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Education

- **Harvard University**, Boston, MA
 - Doctor of Science**, Dual Degree in Epidemiology and Biostatistics 2012
Dissertation advisors: Xihong Lin (Biostatistics) and David C Christiani (Epidemiology)
 - Master of Science**, Biostatistics 2009
 - Master of Public Health**, Quantitative Methods 2006
- **National Taiwan University**, Taipei, Taiwan
 - Doctor of Medicine**, Department of Medicine 2003

Current Positions

- Research Fellow**, Institute of Statistical Science, Academia Sinica, Taiwan 2020/09-
- Professor** (joint appointment), National Taiwan University 2021/02-
Department of Mathematics
Institute of Epidemiology and Preventive Medicine
Genome and Systems Biology Degree Program
- Professor** (joint appointment), Department of Applied Mathematics, National Sun Yat-sen University 2021/02-
- Core Faculty**, Data Science Degree Program, Academia Sinica and National Taiwan University 2019/01-
- Core Faculty**, Taiwan International Graduate Program of Bioinformatics, Academia Sinica, 2017/08-
- Coordinator**, Taiwan International Graduate Program of Bioinformatics, Academia Sinica, 2022/11-

Work Experience

- Associate Research Fellow** (tenured), Institute of Statistical Science, Academia Sinica, Taiwan 2016-2020
- Associate Professor** (joint appointment), Department of Applied Mathematics, National Sun Yat-sen University 2020-2021
- Associate Professor** (joint appointment), Department of Mathematics, Institute of Epidemiology and Preventive Medicine, National Taiwan University 2018-2021
- Associate Professor** (joint appointment), Genome and Systems Biology Degree Program, National Taiwan University 2017-2021
- Adjunct Associate Professor**, Departments of Biostatistics and Epidemiology, Brown University 2016-2019
- Assistant Professor** (tenure-track), Department of Epidemiology, Brown University 2012-2016
- Assistant Professor** (secondary), Department of Biostatistics, Brown University 2015-2016

Visiting Scientist , Harvard University, School of Public Health	2012-2015
Graduate Research Assistant , Harvard University, School of Public Health	2007-2012
Post-doctoral Research Fellow , Harvard University, School of Public Health	2006-2007
Senior Research Assistant , National Taiwan University	2005
Second Lieutenant Medical Officer , Missile Command, Department of Defense, Taiwan	2003-2005
Intern Physician , National Taiwan University Hospital	2002-2003

Honors and Awards

Outstanding Young Scholar Award 年輕學者創新獎, Foundation for the Advancement of Outstanding Scholarship 傑出人才發展基金會 2023

Academia Sinica Presidential Scholar 中研院特優學術研究獎金, Academia Sinica, 2022-2024

Contribution Award 中華機率統計學會貢獻獎, The Chinese Institute of Probability and Statistics, 2022

Outstanding Talent Award 扶輪基金會傑出/特殊人才獎, Chung Hwa Rotary Educational Foundation, 2021

Junior Researcher Award 中研院年輕學者著作獎, Academia Sinica, 2020

Outstanding Research Award 科技部傑出研究獎, Ministry of Science and Technology, Taiwan, 2020

Career Development Award 中研院前瞻計畫, Academia Sinica, 2019

Ta-You Wu Memorial Award 吳大猷先生紀念獎, Ministry of Science and Technology, Taiwan, 2018
STS Future Leader, Science and Technology in Society Forum (Japan), 2018

Li Foundation Heritage Prize for Excellence in Creativity 美國李氏傳統基金會研究創新獎, The Li Foundation, Inc., US, 2017

Talent Recruitment Award Fund, Ministry of Science and Technology, Taiwan, 2016

Junior Research Awards in Genetics and Molecular Population Studies, Brown University, 2015

Richard B. Salomon Faculty Research Award, Brown University, 2013

Travel Award, Advances in Statistical Methods for Cancer Genetic Epidemiology, Memorial Sloan-Kettering Cancer Center (New York, NY), 2013

David P. Byar Young Investigator Travel Award, American Statistical Association (ASA) Biometrics Section, 2012

Research Advisory Board Poster Award, International Biometric Society Eastern North American Region (ENAR), 2012

Stellar Abstract Award, Program of Quantitative Genomics, Harvard University (Boston, MA), 2011

Best Abstract Award, Dana-Farber/Harvard Cancer Center Lung Cancer Program Symposium, 2010

David H. Peipers Fellowship, Harvard University, School of Public Health, 2007-2009

Taiwanese Physicians Scholarship, Harvard University, School of Public Health, 2005-2006

Selected Publications (*corresponding author; †equal contribution)

1. **YT Huang***, JC Yu[#], and JH Lin[#]. Surrogate Marker Assessment Using Mediation and Instrumental Variable Analyses in a Case-cohort Design. *Annals of Applied Statistics* 2023 June; 17:1239-1259.

