

Jonathan Yinhao Huang

Curriculum Vitae

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EDUCATION

- 2014 **University of Washington, Seattle (UW)**, Seattle, Washington
 Ph.D., Epidemiology, Department of Epidemiology, UW School of Public Health
 Graduate Certificate in Public Health Genetics
Thesis Title: “Intergenerational transmission of health inequities: early life socioeconomic factors, adult cardiometabolic and pregnancy outcomes, and potential epigenetic mechanisms in young adult women”
Thesis Advisor: Daniel Enquobahrie
- 2010 **University of Washington, Seattle (UW)**, Seattle, Washington
 MPH, Community-Oriented Public Health Practice, Department of Health Services, UW SPH
Capstone Title: “Bridging knowledge to action: A pilot curriculum on racism and health inequities”
Capstone Site Supervisor: Linn Gould (Just Health Action)
- 2006 **University of Virginia (UVA)**, Charlottesville, Virginia
 BS, Chemistry with Specialization in Biochemistry
 BA, English Literature

PROFESSIONAL EXPERIENCE

- 2023 to date *Assistant Professor*, Office of Public Health Studies, Thompson School of Social Work and Public Health, University of Hawai’i at Mānoa, Honolulu, Hawai’i
- 2022 to date *Adjunct Assistant Professor*, Duke-NUS Medical School, Centre for Quantitative Medicine and Signature Research Programme in Health Services and Systems Research, Singapore, Singapore
- 2021 to 2023 *Principal Investigator*, Singapore Institute for Clinical Sciences, Agency for Science, Technology and Research, Singapore, Singapore
- 2019 to 2023 *Biostatistics Platform Lead*, Singapore Institute for Clinical Sciences, Agency for Science, Technology and Research, Singapore, Singapore
- 2018-2021 *Senior Research Fellow*, Singapore Institute for Clinical Sciences, Agency for Science, Technology and Research, Singapore, Singapore
- 2014-2018 *Postdoctoral Fellow*, Department of Epidemiology, Biostatistics, and Occupational Health; Institute for Health and Social Policy McGill University, Montreal, Quebec, Canada
- 2013-2014 *Clinical Instructor*, Community-Oriented Public Health Practice Program, Department of Health Services, UW School of Public Health, UW, Seattle, Washington
- 2011-2014 *Predoctoral Fellow*, Reproductive, Perinatal, and Pediatric Epidemiology Training Program (NIH T32), Department of Epidemiology, UW School of Public Health, UW, Seattle, Washington
- 2011 *Research Assistant*, Fred Hutchinson Cancer Research Center and Seattle Quality of Life Group, UW School of Public Health, UW, Seattle, Washington
- 2008 *Emergency Department Technician*, Martha Jefferson Hospital, Charlottesville, Virginia
- 2007-2008 *Firefighter Medic*, Louisa County Emergency Services, Louisa, Virginia
- 2006 *Cardiac Technician* Lifeline Ambulance Service, Charlottesville, Virginia

HONORS AND AWARDS

- 2019 *Awardee*, Young Investigator's Research Grant, National Medical Research Council (NMRC), Singapore, Singapore
- 2017 *Article of the Year*, American Journal of Epidemiology
- 2017 *Finalist*, Lilienfeld Postdoctoral Prize Paper Award. Society for Epidemiologic Research (SER)
- 2017 *Awardee*, Norman Bethune Award for Global Health, Global Health Programs, McGill University
- 2016 *Selected Abstract*, SERdigital. "Applications of Novel Epidemiologic Methods in Student Research"
- 2015 *Community Support Travel Award*, Canadian Institutes of Health Research (CIHR), Institute of Nutrition, Metabolism, and Diabetes
- 2005 Outstanding Third-Year, University of Virginia, Charlottesville, Virginia
- 2002-2006 Echols' Scholar, University of Virginia, Charlottesville, Virginia

PROFESSIONAL MEMBERSHIPS

- 2021 to date *Member*, International Epidemiological Association (IEA)
- 2020 to date *Member*, International Society for Environmental Epidemiology (ISEE)
Asia Western Pacific Chapter (AWPC) from 2021
- 2015-2016 *Member*, International Public Policy Association (IPPA)
- 2015 to date *Member*, International Society for Developmental Origins of Health and Disease (DOHaD)
- 2012 to date *Member*, Society for Pediatric and Perinatal Epidemiologic Research (SPER)
- 2012 to date *Member*, Society for Epidemiologic Research (SER)

BIOBLIOGRAPHY AND PRODUCTS OF SCHOLARSHIP (* *first author was a student/trainee at the time research was conducted*; † *I am a senior author*; ‡ *joint first author*; § *I am corresponding author for all articles where I am first author*)***Refereed papers***

- †Cohen NJ, Yao M, ..., Oulhote Y, **Huang J**, Valvi D. Exposure to Perfluoroalkyl Substances and Women's Fertility Outcomes in a Singaporean Population-based Preconception Cohort. *Science of the Total Environment*. 2023 Feb 17;873:162267.
- Huang JY**. Complexity epidemiology in practice: a tale of two simplicities. *Epidemiology*. 2023 Jul 1; 34(4):515-519.
- †Huang J, Tan AP, Law E, Godfrey K, ..., Meaney M, **Huang JY**. Maternal preconception circulating biomarker mixtures, child behavioural symptom scores and the potential mediating role of neonatal brain microstructure: the S-PRESTO cohort. *Translational Psychiatry*. 2023 Feb 3;13(1):38.
- Elhakeem A, Taylor A, Inskip H, **Huang J**, Mansell T, Rodrigues C, *et al*. Long-term cardiometabolic health in people born after assisted reproductive technology: a multi-cohort analysis. *European Heart Journal*. 2023 Feb 6;ehac726.
- Elhakeem A, Taylor A, Inskip H, **Huang J**, Tafflet M, Vinther J, *et al*. Association of Assisted Reproductive Technology With Offspring Growth and Adiposity From Infancy to Early Adulthood. *JAMA Network Open*. 2022 Jul 1;5(7):e2222106.
- Michael N, Gupta V, Fogel A, **Huang JY**, *et al*. Longitudinal characterization of determinants associated with obesogenic growth patterns in early childhood. *International Journal of Epidemiology*. 2022 Sep 10;dyac177.
- † Kee MZL, Teh AL, Clappison A, ..., **Huang JY**, Meaney MJ. Fetal sex-specific epigenetic associations with prenatal maternal depressive symptoms. *iScience*. 2022 Aug 4;25(9):104860.

