 2021- Kyle A. Campbell (University of Michigan)
- 2021-2022 Frieda Blostein (University of Michigan)
- 2017-2019 Arianna Gard, Ph.D. (University of Michigan)
- 2017/2018 MJ Kho, Ph.D. (University of Michigan)
- 2017 David Braudt, Ph.D. (University of North Carolina, Chapel Hill)
- 2014-2017 Kristen Brown, Ph.D. (University of Michigan)
- 2014 Neha Sheth, PharmD, Ph.D (University of Michigan)
- 2014 Paul Christine, M.D./Ph.D. (University of Michigan)

Master's level

- 2023 Huda Bashir (University of Michigan)
- 2022 Brittany Jullie (University of Michigan)
- 2022 Annie Pederson (University of Michigan)
- 2022 Nebi Grima (University of Michigan)
- 2020/2021 Sahiti Kolli, M.S. (University of Michigan)
- 2020/2021 Mitchell Schrank, M.P.H. Candidate (University of Michigan)
- 2018-2020 Mingzhou Fu, M.H.I./M.P.H. (University of Michigan)
- 2018/2019 Allyson Gregoire, M.P.H. (University of Michigan)
- 2017/2018 Harita Vadari, M.P.H. (University of Michigan)
- 2017/2018 Bradly Petrowitz, M.P.H. (University of Michigan)
- 2016 Jacob Hillman, M.P.H. (University of Michigan)
- 2016 Jiaxuan Li, M.P.H. (University of Michigan)
- 2015/2016 Kalyn Yasutake, M.P.H. (University of Michigan)
- 2015 Farnaz Malik, M.P.H. (University of Michigan)
- 2015 Jillian Schrager, M.P.H. (University of Michigan)
- 2014 Pritika Dasgupta, M.P.H. (University of Michigan)
- 2013 Ellen Riehle, M.P.H. (University of Michigan)

Undergrad level

- 2018 Jonah Fisher (University of Michigan)
- 2017 Nicholas Miller (University of Michigan)
- 2017 Isabelle Williams (University of Michigan)

Staff

- 2022- Herong Wang (University of Michigan)
- 2018-2023 Jonah Fisher (University of Michigan)

Supervision of staff

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| Current | Xiaochun Shao, Research Associate I, <i>University of Michigan</i> , Institute for Social Research, Population, Neurodevelopment, and Genetics, supervisor |
| Current | Mingzhou Fu, Graduate Student Research Assistant and Research Associate II, <i>University of Michigan</i> , Department of Epidemiology, supervisor |
| 2021 | Benjamin Smith, Bioinformatician I, <i>University of Michigan</i> , Institute for Social Research, Population, Neurodevelopment, and Genetics, supervisor |
| 2020 | Ana Cristina Morataya Bustamante, M.D., M.P.H., Graduate Student Research Assistant, <i>University of Michigan</i> , Department of Epidemiology, co-supervisor |
| 2019-2020 | Yuan Jin, MS, Research Area Specialist, <i>University of Michigan</i> , Institute for Social Research, Population, Neurodevelopment, and Genetics |
| 2018-2019 | Danny Brandt, Graduate Student Research Assistant, <i>University of Michigan</i> , Institute for Social Research, Population, Neurodevelopment, and Genetics |
| 2018-2019 | Harita Vadari, MPH Research Associate II, <i>University of Michigan</i> , Institute for Social Research, Population, Neurodevelopment, and Genetics |
| 2018 | Ameen Masoodi, Temporary Research Staff, <i>University of Michigan</i> , Institute for Social Research, Population, Neurodevelopment, and Genetics |

SERVICE AND MEMBERSHIP

Peer Reviewer for Professional Journals

American Journal of Human Genetics | *Biodemography and Social Biology* | *Biological Research for Nursing* | *Journal of Alzheimer's disease* | *Depression and Anxiety* | *Journal of Traumatic Stress* | *Neuroepidemiology* | *PLoS One* | *Frontiers in Genetics*