2. **YT Huang***. Hypothesis Test for Causal Mediation of Time-to-event Mediator and Outcome. *Statistics in Medicine* 2022 May; 41:1971-1985.
3. **YT Huang***. Causal Mediation of Semi-competing Risks (with discussion). *Biometrics* 2021 Dec, 77:1143-1154.
4. **YT Huang***. Mendelian randomization using semiparametric linear transformation models. *Statistics in Medicine* 2020 Mar, 39:890-905.
5. **YT Huang***. Variance Component Tests of Multivariate Mediation Effects under Composite Null Hypotheses. *Biometrics* 2019 Dec, 75:1191-1204.
6. **YT Huang***. Genome-wide Analyses of Sparse Mediation Effects under a Composite Null Hypotheses. *Annals of Applied Statistics* 2019 Mar, 13:60-84.
7. **YT Huang***. Joint Significance Tests for Mediation Effects of Socioeconomic Adversity on Adiposity via Epigenetics. *Annals of Applied Statistics* 2018 Sep, 12:1535-1557.
8. **YT Huang*** and HI Yang. Causal Mediation Analysis of Survival Outcome with Multiple Mediators. *Epidemiology* 2017 May, 28: 370-378.
9. **YT Huang***, Y Zhang, Z Wu and DS Michaud. Genotype-based Gene Signature of Glioma Risk. *Neuro-Oncology* 2017 Jul, 19:940-950.
10. **YT Huang*** and T Cai. Mediation Analysis for Survival Data using Semiparametric Probit Models. *Biometrics* 2016 Jun, 72: 563-574.
11. **YT Huang*** and WC Pan. Hypothesis Test of Mediation Effect in Causal Mediation Model with High-dimensional Continuous Mediators. *Biometrics* 2016 Jun, 72: 402-413.
12. **YT Huang***, JR Freeman, HI Yang, J Liu, MH Lee and CJ Chen. Mediation Effect of Hepatitis B and C on Mortality. *European Journal of Epidemiology* 2016 Jun, 31: 625-633.
13. **YT Huang***, HI Yang, J Liu, MH Lee, JR Freeman and CJ Chen†. Mediation Analysis of Hepatitis B and C in Relation to Hepatocellular Carcinoma Risk. *Epidemiology* 2016 Jan, 27: 14-20.
14. **YT Huang***. Integrative Modeling of Multiple Genomic Data from Different Types of Genetic Association Studies. *Biostatistics* 2014 Oct, 15:587-602.
15. **YT Huang***, TJ VanderWeele and X Lin. Joint Analysis of SNP and Gene Expression Data in Genetic Association Studies of Complex Diseases. *Annals of Applied Statistics* 2014 Mar; 8:352-376.
16. **YT Huang**, X Lin, Y Liu, R McGovern, LR Chirieac, JC Wain, RS Heist, V Skaug, S Zienolddiny, A Haugen, L Su, EA Fox, KK Wong, and DC Christiani. Cigarette Smoking Increases Copy Number Alterations in Non-Small Cell Lung Cancer. *Proceedings of the National Academy of Sciences* 2011 Sep, 108:16345-16350.
17. **YT Huang†**, CL Jen†, HI Yang, MH Lee, J Su, SN Lu, UH Iloeje, and CJ Chen. Lifetime Risk and Gender Difference of Hepatocellular Carcinoma among Patients Affected with Chronic Hepatitis B and C. *Journal of Clinical Oncology* 2011 Sep, 29:3643-3650.
18. **YT Huang**, RS Heist, LR Chirieac, X Lin, V Skaug, S Zienolddiny, A Haugen, MC Wu, Z Wang, L Su, K Asomaning and DC Christiani. Genome-wide Analysis of Survival in Early Stage Non-Small Cell Lung Cancer. *Journal of Clinical Oncology* 2009 Jun, 27:2660-2667.

Full Publications (*corresponding author; †equal contribution; #advisee)