8. **Huang JY**. We don't talk about consistency: The unspoken challenge of identifying mediated effects in perinatal epidemiology. *Epidemiology*. 2022 Nov 1;33(6):864-867.
9. *† Huang J, Law E, Karaman I, McCrickerd K, Fogel A, Chong MFF, Daniel LM, Silveira PP, Chong YS, Eriksson JG, Meaney MJ, **Huang JY**. Investigation of metabolomic biomarkers for childhood executive function and the role of genetic and dietary factors: the GUSTO cohort. *eBioMedicine*. 2022 Jul;81:104111.
10. Michael N, Sadananthan SA, Yuan WL, Ong YY, Loy SL, **Huang JY**, Tint MT, Natarajan P, Choo J, Ling LH, Kramer M, Godfrey KM, Gluckman P, Tan KH, Eriksson JG, Chong YS, Lee YS, Karnani N, Yap F, Shek L, Fortier M, Moritz K, Chan SY, Velan SS, Wlodek M. Associations of maternal and fetoplacental factors with prehypertension/hypertension in early childhood. *Journal of Hypertension*. 2022 Nov 1;40(11):2171-2179.
11. *† Sum KK, Tint MT, Becker R, Dickens BSL, Choo S, Ang LT, Phua D, Law E, Ng S, Tan K, Benmarhnia T, Karnani N, Eriksson JG, Chong YS, Yap F, Tan KH, Lee YS, Chan SY, Chong MFF, **Huang JY**. The socioeconomic landscape of the exposome during pregnancy. *Environment International*. 2022 May;163:107205.
12. *† Sum KK, Cai S, Law E, Cheon B, Tan G, Loo E, Lee YS, Yap F, Chan JKY, Daniel M, Chong YS, Meaney M, Eriksson J, **Huang JY**. COVID-19-related life experiences, outdoor play, and long-term adiposity changes among preschool- and school-aged children in Singapore 1 year after lockdown. *JAMA Pediatrics*. 2022 Jan 24:e215585.
13. * Ong YY, Pang WW, **Huang JY**, Aris IM, Sadananthan SA, Tint MT, *et al*. Breastfeeding may benefit cardiometabolic health of children exposed to increased gestational glycemia in utero. *Eur J Nutr*. 2022 Feb 6.
14. **Huang JY**, Cai S, Huang Z, Tint MT, Yuan WL, Aris IM, Godfrey K, Karnani N, Lee YS, Chan JKY, Chong YS, Eriksson J, Chan SY. Analyses of child cardiometabolic phenotype following assisted reproductive technologies using a pragmatic trial emulation approach. *Nature Communications*. 23 September 2021. 10.1038/s41467-021-25899-4
15. *Ziauddeen N, **Huang JY**, Taylor E, Roderick P, Godfrey K, Alwan N. Interpregnancy weight gain and childhood obesity: analysis of a UK population-based cohort. *International Journal of Obesity*. 2021 Oct 13. doi: 10.1038/s41366-021-00979-z.
16. Wilkinson J, **Huang JY**, Marsden A, Harhay M, Vail A, Roberts SA. The implications of outcome truncation in reproductive medicine RCTs: a simulation platform for trialists and simulation study. *Trials*. Aug 6;22(1):520. doi: 10.1186/s13063-021-05482-4.
17. Tint MT, Michael N, Sadananthan SA, **Huang JY**, *et al*. Brown adipose tissue, adiposity and metabolic profile in preschool children. *The Journal of Clinical Endocrinology & Metabolism*. 2021 Sep 27;106(10):2901-2914. doi: 10.1210/clinem/dgab447.
18. * Ong YY, **Huang JY**, Michael N, Sadananthan SA, Yuan WL, Chen LW. Cardiometabolic profile of different body composition phenotypes in children. *The Journal of Clinical Endocrinology & Metabolism*. 2021; 106 (5), e2015-e2024.
19. Pang WW, Geddes DT, Lai CT...**Huang J**...Wlodek ME. The association of maternal gestational hyperglycemia with breastfeeding duration and markers of milk production. *Am J Clin Nutr*. 2021 May 8; doi: 10.1093/ajcn/nqab142
20. **Huang JY**. Representativeness is not representative: Addressing major inferential threats in the UK Biobank and other big data repositories. *Epidemiology*. 2021; 32(2): 189-193.
21. Loo EXL, Soh SE, Loy SL, Ng S, Tint MT, Chan SY, **Huang JY**, Yap F, Tan KH, Chern BSM, Tan HH, Meaney MJ, Karnani N, Godfrey KM, Lee YS, Chan JKY, Gluckman PD, Chong YS, Shek LPC, Eriksson JG, S-PRESTO Study Group. Cohort Profile: Singapore Preconception Study of Long-Term Maternal and Child Outcomes (S-PRESTO). *European Journal of Epidemiology*. 2021; 36(1): 129+142.
22. Wilkinson J, Navarro-Rubio Coello de Portugal S, **Huang J**, Güell F. Child health outcomes following fertility treatment and patient characteristics: discrepancies, limitations and prudence. *Curr Med Res Opin*. 2020 Oct 20:1-3. doi: 10.1080/03007995.2020.1831463.
23. * Ong YY, Sadananthan SA, Aris IM, Tint MT, Yuan WL, **Huang JY**, *et al*. Mismatch between poor fetal growth