Formal service activities

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|-------------|---|
| 2023 | Institute for Social Research – Development Office , Next generation scientist award proposal reviewer (27 proposals) |
| 2023 | University of Michigan Flint , Research & Creative Activity project proposal reviewer |
| 2022 – 2023 | Population Association of America , Session organizer, “Biological aging consequences of lifecourse exposures,” “Biological Aging Consequences of Life Course Exposures” and “Social Context and biological aging” |
| 2021 | Institute for Research on Innovation and Science , <i>University of Michigan</i> , Institute for Social Research. Assistant Research Scientist search committee member |
| 2021 | Michigan Institute for Data Science , <i>University of Michigan</i> , Propelling Original Data Science Grant Competition Reviewer |
| 2021 | Population Association of America , Poster discussant, “P1 Aging and the Life Course; and Mortality and Morbidity” |
| 2020, 2021 | Abstract Reviewer , Gerontological Society of America |

- 2019 **Population Association of America**, Session organizer, “Genetics in aging”
- 2019 – Present **Research Dissemination Committee**, *University of Michigan*, Institute for Social Research, Survey Research Center. Ann Arbor, MI. Wrote blog posts to highlight fellow researcher’s work at the Institute for Social Research
- 2019 – Present **CoderSpace host**, *University of Michigan*, Institute for Social Research, Ann Arbor, MI. Hosted weekly drop-in hour coding sessions where anyone can come in to code, ask questions, or talk coding
- 2017 – Present **NIH Ad hoc reviewer**, *National Institutes of Health*, Behavior Genetic Epidemiology Section, Early Career Reviewer (2017), Ad Hoc reviewer (2020), Ad Hoc reviewer (2021) Special Emphasis Panel ZRG1 BDCN-S (55) R (2022) P01 Project proposal review ZAG1 ZIJ-P (M5) (2023)

Professional memberships

- 2019– *Women in High Power Computing*
- 2018– *Society for Research in Child Development (SRCD)*
- 2016– *Population Association of America (PAA)*
- 2016– *European Survey Research Association (ESRA)*
- 2016– *American Society of Human Genetics (ASHG)*
- 2015– 2019 *American Heart Association (AHA)*
- 2010– *American Statistical Association (ASA)*
- 2009– *International Genetics and Epidemiology Society (IGES)*
- 2008– *Society for Epidemiological Research (SER)*
- 2006– *American Public Health Association (APHA)*
- 2004– 2006 *Mathematics Association of America (MAA)*
- 2005– 2006 Upper Midwest Honors Council

Informal research group membership

- 2021- *Future of Families Child and Wellbeing Study – UM Epigenetics group*
- 2018- *Multiethnic Study of Atherosclerosis – Cognition working group (member)*
- 2017- *Ware-Bakulski research lab (co-head)*
- 2015 *Integrating Neuroscience Theory, Data & Methods into Demographic Research (seminar participant)*
- 2014- *Population Neurodevelopment and Genetics (key faculty)*
- 2014- *Army Study to Assess Risk and Resilience in Service members – data (member)*
- 2014- *Army Study to Assess Risk and Resilience in Service members – biomarkers (member)*
- 2014-2016 *RCGD – Biosocial Methods Collaborative (key faculty)*
- 2014-2019 *Genetic Determinants of Urinary Lithogenicity monthly meeting (organizer/secretary)*
- 2014- *Gene-Lifestyle Interactions Working Group (member)*
- 2014-2015 *FEGHAS – Family Blood Pressure Program (member)*
- 2013-2014 *Kardia Science Lab – (co-organizer)*
- 2012- *Multiethnic Study of Atherosclerosis - Psychosocial Factors working group (member)*
- 2011-2013 *Multiethnic Study of Atherosclerosis – STRESS meeting (member, assistant organizer)*

SPECIALIZED TRAINING AND CERTIFICATES

Current Responsible Conduct of Research (RCR) – National Institutes of Health
Current HIPAA for Researchers
Current PEERS-University of Michigan
2021 Mendelian Randomization Boot Camp – Columbia University School of Public Health
2021 Science of Alzheimer’s disease and Related Dementias for Social Scientists (University of Southern California, National Institute of Aging)
2017 National Institute on Aging Butler-Williams Scholar
2016 The Programs to Increase Diversity among Individuals Engaged in Health-Related Research, PRIDE (declined, due to conflict)
2015 Social and Behavioral Epigenetics Statistics Workshop (University of Florida, National Science Foundation)
2014 Advanced Gene Mapping Course (Rockefeller University)