1. EY Lai[#] and **YT Huang***. Genome-wide Multi-mediator Analyses using the Generalized Berk-Jones Statistics with the Composite Test. *Bioinformatics* 2023 to appear
2. JC Yu[#] and **YT Huang***. Unified Semicompeting Risks Analysis of Hepatitis Natural History through Mediation Modeling. *Statistics in Medicine* 2023 to appear
3. YL Ho[#], JS Hong[#] and **YT Huang***. Model-based Hypothesis Tests for the Causal Mediation of Semi-competing Risks. *Lifetime Data Analysis* 2023 to appear
4. **YT Huang***, JC Yu[#], and JH Lin[#]. Surrogate Marker Assessment Using Mediation and Instrumental Variable Analyses in a Case-cohort Design. *Annals of Applied Statistics* 2023 June; 17:1239-1259.
5. JH Lin[#], YT Huang[#], JC Yu[#], KWA Chan and **YT Huang***. Mediation and Instrumental Variable Analyses for Vaccine-Induced Antibody Titer against Influenza B. *Vaccine* 2023 April; 41:2589-2595.
6. TY Lu, CD Wu, **YT Huang**, YC Chen, CJ Chen, HI Yang and WC Pan. Exposure to PM2.5 Metal Constituents and Liver Cancer Risk in REVEAL-HBV. *Journal of Epidemiology* 2023, to appear
7. HY Fan, KL Chien, **YT Huang**, JB Hsu, YY Chen, EY Lai, JY Su, TP Lu, HY Li, SY Hsu and YC Chen. Hypertension as a Novel Link for Shared Heritability in Age at Menarche and Cardiometabolic Traits. *Journal of Clinical Endocrinology and Metabolism* 2023 Aug, 108:2389-2399
8. HY Fan, **YT Huang**, YY Chen, JBK Hsu, HY Li, TC Su, HJ Lin, KL Chien and YC Chen. Systolic Blood Pressure as the Mediator of the Effect of Early Menarche on the Risk of Coronary Artery Disease: A Mendelian Randomization Study. *Frontiers in Cardiovascular Medicine* 2022 Dec; 9:1023355.
9. YC Chen, **YT Huang**, WH Pan and YL Lee. Mediators Linking Obesity to Childhood Asthma. *Pediatric Allergy and Immunology* 2022 Oct; 33:e13859.
10. SF Liao, CY Su, MH Su, CY Chen, CY Chen, YF Lin, YJ Pan, PC Hsiao, PC Chen, **YT Huang**, CS Wu and SH Wang. Associations of Polygenic Risks, Depression and Obesity-related traits in Taiwan Biobank. *Journal of Affective Disorders* 2022 Oct; 320:397-403.
11. YC Hsu, DW Jun, CY Peng, ML Yeh, H Trinh, GL Wong, SE Kim, CH Chen, H Oh, CH Lin, L Trinh, VW Wong, E Yoon, SB Ahn, D Huang, YK Cho, JY Jeong, SW Jeong, HS Kim, Q Xiw, L Liu, M Riveiro-Barciela, PC Tsai, EV Accarino, H Toyoda, M Enomoto, C Preda, S Marciano, J Hoang, CF Huang, R Kozuka, S Yasuda, D Istratescu, DH Lee, JY Su, **YT Huang**, JF Huang, CY Dai, WL Chuang, MF Yuen, A Gadano, R Cheung, SG Lim, M Buti, ML Yu, MH Nguyen. Effectiveness of entecavir vs tenofovir disoproxil fumarate for functional cure of chronic hepatitis B in an international cohort. *Hepatology International* 2022 Dec; 16:1297-1307.
12. SS Weng, **YT Huang**, YT Huang, YP Li and LY Chien. Assisted Reproductive Technology and Risk of Childhood Cancers. *JAMA Network Open* 2022 Aug; 5(8):e2230157.
13. AS Tai, PH Lin, **YT Huang** and SH Lin. Path-specific Effects in the Presence of a Survival Outcome and Causally Ordered Multiple Mediators with Application to Genomic Data. *Statistical Methods in Medical Research* 2022 Oct; 31:1916-1933.
14. HL Chiang[†], YT Chen[†], JY Su[#], HN Lin, CH A Yu, YJ Hung, YL Wang, **YT Huang** and CL Lin.