- and rapid postnatal weight gain in the first 2 years of life is associated with higher blood pressure and insulin resistance without increased adiposity in childhood: the GUSTO cohort study. *International Journal of Epidemiology*. 2020 August 27. doi: 10.1093/ije/dyaa143
24. ^{**†} Kalhan T, Un Lam C, Karunakaran B... **Huang J**, Hsu CY. Caries risk prediction models in medical healthcare settings. *Journal of Dental Research*. 2020 July; 99(7): 787-796.
 25. [†] Labrecque JA, Kaufman JS, **Huang JY**. Genetic instruments with too many strings: acknowledging pleiotropy and population structure in Mendelian Randomization studies. *European Heart Journal*. 2020 February 14; 41(7), 892-893.
 26. **Huang JY**, Labrecque JA. From GWAS to MR-PheWAS: The search for causality in big data. Invited Commentary. *Lancet Digital Health*. 2019; 1(3): PE101-E103.
 27. **Huang JY**, Garipey G, Gavin AR, Richardson TS, Rowhani-Rahbar A, Siscovick DS, Enquobahrie DA. Maternal education and risk of metabolic syndrome in young adult Americans: Disentangling life course processes through causal models. *Epidemiology*. 2019. 30: S28–S36.
 28. **Huang JY**, Majid MF, Daku M. Estimating effects of Uber ride sharing services on road traffic mortality in South Africa: A quasi-experimental study. *Journal of Epidemiology and Community Health*. 2019; 73: 263-271.
 29. **Huang JY**, Eskenazi B, Bornman R, Rauch S, Chevrier J. Maternal peripartum serum DDT/E and urinary pyrethroid metabolite concentrations and child infections at 2 years in the VHEMBE birth cohort. *Environmental Health Perspectives*. 2018 June 14; 126(6): 067006.
 30. **Huang JY**, Eskenazi B, Bornman R, Rauch S, Chevrier J. Maternal peripartum urinary pyrethroid metabolites are associated with thinner children at 3.5 years in the VHEMBE birth cohort (Limpopo, South Africa). *Environmental Epidemiology*. 2018 September; 2(3): e026.
 31. **Huang JY**, Kaufman J. Getting serious about embodiment: Cautions about interpreting novel findings of socioeconomic patterns in biological function. *American Journal of Epidemiology*. 2018 Jun 1; 187(6): 1336-1337.
 32. [§]Albert O, [§]**Huang JY**, Aleksa K, Koren G, Hales BF, Goodyer CG, Robaire B, Chevrier J, Chan P. Exposure to polybrominated diphenyl ethers and phthalates in healthy men living in the greater Montreal area: a study of hormonal balance and semen quality. *Environment International*. 2018. 116: 165-175.
 33. **Huang JY**, King NB. Epigenetics changes nothing: What a new scientific field does and does not mean for ethics and social justice. *Public Health Ethics*. 2018. 11(1): 69-81.
 34. **Huang JY**, Siscovick DS, Hochner H, Friedlander Y, Enquobahrie DA. Maternal gestational weight gain and DNA methylation in young women: application of life course mediation methods. *Epigenomics*. 2017 Dec; 9(12): 1559-1571.
 35. [§]Benmarhnia T, [§]**Huang JY**, Jones C. Lost in Translation: Piloting a Novel Framework to Assess the Challenges in Translating Scientific Uncertainty From Empirical Findings to WHO Policy Statements. *International Journal of Health Policy and Management*. 2017. 6(11): 649-660.
 36. Benmarhnia T, **Huang JY**, Wu J, Basu R, Bruckner T. Decomposition Analysis of Black-White Disparities in Birth Outcomes: The Relative Contribution of Air Pollution and Social Factors in California. *Environmental Health Perspectives*. 2017 Oct 4;125(10):107003.
 37. ^{*}Lawrence GM, Friedlander Y, Calderon-Margalit R, Enquobahrie DA, **Huang JY**, Tracy RP, Manor O, Siscovick DS, Hochner H. Associations of social environment, socioeconomic position and social mobility with immune response in young adults: The Jerusalem Perinatal Family Follow-up Study. *BMJ Open*. 2017 Dec 21;7(12): e016949.
 38. **Huang JY**, Gavin AR, Richardson TS, Rowhani-Rahbar A, Siscovick DS, Hochner H, Friedlander Y, Enquobahrie DA. Accounting for life course exposures in epigenetic biomarker association studies: Early life socioeconomic position, candidate gene DNA methylation, and adult cardiometabolic risk. *American Journal of Epidemiology*. 2016 October. 184 (7): 520-531. -- 2016 Article of the Year
 39. **Huang JY**, Gavin AR, Richardson TS, Rowhani-Rahbar A, Siscovick DS, Enquobahrie DA. Are early life socioeconomic conditions directly related to birth outcomes? Grandmaternal education, grandchild birth weight,

and associated bias analyses. *American Journal of Epidemiology*. 2015 October. 182 (7): 568-578.

40. **Huang JY**, Gavin AR, Richardson TS, Rowhani-Rahbar A, Siscovick DS, Enquobahrie DA. Huang, et al. Respond to “Multigenerational Social Determinants of Health.” *American Journal of Epidemiology*. 2015 October. 182 (7): 583-584.
41. Arnold DL, Enquobahrie DA, Qiu C, **Huang J**, Grote N, VanderStoep A, Williams MA. Early Pregnancy Maternal Vitamin D Concentrations and Risk of Gestational Diabetes Mellitus. *Paediatric Perinatal Epidemiology*. 2015 May; 29(3): 200-210.
42. **Huang JY**, Arnold D, Qiu C, Miller R, Williams MA, Enquobahrie DA. Association of Serum Vitamin D with Symptoms of Depression and Anxiety in Early Pregnancy. *Journal of Women’s Health*. 2014 Jul; 23(7): 588-595.
43. **Huang JY**, Qiu C, Miller RS, Siscovick DS, Williams MA, Enquobahrie DA. Maternal birthweight is associated with subsequent risk of vitamin D deficiency in early pregnancy. *Paediatric Perinatal Epidemiology*. 2013 Sep; 27(5): 472-480.
44. Patrick DL, Bell JF, **Huang JY**, Lazarakis NC, Edwards TC. Bullying and Quality of Life in Youths Perceived as Gay, Lesbian, or Bisexual in Washington State, 2010. *American Journal of Public Health*. 2013 Jul; 103(7): 1255-1261.

Other publications (pre-prints, works under review, editorials)

1. **Huang JY**. Risk of bias assessments, target trials, and the strengths of environmental epidemiology. *Environmental Health Perspectives. Invited Perspective. Under review.*
2. **Huang JY**. Expert Opinion on: “Creative use of biobank data enables exploration of longstanding questions about bias.” Research Briefing. *Nature Human Behavior*. 2023 Jun; 7:1251-1252.
3. †Huang J, Kee MZL, Law E, Sum KK, Silveira PP, Godfrey KM, Daniel LM, Tan KH, Chong YS, Chan SY, Eriksson JG, Meaney MJ, **Huang JY**. Genetic burden of perturbations in child glycaemic regulation in Asians and early-life neurodevelopment: A multi-ethnic, prospective cohort study with replication. *Under review.*
4. *Mecalf E, **Huang JY**, Arah OA, Harhay MO, Leeder SR, Bell KJL. A survey of the use and impact of *International Journal of Epidemiology’s* Education Corner. *International Journal of Epidemiology*. 2022. doi: 10.1093/ije/dyac160
5. Harhay MO, Bell KJL, **Huang JY**, Arah OA. IJE’s Education Corner turns 10! Looking back and looking forward. *International Journal of Epidemiology*. 2022. doi: 10.1093/ije/dyac161
6. Chen K, Babaeianjelodar M, Shi Y, ..., **Huang JY**, ..., Kumar N. Partisan US News Media Representations of Syrian Refugees. *arXiv*. Preprint posted online 17 Jun 2022. arXiv:2206.09024. Accepted: *ICWSM 2023: International Conference on Web and Social Media*.
7. *† Meng X, **Huang JY**. Doubly robust, machine learning effect estimation in real-world clinical sciences: A practical evaluation of performance in molecular epidemiology cohort settings. *arXiv*. Preprint posted online 27 May 2021. arXiv:2105.13148
8. **Huang JY**. Leveraging multi-omic molecular negative controls for effect estimation in non-randomized human health and disease studies: a simulation study. *International Conference on Machine Learning: Neglected Assumptions in Causal Inference Workshop*. 2021. <https://sites.google.com/view/naci2021/accepted-papers>
9. **Huang JY**, Valvi D, Chan J, Chong MFF, Chan SY, Ng S, Chen CY, Chan JKY, Oulhote Y. Maternal pregnancy plasma folate concentrations, supplement use, and increased cord PFAS and transplacental transfer ratios: a prospective cohort study. *Under review.*
10. **Huang JY**, Oulhote Y, Loo E, Kee M, Teoh OH, Thng G, Benmarhnia T. Critical periods of early life PM2.5 exposure, childhood respiratory infection admissions, and subsequent elevated inflammatory biomarkers. *Under review.*

Refereed submitted presentations

1. **Huang JY**. Aligning Cutting-Edge Quantitative Methods with Intervention Development Stages: The DADSCAN project on Paternal Contributions to Child Health and Development. *CHILD Biennial Conference*. October 2022. Singapore
2. **Huang JY**, Valvi D, Chan J, Chong MFF, Chan SY, Ng S, Tan KH, Chen CY, Chan JKY, Oulhote Y. Maternal pregnancy plasma folate concentrations and increased PFAS transplacental transfer ratios: a prospective cohort study and semi-replication. *ISEE-AWPC ISES-AC Joint Conference 2022*. June 2022. Singapore. Virtual.
3. **Huang JY**, Meng X. Application-friendly tool to evaluate suitability of machine learning-based effect estimation for user-specified data: the Realistic Evaluations of Finite sample INference using Efficient Estimators (REFINE2) app. *SER Annual Meeting*. June 2022. Chicago.
4. **Huang JY**. Negative control outcome adjustment to reduce unmeasured confounding in epigenome-wide studies: An application to assisted reproductive technologies and placental epigenomics. *SER Annual Meeting*. June 2022. Chicago.
5. **Huang JY**. Performance of doubly-robust, machine learning effect estimators in realistic epidemiologic data settings and practical recommendations. *World Congress of Epidemiology*. September 2021. Melbourne, Australia. Virtual.
6. **Huang JY**. Leveraging multi-omic negative controls for effect estimation in molecular epidemiologic studies: A simulation study. *World Congress of Epidemiology*. September 2021. Melbourne, Australia. Virtual.
7. **Huang JY**. Doubly robust, machine learning effect estimation in real-world clinical sciences: a practical evaluation of performance in high-dimensional, molecular epidemiology settings. *6th SingHealth Duke-NUS Scientific Congress*. September 2021. Singapore. Virtual.
8. **Huang JY**. Leveraging multi-omic negative controls for effect estimation in non-randomized human studies: a simulation study. *6th SingHealth Duke-NUS Scientific Congress*. September 2021. Singapore. Virtual.
9. **Huang JY**. Leveraging maternal-offspring epigenomic negative controls for developmental effect estimation in non-randomized human studies: a simulation study. *15th Asian Epigenomics Meeting*. February 2021. Singapore. Virtual.
10. **Huang JY**. “Causal inference and molecular epidemiology: How can we best use –omics to answer epidemiologic questions of interest?” Submitted Symposium. Co-chair. *Society for Epidemiologic Research*. December 2020. Boston, Massachusetts. Virtual.
11. **Huang JY**. Leveraging multi-omics for causal inference. *Society for Epidemiologic Research*. Submitted symposium on “Causal inference and molecular epidemiology: How can we best use –omics to answer epidemiologic questions of interest?” December 2020. Boston, Massachusetts. Virtual.
12. **Huang JY**, Law E, Tint M, Aris I, Yuan WL, Chong MF, Godfrey K, Chong YS, Eriksson JG, Karnani N, Lee YS. Breaking cycles: Simulating the effects of potential interventions to break the ties between maternal overweight and child adiposity via TMLE and cross-validated machine learning. *11th World Congress on Developmental Origin of Health and Disease (DOHaD)*. October 2019. Melbourne, Australia.
13. **Huang JY**, Cai S, Huang ZW, Tint M, Yuan W, Aris IM, Godfrey KM, Karnani N, Lee YS, Chan J, Chong YS, Eriksson JG, Chan SY. Smaller body size at 6.5 years following in vitro fertilization is not explained by parental, gestational, and early childhood characteristics nor observed epigenetic differences. *DOHaD World Congress*. October 2019. Melbourne, Australia.
14. **Huang JY**. Enhancing benefits to participants in a rural, South African child environmental health study. *Global Health Night*. McGill University. November 2017. Montreal, Canada.
15. **Huang JY**. Fetal insecticide exposures and frequency of child infections at 2 years in the VHEMBE birth cohort: associations, modifiers, and mediators. *10th World Congress on Development Origins of Health and Disease*. October 2017. Rotterdam.
16. **Huang JY**. Characterizing public health relevance of in utero pesticide exposure on persistent childhood fevers in a rural South African population: Effect modification, mediation, and estimation of potential policy effects by parametric g-computation. *Society for Paediatric and Perinatal Epidemiology Annual Meeting*. June 2017. Seattle, Washington.
17. Daku M, Majid MF, **Huang JY**. The impact of Uber’s Introduction on Drunk Driving in South Africa. Working

Paper Presentation. *International Conference on Public Policy*. Panel on “Identifying & Explaining Urban Health Inequalities.” June 2017. Singapore.