- Mechanism and Modeling of Human Disease-associated Near-exon Intronic Variants That Perturb RNA Splicing. *Nature Structural & Molecular Biology* 2022 Nov; 29:1043-1055.
15. **YT Huang***. Hypothesis Test for Causal Mediation of Time-to-event Mediator and Outcome. *Statistics in Medicine* 2022 May; 41:1971-1985.
 16. MS Ku, WC Pan, **YT Huang**, WS Hsieh, YH Hsu, PC Chen and CY Liu. Associations between prenatal exposure to perfluoroalkyl substances, hypomethylation of MEST imprinted gene and birth outcomes. *Environmental Pollution*, 2022 Mar; 304:119183.
 17. SS Weng, LY Chien, YT Huang, **YT Huang** and M Chang. Why does mode of conception affect early breast feeding outcomes? A retrospective cohort study. *PLoS One* 2022 Mar; 17:e0265776.
 18. YC Hsu, V Suri, MH Nguyen, **YT Huang**, CY Chen, IW Chen, CH Tseng, CY Wu, JT Lin, D Pan, A Gaggar and Ondrej Podlaha. Inhibition of Viral Replication Reduces Transcriptionally Active Distinct Hepatitis B Virus Integration with Implications on Host Gene Dysregulation. *Gastroenterology*, 2022 Apr; 162:1160-1170.e1.
 19. MH Su, YH Shih, YF Lin, PC Chen, CY Chen, PC Hsiao, YJ Pan, YL Liu, SJ Tsai, PH Kuo, CS Wu, **YT Huang** and SH Wang. Familial Aggregation and Shared Genetic Loading for Major Psychiatric Disorders and Type 2 Diabetes. *Diabetologia*, 2022 May; 65:800-810.
 20. HH H, WJ Jeng, MH Pan, WS Luo, CL Chang, **YT Huang**, CY Wu, CT, Chiang, CL Jen, YC Chien, SN Lu, LY Wang, LR Huang, MH Lee, J Liu, M Nguyen, CJ Chen and HI Yang. Serum Soluble Programmed Cell Death 1 Levels Predict Spontaneous Functional Cure in Inactive Carriers with Chronic Hepatitis B. *Alimentary Pharmacology and Therapeutics*, 2022 Mar; 55:558-567.
 21. AS Tai, **YT Huang**, HI Yang, LV Lan and SH Lin. G-Computation to Causal Mediation Analysis with Sequential Multiple Mediators – Investigating the Vulnerable Time Window of HBV Activity for the Mechanism of HCV Induced Hepatocellular Carcinoma. *Frontiers in Public Health*, 2022 Jan; 9:957942.
 22. **YT Huang***. Rejoinder to “Causal Mediation of Semi-competing Risks”. *Biometrics* 2021 Dec, 77:1170-1174.
 23. **YT Huang***. Causal Mediation of Semi-competing Risks (with discussion). *Biometrics* 2021 Dec, 77:1143-1154.
 24. WC Hsieh, EY Lai[#], YT Liu, YF Wnag, YS Tzeng, L Cui, YJ Lai, HC Huang, JH Huang, HC Ni, DY Tsai, JJ Liang, CC Liao, YT Lu, L Jiang, MT Liu, JT Wang, SY Chang, CY Chen, HC Tsai, YM Chang, G Wernig, CW Li, KI Lin, YL Lin, HK Tsai, **YT Huang** and SY Chen. Natural Killer Cells Influence the Clearance of SARS-CoV-2. *Journal of Clinical Investigation* 2021 Nov, 131:e146408.
 25. HC Hsieh[#], CI Lee, EY Lai[#], JY Su[#], YT Huang[#], WL Zheng, CH Chen, CC Huang, PY Lin, MS Lee, M Liu and **YT Huang***. Estimating the causal effect of embryo transfer day on clinical in vitro fertilization outcomes using propensity score matching: a retrospective cohort study. *BMC Pregnancy and Childbirth* 2021 Aug, 21:554.
 26. YC Hsu, CH Tseng, **YT Huang** and HI Yang. Application of Risk Scores for Hepatocellular Carcinoma in Patients with Chronic Hepatitis B: Current Status and Future Perspective. *Seminars in Liver*

Disease 2021 Aug, 41:285-297.

27. YC Hsu, **YT Huang** and JT Lin. Fibrosis in Patients with Chronic Hepatitis B and Minimally Raised ALT during Tenofovir Therapy – Authors’ reply. **Lancet Infectious Diseases** 2021 Jul, 21:911.
28. YC Hsu, CY Chen, IW Chang, CY Chang, CY Wu, TY Lee, MS Wu, MJ Bair, JJ Chen, CC Chen, CH Tseng, CM Tai, **YT Huang**, WH Ku, LR Mo and JT Lin. Tenofovir for Chronic Hepatitis B in Treatment-naïve Asian Patients with Minimally Raised Aminotransferase (TORCH-B): A Multicenter Randomized Double-Blind Placebo-Controlled Trial. **Lancet Infectious Diseases** 2021 Jun, 21:823-833.
29. WC Pan, ZY Yeh, CD Wu, **YT Huang**, YC Chen, CJ Chen and HI Yang. Association between Traffic Count and Cardiovascular Mortality: A Prospective Cohort Study in Taiwan. **Journal of Epidemiology** 2021 May, 31:343-349.
30. KP Chung, YL Huang, YJ Chen, YH Juan, CL Hsu, K Nakahira, **YT Huang**, MW Lin, SG Wu, JY Shih, YL Chang and CJ Yu. Multi-kinase Framework Regulates Activation of Dynamin-related Protein 1 to Promote Proliferation and Invasion of Lung Adenocarcinoma. **Molecular Oncology** 2021 Feb, 15:560-578.
31. CJ Chen, SL You, WL Hsu, HI Yang, MH Lee, HC Chen, YY Chen, J Liu, HH Hu, YJ Lin, YJ Chu, **YT Huang**, CJ Chiang and YC Chien. Epidemiology of Virus Infection and Human Cancer. **Recent Results in Cancer Research** 2021 217:13-45.
32. **YT Huang**, AS Tai, MY Chou, GX Lin and SH Lin[†]. Six-way Decomposition of Causal Effects: Unifying Mediation and Mechanistic Interaction. **Statistics in Medicine** 2020 Nov, 39:4051-4068.
33. AS Tai, **YT Huang**, WC Lee and SH Lin. Conceptualizing Agonistic Interaction in a Marginal Sufficient Component Cause Model: An Alternative Interpretation for Subadditive Interaction. **Journal of the Chinese Statistical Association** 2020 Sep, 58:1-31.
34. YC Hsu and **YT Huang**. Risk Assessment for Chronic Hepatitis B Patients at Immune Tolerant Phase - Both Definition and Selection Matter. **Alimentary Pharmacology and Therapeutics** 2020 Jul, 52:213-214. [invited editorial]
35. EY Lai^{#†}, S Shih^{#†}, **YT Huang**^{*} and S Wang. A Mediation Analysis for a Nonrare Dichotomous Outcome with Sequentially Ordered Multiple Mediators. **Statistics in Medicine** 2020 May, 39:1415-1428.
36. HC Hsieh[#], JY Su[#], S Wang and **YT Huang**^{*}. Age Effect on In Vitro Fertilization Pregnancy Mediated by Anti-Mullerian Hormone and Modified by Follicle Stimulating Hormone. **BMC Pregnancy and Childbirth** 2020 Apr, 20:209.
37. **YT Huang**^{*}. Mendelian Randomization for Smoking Effect on Lung Cancer Survival Using Semiparametric Transformation Models. **Statistics in Medicine** 2020 Mar, 39:890-905.
38. WL Hsu, YC Chien, **YT Huang**, KJ Yu, JY Ko, CY Lin, YA Tsou, YS Leu, LJ Liao, YL Chang, JY Su, Z Liu, CP Wang, SD Terng, CH Hua, JC Lee, TL Yang, CHK Hsiao, MS Wu, MH Tsai, MJ Liu, PJ Lou, A Hildesheim and CJ Chen. Cigarette Smoking Increases the Risk of Nasopharyngeal Carcinoma through the Elevated Level of IgA Antibody against Epstein-Barr Virus Capsid Antigen: A