18. **Huang JY**. Life course-adjusted associations between intrauterine environment and DNA methylation in young adult women of a Jerusalem Perinatal Study sub-cohort. *Society for Paediatric and Perinatal Epidemiology Annual Meeting*. June 2016. Miami, Florida.
19. **Huang JY**. Intrauterine environment and adult DNA methylation: life course, time-dependent confounding, and g-methods. *Epidemiology Congress of the Americas*. June 2016. Miami, Florida.
20. **Huang JY**. Time-dependent confounding by life-course exposures when evaluating epigenetic and developmental origins hypotheses: A comparison of traditional regression, MSM, and parametric g-formula estimates for the direct effects of intrauterine environment on adult DNA methylation. *SERdigital Spring 2016 - Application of Novel Epidemiologic Methods in Student Research*. March 2016. Virtual.
21. **Huang JY**. Life course-adjusted associations between intrauterine environment and DNA methylation in young adult women of a Jerusalem Perinatal Study sub-cohort. Oral Poster Presentation. *9th World Congress on Developmental Origins of Health and Disease*. November 2015. Cape Town, South Africa.
22. **Huang JY**, Benmarhnia T. Lost (or Gained) in Translation: Considering the representation of uncertainty in the presentation of empirical findings in WHO policy statements. *International Conference on Public Policy*. July 2015. Milan, Italy.
23. Bailey Z, Benmarhnia T, Daku M, **Huang JY**. The value of evidence: Investigating the use of empirical evidence in health and social equity-promoting policies in a variety of contexts (U.S., Canada, and the U.K.) *International Conference on Public Policy*. July 2015. Milan, Italy.
24. **Huang JY**. Associations between early life socioeconomic position candidate gene methylation and adult cardiometabolic phenotypes in young adult women in the Jerusalem Perinatal Family Follow-Up Study. *Society for Epidemiologic Research Annual Meeting*. June 2015. Denver, Colorado.
25. **Huang JY**. Direct effects of women’s early life socioeconomic status on the birth weights of their children. *Society for Paediatric and Perinatal Epidemiology and Society for Epidemiology Research Annual Meetings*. June 2014. Seattle, Washington.
26. **Huang JY**. Association of Early Pregnancy Vitamin D with Symptoms of Antepartum Depression and Anxiety. *Society for Paediatric and Perinatal Epidemiology and Society for Epidemiology Research Annual Meetings*. June 2013. Boston, Massachusetts.
27. **Huang JY**. Maternal Birth Weight is Associated with Subsequent Early Pregnancy Vitamin D. *Society for Paediatric and Perinatal Epidemiology and Society for Epidemiology Research Annual Meetings*. June 2012. Minneapolis, Minnesota.
28. Gould L, **Huang JY**. How racism is embodied: A new social determinants of health curriculum. *Seattle Race Conference*. August 2010. Seattle, Washington.

Products of engaged scholarship

1. **Huang JY**. The Road Ahead: How GUSTO is helping us understand parenting and health in a post-COVID world. *GUSTO Seminar Series. Presented to GUSTO / S-PRESTO families*. Webinar. 8 December 2022.
2. **Huang JY**. Study design and other scientific considerations for the study of the impact of built environment forms on positive mental wellness. *Meeting with Urban Redevelopment Authority Strategic Research Unit*. 24 November 2022. Singapore.
3. Huang JY. Challenges and opportunities in using longitudinal cohort studies to inform early child interventions, policy, and practice. Panel chair and moderator. *CHILD Biennial Conference*. 28 October 2022. Singapore.
4. COVID-19’s effect on children’s outdoor play and associations with family income (with Dr. Jonathan Huang). *Socialservice.sg “Making Research Sense” series*. Podcast. 4 May 2022. <https://socialservice.sg/2022/05/04/covid-children-play-jonathan-huang/>
5. Interview on lack of outdoor play in Singapore school-aged children. *Health Matters with Daniel Martin on CNA 938*. Radio Interview. 23 March 2022.

6. Heng KW. 阻断措施后仍少到户外活动 研究：儿童一年后体重增加. *Lianhe Zaobao*. 13 March 2022.
7. Tan Cheryl. Kids gain weight after circuit breaker from no outdoor play. *The Straits Times*. 12 March 2022.
8. **Huang JY**. Expert Knowledge, Machine Learning, and Today's Clinical Sciences – An Applied Biostatistician's Perspective. Invited speaker and panelist. *Causation x Health @ AIxImpact Conference*. February 2022. Singapore. Virtual.
9. **Huang JY**. Paternal factors and early child health and development. *Ministry of Social and Family Development Research Working Group*. November 2021. Singapore.
10. **Huang JY**. Completing the picture: the multifaceted role of fathers in early child health and development. *Ministry of Education-GUSTO Research Working Group*. November 2021. Singapore.
11. Hurley E, Callahan T, Stahl N, **Huang J**, Burk K, Hamilton J, Myers T, Wright J. B-5: Prioritizing Cleanup of the Hanford Nuclear Reservation, America's largest Superfund Site, to Protect the Public's Health. *APHA Policy Position*. Adopted at 2010 APHA Annual Meeting. November 2010. Denver, Colorado.
12. Burk K, Callahan T, **Huang J**, Hurley E, Schoeppe J, Shirreffs A, Stahl N. Flood preparedness messaging in Tukwila: Strategies for reaching low-literacy and other vulnerable populations. Emergency preparedness community assessment. *Cities of Kent and Tukwila, and Public Health Seattle King County*. March 1, 2010. Kent, Washington.