- Mediation Analysis. *Cancer Medicine* 2020 Mar, 9:1867-1876.
39. YC Hsu, GLH Wong, CH Chen, CY Peng, ML Yeh, KS Cheung, H Toyoda, CF Huang, H Trinh, Q Xie, M Enomoto, L Liu, S Yasuda, Y Tanaka, R Kozuka, PC Tsai, **YT Huang**, C Wong, R Huang, TY Jang, J Hoang, HI Yang, J Li, DH Lee, H Takahashi, JQ Zhang, E Ogawa, C Zhao, C Liu, N Furusyo, Y Eguchi, C Wong, C Wu, T Kumada, MF Yuen, ML Yu and M Nguyen. Tenofovir versus Entecavir for Hepatocellular Carcinoma Prevention in an International Consortium of Chronic Hepatitis B. *American Journal of Gastroenterology* 2020 Feb, 115:271-280.
 40. **YT Huang***. Variance Component Tests of Multivariate Mediation Effects Under Composite Null Hypotheses. *Biometrics* 2019 Dec, 75:1191-1204.
 41. SH Chu[#], KT Kelsey, D Koestler, EB Loucks and **YT Huang***. Leveraging Cell-specific Differentially Methylated Regions to Identify Leukocyte Infiltration in Adipose Tissue. *Genetic Epidemiology* 2019 Dec; 43:1018-1029.
 42. TC Tseng, CJ Liu, CY Hsu, CM Hong, TH Su, WT Yang, CL Chen, HC Yang, **YT Huang**, FTS Kuo, CH Liu, PJ Chen, DS Chen and JH Kao. High Level of Hepatitis B Core-related Antigen Associated with Increases Risk of Hepatocellular Carcinoma in Patients with Chronic HBV Infection of Intermediate Viral Load. *Gastroenterology* 2019 Dec; 157:1518-1529.e3.
 43. M Biradar, KM Chiang, HC Yang, **YT Huang** and WH Pan. The Causal Role of Elevated Uric Acid and Waist Circumference On the Risk of Metabolic Syndrome Components. *International Journal of Obesity* 2019 Nov, 44:865-874.
 44. KM Chiang, YC Tsay, DCV Ng, HC Yang, **YT Huang**, CH Chen[†] and WH Pan[†]. Is Hyperuricemia an Early-Onset Metabolic Disorder Causally Associated with Cardiovascular Disease Events in Han Chinese? *Journal of Clinical Medicine* 2019 Aug; 8(8). pii: E1202.
 45. SH Wang, PC Hsiao, LL Yeh, CM Liu, CC Liu, TJ Hwang, MH Hsieh, YL Chien, YT Lin, **YT Huang**, CY Chen, SD Chandler, SV Faraone, B Neale, SJ Glatt, MT Tsuang, HG Hwu and WJ Chen. Advanced Paternal Age and Early Onset of Schizophrenia in Sporadic Cases: Not Confounded by Parental Polygenic Risk to Schizophrenia. *Biological Psychiatry* 2019 Jul; 86:56-64.
 46. SH Lin, **YT Huang*** and HI Yang. On Identification of Agonistic Interaction – Hepatitis B and C Interaction on Hepatocellular Carcinoma. *Statistics in Medicine* 2019 Jun, 38:2467-2476.
 47. YC Chang, SC Hua, CH Chang, WY Kao, HL Lee, LM Chuang, **YT Huang*** and MS Lai*. High TSH Level within Normal Range Is Associated with Obesity, Dyslipidemia, Hypertension, Inflammation, Hypercoagulability and the Metabolic Syndrome: A Novel Cardiometabolic Marker. *Journal of Clinical Medicine* 2019 Jun; 8(6):pii: E817.
 48. SH Cho[#] and **YT Huang***. Mediation Analysis with Causally Ordered Mediators Using Cox Proportional Hazards Model. *Statistics in Medicine* 2019 Apr, 38:1566-1581.
 49. **YT Huang***. Genome-wide Analyses of Sparse Mediation Effects under a Composite Null Hypotheses. *Annals of Applied Statistics* 2019 Mar, 13:60-84.
 50. T Jun, YC Hsu, S Ogawa, **YT Huang**, ML Yeh, CH Tseng, CF Huang, CM Tai, CY Dai, JF Huang, WL Chuang, ML Yu, Y Tanaka and MH Nguyen. Mac-2-Binding Protein Glycosylation Isomer as a

- Hepatocellular Carcinoma Marker in Patients with Chronic Hepatitis B or C Infection. *Hepatology Communications* 2019 Feb, 3:493-503.
51. KP Chung, GY Chen, TY Chuang, **YT Huang**, HT Chang, YF Chen, WL Liu, YJ Chen, CL Hsu, MT Huang, CH Kuo and CJ Yu. Increased Plasma Acetylcarnitine in Sepsis Is Associated with Multi-organ Dysfunction and Mortality: A Multi-center Cohort Study. *Critical Care Medicine* 2019 Feb, 47(2):210-218.
 52. SE Gilman, **YT Huang**, MP Jimenez, G Agha, S Chu, CB Eaton, KT Kelsey, SL Buka and EB Loucks. Early Life Disadvantage and Adult Adiposity: tests of sensitive periods during childhood and behavioural mediation in adulthood. *International Journal of Epidemiology* 2019 Feb, 48(1): 98–107.
 53. YC Chen, HY Fan, **YT Huang**, SY Huang, TH Liou and Y Lee. Causal Relationships between Adiposity and Childhood Asthma: Bi-directional Mendelian Randomization Analysis. *International Journal of Obesity* 2019 Jan, 43(1):73-81.
 54. WT Hsueh, KS Hung, YC Chen, **YT Huang**, CK Hsu, R Ogawa and YY Hsueh. Adjuvant Radiotherapy After Keloid Excision: Preliminary Experience in Taiwan. *Annals of Plastic Surgery* 2019 Jan, 82:S39-S44.
 55. **YT Huang**. Causal Mediation Model. *Natural Sciences Newsletter, MOST* 2019, 31:24-28. [invited article, in Chinese]
 56. YC Hsu, T Jun, **YT Huang**, ML Yeh, CL Lee, SH Cho, JT Lin, ML Yu, MH Nguyen and Y Tanaka. Serum M2BPGi Level and Risk of Hepatocellular Carcinoma After Oral Anti-viral Therapy in Patients with Chronic Hepatitis B. *Alimentary Pharmacology and Therapeutics* 2018 Nov, 48:1128-1137.
 57. HY Fan, **YT Huang**, RH Hsieh, JCJ Chao, YC Tung, YL Lee and YC Chen. Birthweight, Time-varying Adiposity Growth and Early Menarche in Girls: A Mendelian Randomization and Mediation Analysis. *Obesity Research and Clinical Practice* 2018 Sep-Oct, 12:445-451.
 58. **YT Huang***. Joint Significance Tests for Mediation Effects of Socioeconomic Adversity on Adiposity via Epigenetics. *Annals of Applied Statistics* 2018 Sep, 12:1535-1557.
 59. S Wang, J Zhang, V Mensah, W Huber, **YT Huang*** and R Alvero*. Discordant Anti-müllerian Hormone (AMH) and Follicle Stimulating Hormone (FSH) among Women undergoing in vitro Fertilization (IVF): Which One Is the Better Predictor for Live Birth? *Journal of Ovarian Research* 2018 Jul, 11:60.
 60. YC Hsu, TCF Yip, HJ Ho, VWS Wang, **YT Huang**, HB El-Serag, TY Lee, MS Wu, JT Lin, GLH Wong and CY Wu. Development of a Scoring System to Predict Hepatocellular Carcinoma in Asians on Antivirals for Chronic Hepatitis B. *Journal of Hepatology* 2018 Aug, 69:278-285.
 61. SH Chu[#], EB Loucks, KT Kelsey, SE Gilman, G Agha, CB Eaton, SL Buka and **YT Huang***. Sex-specific Epigenetic Mediators between Early Life Social Disadvantage and Adulthood BMI. *Epigenomics* 2018 Jun, 10:707-722.
 62. X Lin, KK Chan, **YT Huang**, X Luo, L Liang, J Wilson, A Correa, D Levy and S Liu. Genetic Determinants for Leisure-Time Physical Activity. *Medicine and Science in Sports and Exercise*