Other products of scholarship - Invited presentations to researchers and academics

13. **Huang JY**. Modern methods for pediatric cardiometabolic phenotyping and effect estimation. *Singapore National Cardiovascular Research Symposium 2021*. November 2021. Singapore.
14. **Huang JY**. Application-friendly methods: Some observations on data-adaptive (“machine learning”) effect estimation based on simulations from real, molecular epidemiologic, birth cohort data. *UMass Amherst Epidemiology Departmental Seminar*. September 2021. Amherst, Massachusetts. Virtual.
15. **Huang JY**. “Precision and Study Size.” Guest on SERious Epi Podcast hosted by Hailey Banack and Matthew Fox. Recorded September 2021.
16. **Huang JY**. Etiology and treatment effects in observational cohorts: Trial emulation, molecular mediation, and machine learning. *Victorian Centre for Biostatistics Seminar*. October 2019. Melbourne, Australia.
17. **Huang JY**. Molecules and Models: Improving molecular and systems epidemiology through pragmatic causal inference. *Erasmus Medical Center Seminar*. March 2019. Rotterdam, Netherlands.
18. **Huang JY**. What do the numbers really mean? A taxonomy of statistical tasks in 21st century clinical data science and the role of formal causal inference and machine learning. *Singapore Institute for Clinical Sciences Research Seminar*. February 2019. Singapore.
19. **Huang JY**. Equal Starts: Introduction to intervention-oriented epidemiologic methods for maternal and child health. *Department of Obstetrics and Gynaecology Seminar*. KK Women's and Children's Hospital. September 2018. Singapore.
20. **Huang JY**. Early life lasts a lifetime: The critical contributions of early life environmental to health disparities and implications for policy and practice. *School of Public and Community Health Sciences Seminar*. University of Montana. December 2017. Missoula, Montana.
21. **Huang JY**. Public health relevance of in utero insecticide exposure on childhood fevers in a rural, South African population. *Environmental Epidemiology Affinity Group Seminar*. McGill University. October 2017. Montreal, Canada.
22. **Huang JY**. Principles of information bias in a child environmental health context. *School of Public Health and Family Medicine Lecture*. University of Cape Town. October 2017. Cape Town, South Africa. Virtual.
23. **Huang JY**. Causal inference in early life and life course research: A case for etiologic and public health relevance. *Department of Population, Family, and Reproductive Health Seminar*. Johns Hopkins University Bloomberg School of Public Health. September 2017. Baltimore, Maryland.
24. **Huang JY**. Public health relevance of in utero insecticide exposure on childhood fevers in a rural, South African

population. *Department of Epidemiology Seminar. Boston University School of Public Health. September 2017. Boston, Massachusetts.*

25. **Huang JY.** Causal mediation approaches to developmental origins and epigenetic epidemiology. Department Seminar. *Dartmouth, Geisel School of Medicine. Department of Epidemiology. April 2016. Hanover, New Hampshire.*
26. **Huang JY.** Early life origins of social disparities in health: Causal models, epigenetics, and policy. Health Science Program Seminar. California State University Fullerton. February 2016. Fullerton, California.
27. **Huang JY.** Does epigenetic research provide a novel motivation for ethical concerns? *Montreal Health Equity Research Consortium Meeting. McGill University. January 2015. Montreal, Canada.*

TEACHING ACTIVITIES

Courses

Term/Duration	Course Title / Institution	Role (% course effort)	# and type of students
Fall 2023	PH 747 Statistical Methods for Epidemiologic Research / UH Manoa OPHS	Organizer & Instructor (100%)	11 graduate students, epidemiology majors
June 2022 / 1-day workshop	Design-Based Statistical Methods for Environmental Epidemiology / ISEE-AWPC ISES-AC Joint Conference 2022 Workshop	Convenor & Instructor	Online; TBD
March 2021 / 3-day workshop	Health Data Science for Impact / Singapore Institute for Clinical Sciences	Convenor, Discussant, and Instructor (30%)	~300 academics, industry data analysts, government employees, undergrad and graduate students from across Southeast Asia and Region
April 2019	Department of Paediatrics Research Seminar / NUS YLL School of Medicine	Guest lecturer: "How to be a savvy paediatric clinical research consumer case studies drawn from recent headlines"	~20 faculty clinicians and clinician-scientists
March 2019	Department of Paediatrics CME Lectures / NUS YLL School of Medicine	Guest lecturer: "21st century clinical data science: trial simulation, biomarkers, and machine learning"	~40 academic clinical faculty
February 2019 / 1-week workshop	Tutorial on Personalized Medicine, Treatment Regimes, Reinforcement Learning, and Causal Inference / NUS Institute for Mathematical Sciences	Module instructor: "Introduction to Causal Inference in Complex Longitudinal Settings" (5%)	~20 academic and industry researchers and graduate students
Autumn 2017	EPIB648: Methods in Social Epidemiology / McGill University	Guest lecturer: "Epigenetics: Considerations for social epidemiology"	~15 graduate students in epidemiology and biostatistics
Autumn 2015	EPIB601: Fundamental of Epidemiology / McGill University	Co-convenor and instructor (50%)	~20 graduate students in health sciences
Autumn 2013	HSERV591: Introduction to Population Health / University of Washington	Instructor (100%)	~7 MPH students
September 2012 / 2-day	Introduction to community action on health equity / Just	Co-instructor (20%)	~30 members of Spokane (Spokane, Washington)

workshop	Health Action (not-for-profit)		Regional Health District and members of a broad community coalition
August 2010	<i>Promotora</i> advisor training on social determinants of health and health equity / Just Health Action (not-for-profit)	Co- instructor (40%)	~20 Spanish-speaking community health workers in Chapel Hill, North Carolina; workshop was conducted entirely by way of English-Spanish translation
July 2010 / 1-day workshop	Introduction to social determinants of health and health equity	Co-instructor (20%)	~20 Whatcom County (Bellingham, Washington) Health Department employees

Post-Doctoral Advisor (Degree and training, [Honors/Awards/Grants/Placement])

1. Lucas Shen (PhD Economics, Nanyang Technological University, Singapore). April 2023 to date.
 - a. Current position: Research Fellow; Centre for Holistic Initiatives for Learning and Development (CHILD), National University of Singapore
2. Mohd Murshad Ahmed (PhD Computational Biology, Centre for Interdisciplinary Research in Basic Sciences, Jamia Millia Islamia, New Delhi, India). February 2023 – August 2023.
3. Gerard Chung (PhD Social Work, School of Social Work, UNC Chapel Hill). August 2022 to date.
 - a. Current position: Tenure-Track Assistant Professor; School of Social Work, National University of Singapore, Singapore
4. Jian Huang (PhD Epidemiology, School of Public Health, Li Ka Shing Faculty of Medicine, The University of Hong Kong). October 2020 to date.
 - a. Current position: Senior Research Fellow; Singapore Institute for Clinical Sciences, Agency for Science, Technology, and Research (A*STAR), Singapore
5. Ben Wong (PhD Biostatistics, Department of Biostatistics, Chan School of Public Health, Harvard University). June 2021 to Jan 2022.