2018 Aug, 50:1620-1628.

63. S Shih[#], **YT Huang*** and HI Yang. A multiple mediator analysis approach to quantify the effects of the ADH1B and ALDH2 genes on hepatocellular carcinoma risk. *Genetic Epidemiology* 2018 Jun, 42:394-404.
64. YC Hsu, H Ho, TY Lee, **YT Huang**, MS Wu, JT Lin, CY Wu and H El-Serag. Temporal Trend and Risk Determinants of Hepatocellular Carcinoma in Chronic Hepatitis B Patients on Entecavir or Tenofovir. *Journal of Viral Hepatitis* 2018 May, 25:543-551.
65. N Zhao, X Zhan, **YT Huang**, L Almil, A Smith, K Ressler, E Binder, MP Epstein, K Conneely and M Wu. Kernel Machine Methods for Integrative Analysis of Genome-Wide Methylation and Genotyping Studies. *Genetic Epidemiology* 2018 Mar, 42:156-167.
66. HH Lin, CY Wu, CH Wang, H Fu, CH Chang, YC Chang and **YT Huang**. Association of Obesity, Diabetes and Risk of Tuberculosis: Two Population-Based Cohorts. *Clinical Infectious Diseases* 2018 Mar, 66:699-705.
67. NH Chien, **YT Huang**, CY Wu, CY Chang, MS Wu, JH Kao, LR Mo, TM Tai, CW Lin, TH Yang, JT Lin and YC Hsu. Time-varying Serum Gradient of Hepatitis B Surface Antigen Predicts Risk of Relapses After off-NA Therapy. *BMC Gastroenterology* 2017 Dec, 17:154.
68. ME Millenson, JM Braun, AM Calafat, DB Barr, **YT Huang**, A Chen, BP Lanphear and K Yolton. Urinary Organophosphate Insecticide Metabolite Concentrations during Pregnancy and Children's Interpersonal, Communication, Repetitive and Stereotypic Behavior at 8 Years of Age: The HOME Study. *Environmental Research* 2017 Aug, 157:9-16.
69. SH Chu[#] and **YT Huang***. Integrated Genomic Analysis of Biological Gene Sets with Applications in Lung Cancer Prognosis. *BMC Bioinformatics* 2017 Jul, 18:336.
70. **YT Huang***, Y Zhang, Z Wu and DS Michaud. Genotype-based Gene Signature of Glioma Risk. *Neuro-Oncology* 2017 Jul, 19:940-950.
71. **YT Huang*** and HI Yang. Causal Mediation Analysis of Survival Outcome with Multiple Mediators. *Epidemiology* 2017 May, 28: 370-378.
72. JR Freeman[#], S Chu, T Lin and **YT Huang***. Epigenome-wide Association Study of Smoking and DNA Methylation in Non-Small Cell Lung Neoplasms. *Oncotarget* 2016 Oct, 7:69579-69591.
73. EB Loucks[†], **YT Huang**[†], G Agha, S Chu, CB Eaton, SE Gilman, SL Buka and KT Kelsey. Epigenetic Mediators Between Childhood Socioeconomic Disadvantage and Mid-life Body Mass Index: The New England Family Study. *Psychosomatic Medicine* 2016 Nov-Dec, 78:1053-1065.
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Papers under review

113. JC Yu[#] and **YT Huang**^{*}. Causal Mediation Analyses with a Time-to-event Mediator in the Presence of Left Truncation. (submitted)
114. **YT Huang**^{*} and EY Lai[#]. Causal Inference in the Multiverse of Hazard. (submitted)
115. **YT Huang**^{*} and JS Hong[#]. Nonparametric Path-specific Effects on a Survival Outcome Through Time-to-event Mediators. (submitted)
116. YT Huang, CD Wu, YT Zeng, WC Pan and **YT Huang**^{*}. Positive Association between Ambient Ozone Exposure and Pancreatic Cancer. (submitted)

Oral Presentations

1. 2023 International Conference of Statistics and Data Science (Taipei, Taiwan): **Separable effects of semicompeting risks** 2023 July (invited speaker)
2. 12th ICSA International Conference (Hong Kong, China): **Surrogate marker assessment of COVID-19 Vaccine Efficiency using mediation analyses in a case-cohort design** 2023 July (invited session)