Doctoral Advisor (Student; Project Title; Department; Graduation date, [Honors/Awards/Grants/Placement])

N/A

External Doctoral Project Co-Advisor (Student; Home Institution; Project Title; Dates)

1. Sokratis Kariotis, University of Sheffield; Subtyping complex disorders in pregnant women through unsupervised machine learning of multi-omics data; November 2021 to October 2022.
2. Michael Mascari, University of Massachusetts at Amherst; In utero environmental pollutant mixtures, autistic traits, and biological interaction with folate; October 2020 to March 2022.
3. Xiang Meng, Harvard University; Real world performance of efficient estimators in typical molecular epidemiologic settings; June 2020 to date.
4. Ashenafi Cherkos and Ruchi Tiwari, University of Washington; Spatial-temporal particulate matter and pregnancy outcomes in Singapore; 2020 to January 2022.

Doctoral Dissertation Committee Member (Student; Project Title; Department; Graduation date)

N/A

Master's Student Supervision (Degree Program; Dates)

1. Yah Ru Juang; MPH, National University of Singapore; 2021 to date. (first as BSc student)
2. Cao Pengcheng, MSc Data Science, National University of Singapore; 2021-2022
3. Tara Bostock; MPHc Public Health, University of Washington; 2013-2014

Bachelor's Student Supervision (Degree Program; Institute; Dates)

1. Siti Namirah Roslan; BSc Biomedical Science, Nanyang Technical University; 2022.

2. Charmaine Chang Tze Hwee; BSc Biomedical Science, Nanyang Technical University; 2022.
3. Izzah Mustafa; BSc/MS Biomedical Sciences, University of Manchester; 2020
4. Tianyu Zhang; BS Neuroscience/BA Philosophy, McGill University; 2015-2016
5. Sabine Grutter; BA International Development, McGill University; 2014-2016
6. Sabina Sloman; BA Economics, McGill University; 2014-2016

Staff under direct supervision (Degree; Position; Institution; Dates)

1. Jacqueline Siow Ai Sun; MPH Nutrition; SGUnited Intern; SICS; 2021-2022
2. Sum Ka Kei; MSc Epidemiology; Research Officer; SICS; 2020 to date
 - a. Current position: Wellcome Trust PhD student in Molecular, Genetic, and Lifecourse Epidemiology; University of Bristol, UK
3. Mrunalini Jagtap; MSc Data Science; Data Management Lead; 2019-2021
4. Ray Wong; MSc Biostatistics and Epidemiology; Trial Statistician; 2019-2020

GRANTS (Role, Title, Agency/Funder, Dates, Amount)

Submitted / in preparation

Co-Investigator, Bonding Before Birth (B3) – Strengthening parents’ emotion regulation to optimize parenting for better future child outcomes. *Singapore Biomedical Research Council Health and Human Potential Prenatal-Early Childhood (BMRC HHP PEC) Investigator Research Grant (IRG)*. PI: Michelle Kee. 1 million SGD. *Submitted*.

Co-Investigator, “GUSTO EXPOSOME STUDY (GUESS): Quantifying the Impact of the Antenatal & Postnatal Exposome on Fetal/Postnatal Growth Patterns Linked to Adverse Adolescent Metabolic and Socio-emotional Health.” *BMRC HHP PEC IRG*. PI: Navin Michael. 1 million SGD. *Submitted*.

Co-Investigator, Identifying actionable determinants of PFAS exposure to improve maternal and child health and mental wellness outcomes. *BMRC HHP PEC IRG*. PI: James Chan. 1 million SGD. *Submitted*.

Mentor/Collaborator, Transgenerational influence of parental metabolic and mental health on child development. *BMRC HHP PEC Young Investigator Research Grant (YIRG)*. PI: Jian Huang. 499,980 SGD. *Submitted*.

Collaborator, Investigating the impact of long-term mental stress on metabolic health, and adolescent wellbeing: Pathways to Holistic Interventions and Promotion of Resilience in Singapore Youth. *BMRC HHP PEC IRG*. PI: Mya Thway Tint. 1 million SGD. *Submitted*.

Collaborator, A multi-omics network approach to investigate the interplay between gut microbiome and host biomarkers underlying poor metabolic health during early childhood. *NMRC OF-YIRG*. 322,673 SGD. *Submitted*.

Principal Investigator, “Family and Child Wellness as Leading Indicators of Population Health: Multi-cohort surveillance, locally-relevant Mechanisms, and policy Microsimulation (M³)” *NMRC OF-PHRG*. *In preparation*.

Associate Investigator, “TurnItDown: Targeting inflammation across the life course to reduce the burden of cardiometabolic disease.” *NHMRC Synergy (Australia)*. *In preparation*.

Consultant, “An integrated analysis of environmental toxicants and early caregiving on epigenetic aging and child cognition: a test within an evidence-based prenatal intervention.” *NIH R01*. *Submitted*.

Currently funded

Co-Investigator, “Perinatal per-/poly-fluoroalkyl substances (PFAS) exposure and child liver function, metabolism, and genetic risk,” NIH NIEHS R21 \$275,000.

Principal Investigator, “Completing the picture: Strengthening fathers’ roles in early child health and neurodevelopment through targeted interventions,” Biomedical Research Council - Health and Human Potential

Prenatal / Early Childhood Grant call. \$611,844 SGD (~456,000 USD).

Principal Investigator, “Machine learning to estimate effects of in vitro fertilization and other assisted reproductive technologies on early adolescent cardiometabolic health,” National Medical Research Council, Open Fund – Young Investigators Research Grant. 2/2021-3/2024. \$299,946 SGD (~224,000 USD)

Co-Investigator, “Modelling maternal-fetal transfer of nutrients and exogenous chemicals using a physiologically-realistic virtual human model,” Biomedical Research Council, A*STAR Central Research Funds, Applied / Translational Research. 10/2021-11/2024. PI: James Chan. \$600,000 SGD (~448,000 USD)

Co-Investigator, “Metabolic Health in Asian Women and their Children,” National Medical Research Council, Open Fund – Large Collaborative Grant. 1/2021-2/2026. PI: Yap Seng Chong. \$10,000,000 SGD (~7,460,000 USD)

Co-Investigator, “The role of uteroplacental inositol in inhibiting preterm labour-onset and rupture of membranes,” National Medical Research Council, Clinician Scientist Investigator Grant. 9/2020-10/2023. PI: Shiao-Yng Chan. \$1,710,000 SGD (~1,276,000 USD)

Supervisor/Mentor, “Dual burden of early-life metabolic risk and suboptimal neurodevelopment: multi-omic etiologic discovery and clinical prediction modelling” National Medical Research Council, Open Fund – Young Investigators Research Grant. PI: Jian Huang. 10/2022-11/2025. \$324,978 SGD (~243,000 USD)

Other funding sources

Principal Investigator, “Assessment of Airborne Exposures in Infants and Children in Singaporean Cohorts.” SICS core funding. 1/2023 to 12/2024. \$60,000 USD.

Principal Investigator, “Adaptive interventions to improve expectant couples’ emotional regulation” SICS core funding. 4/2022 to 3/2023. \$54,000 SGD (~\$40,000 USD).

Principal Investigator, “Paternal effects on child and family health.” SICS core funding. 4/2022 to 3/2023. 4/2022 to 3/2023. \$22,470 SGD (~\$16,600 USD).

Completed

Principal Investigator, “Examining the likely effect of asset-building interventions (child development accounts and reparations policies) on Black-White disparities in perinatal outcomes.” Contract from Boston University / Harvard FXB Center for Health and Human Rights. 7/2022 to 3/2023. \$5,000 USD.

Principal Investigator, “Assessment of preconception environmental chemicals in blood and urine.” SICS core funding. 5/2020 to 4/2021. \$203,439.60 SGD (~\$150,500 USD).

Principal Investigator, “Profiling of placental DNA methylation of IVF and non-IVF conceptions in the GUSTO cohort study.” SICS core funding. 9/2020 to 12/2021. \$150,000 SGD (~\$111,000 USD).

Principal Investigator, “Enhancing benefits to participants in a rural, South African child environmental health study,” Norman Bethune Award for Global Health, McGill University, Faculty of Medicine, Global Health Programs. 4/2017. \$2500 CAD

Principal Investigator, “Life course-adjusted associations between intrauterine environment and DNA methylation in young adult women of a Jerusalem Perinatal Study sub-cohort,” Institute Community Support Travel Award. Canadian Institutes of Health Research, Institute of Nutrition, Metabolism, and Diabetes. 12/2015. \$1500 CAD

Co-Investigator, “Intergenerational Adversity and Epigenetic Markers of Cardiometabolic Risk Among Young Adult Women in the Jerusalem Perinatal Study.” University of Washington Global Woman, Adolescent, and Child Health (Global WACH) Integrated Health Seed Grant. 2013-2014. \$25,000

PROFESSIONAL SERVICE

Department, School, University-Level

- 2014 Member, MPH Admissions Committee, Community-Oriented Public Health Practice Program, Department of Health Services, University of Washington, Seattle
- 2013-2014 Member, Curriculum Committee, Community-Oriented Public Health Practice Program, Department of Health Services, University of Washington, Seattle
- 2013 Founder, Social Mechanisms Working Group, University of Washington, Seattle
- 2012 Member, School of Public Health Strategic Planning Steering Committee, University of Washington, Seattle
- 2011 Organizer, Annual Research Meeting, Department of Health Services, University of Washington, Seattle
- 2010-2012 Representative, Department of Epidemiology, Graduate and Professional Student Senate, University of Washington, Seattle
- 2011 Co-organizer, 1st Annual Science and Policy Summit, Graduate and Professional Student Senate University of Washington, Seattle
- 2009-2010 Member, Dean Selection Committee, School of Public Health, University of Washington, Seattle

External Groups

- 2023 to date *Methodological Editor*, Fertility and Sterility
- 2022 to date *Associate Editor*, PLOS Global Public Health
- 2021 to date *Associate Editor*, International Journal of Epidemiology
- 2021 to date *Education Corner team*, International Journal of Epidemiology
- 2021 to date *Facilitator*, Navigating Academia as a Person of Color, Society for Epidemiologic Research Mentoring Program
- 2022 *Organizing Committee*, International Society for Environmental Epidemiology-Asia and Western Pacific Chapter (ISEE-APWC) and International Society for Exposure Science Asia Chapter (ISES-AC) Joint Conference 2022
- 2020 to date *Reviewer*, abstracts and posters, Society for Epidemiologic Research Annual Meeting

Ad-hoc reviewer:

Annals of Epidemiology	Nature Human Behavior	Lancet Digital Health
American Journal of Epidemiology	Epidemiology	Molecular Psychiatry
American Journal of Public Health	International Journal of Epidemiology	Paediatric Perinatal Epidemiology
BMC Cancer	J Dev Origins of Health and Disease	PLOS ONE
BMC Medicine	JAMA Pediatrics	SSM – Population Health
British Journal of Nutrition	Journal of Women’s Health	Wellcome Open Research
Environmental Health Perspectives	Kennedy Institute of Ethics Journal	European Archives of Psychiatry and Clinical Neuroscience
Environment International	Reproductive Biology	

COMMUNITY SERVICE

- 2010- Advisory Board Member, Just Health Action, Seattle, WA
- 2004-2008 Medic, Crew Captain, Charlottesville-Albemarle Rescue Squad, Charlottesville, VA
- 2004-2008 Medic, Training Captain Seminole Trail Volunteer Fire Department, Charlottesville, VA
- 2003-2005 Head Program Director Madison House, Rehabilitation Services, Charlottesville, VA