3. 2023 Taiwan Precision Medicine Symposium (Taipei, Taiwan): **Identifying pleiotropic genetic factors associated with multiple cancers in the TPMI cohort** 2023 July (invited speaker)
4. 2023 ICSA Applied Statistics Symposium (Ann Arbor, United States): **Surrogate marker assessment of a COVID-19 vaccine trial** 2023 June (invited session)
5. Seminar, Department of Biostatistics, University of Michigan at Ann Arbor (Ann Arbor, United States): **Modeling the natural history of human diseases** 2023 June
6. 2023 Lifetime Data Science Conference (Raleigh, United States): **Surrogate marker assessment of a COVID-19 vaccine trial** 2023 May-June (invited session)
7. Roche Advanced Analytics Festival 2023 (Virtual): **Causal mediation model** 2023 March (Invited speaker)
8. ISI-ISM-ISSAS Joint Conference (Taipei, Taiwan): **Causal inference in the multiverse of hazard** 2023 February
9. Achievement Symposium of Discipline of Statistics, Ministry of Science and Technology (Nantou, Taiwan): **A statistical perspective on immunobridging of a COVID-19 vaccine trial** 2023 January
10. Real World Data Workshop, National Research Institute of Chinese Medicine (virtual): **Comparison of causal inference using the real world data and clinical trial data** 2023 January [invited]
11. Graduate Institute of Health and Biotechnology Law, Taipei Medical University (Taipei, Taiwan): **Causal inference: the perspective of God vs. Human** 2022 December
12. CMStatistics 2022, King's College London (London, United Kingdom): **Surrogate marker assessment using mediation analyses in a case-cohort design** 2022 December [invited session]
13. Seminar, Department of Biostatistics, Peking University [virtual]: **Causal mediation of semicompeting risks** 2022 December
14. AI & Data Engineering Division, MediaTek (Hsinchu, Taiwan): **Causal inference: the perspective of God vs. Human** 2022 November
15. Seminar, E-Da Healthcare Group (Kaohsiung, Taiwan): **The concepts and applications of causal mediation analysis** 2022 November
16. Taiwan Oncology Society, Real World Evidence (RWE) Workshop Series (Taipei, Taiwan): **Causal inference and bias adjustment** 2022 September
17. The 10th Anniversary Forum of Taiwan Innocence Project (Taipei, Taiwan): **Causal inference: the perspective of God vs. Human** 2022 August
18. Roche (Taipei, Taiwan [hybrid]): **Causal mediation models** 2022 August
19. *The 31st South Taiwan Statistics Conference* (Feng Chia University, Taichung, Taiwan): **Mendelian randomization using semiparametric linear transformation models** 2022 July [invited session]
20. Institute of Political Methodology in Taiwan (IPM) 2022 (Taipei, Taiwan [hybrid]): **Causal mediation analysis** 2022 July [3-hour lecture]
21. Data Science, Statistics and Visualisation 2022 Conference (Tainan, Taiwan [hybrid]): **Causal inference in the multiverse of hazard** 2022 June [invited]

22. **[Keynote Speech]** The 4th Nation-wide Master Students Symposium on Statistical Research (Kaohsiung, Taiwan, [virtual]): **A statistical perspective on immunobridging of a COVID-19 vaccine trial** 2022 May
23. Program Seminar, Degree of Program of Data Science, National Taiwan University (Taipei, Taiwan, [virtual]): **Causal inference for immunobridging of a COVID-19 vaccine trial** 2022 May
24. Department Seminar, Institute of Statistics, National University of Kaohsiung (Kaohsiung, Taiwan, [virtual]): **On counterfactual hazard** 2022 May
25. Department Seminar, Department of Mathematics, Tamkang University (New Taipei, Taiwan): **On counterfactual hazard** 2022 April
26. The 11th Conference of the IASC-ARS (The Asian Regional Section of the International Association for Statistical Computing) (virtual): **Nonparametric path-specific effects on survival outcome through time-to-event mediators** 2022 February [invited session]
27. ISI-ISM-ISSAS Joint Conference (virtual): **Surrogate marker assessment of a COVID-19 vaccine trial** 2022 January [invited]
28. Causal Inference with Big Data, National University of Singapore and Institute for Mathematical Sciences [virtual]: **Nonparametric path-specific effects on survival outcome through time-to-event mediators** 2021 December [invited speech]
29. Department Seminar, Institute of Statistics, National Central University (Taoyuan, Taiwan): **Surrogate marker assessment using mediation and instrumental variable analyses in a case-cohort design** 2021 December
30. 2021 Chinese Statistical Association and Taiwan-Japan-Korea Joint Statistical Meetings at Fujen Catholic University (New Taipei, Taiwan): **Surrogate marker assessment using mediation and instrumental variable analyses under a case-cohort design** 2021 December [invited session] [pre-recorded]
31. Department Colloquium, Department of Statistics, Michigan State University [virtual]: **Nonparametric path-specific effects on survival outcome through time-to-event mediators** 2021 November
32. *The 30th South Taiwan Statistics Conference* (National Kaohsiung University, Kaohsiung, Taiwan): **Surrogate marker assessment using mediation and instrumental variable analyses under the case-cohort design** 2021 October [invited session]
33. Forum for the book "*Math on Trial: How numbers get used and abused in the courtroom*", Taipei Bar Association 2021 October [invited panelist]
34. *International Chinese Statistical Association 2021 Applied Statistics Symposium* (virtual conference): **Modeling the natural history of human diseases** 2021 September [invited session]
35. *2021 Joint Statistical Meeting* (virtual conference): **Joint modeling of surrogate and primary end points via causal mediation analyses** 2021 August [invited session]
36. *The 4th International Conference on Econometrics and Statistics (EcoSta 2021)* (Hong Kong University of Science and Technology; virtual conference): **Modeling the natural history of**

- hepatitis** 2021 June [invited session]
37. Department of Applied Mathematics, National Sun Yat-sen University (Kaohsiung, Taiwan): **Modeling natural history of hepatitis** 2021 May
 38. Institute of Statistical Science, Academia Sinica: **Modeling for natural history of hepatitis** 2021 April
 39. Achievement Symposium of Discipline of Statistics, Ministry of Science and Technology (Nantou, Taiwan): **Causal mediation of semicompeting risks** 2021 January
 40. Merk Post-ASRM (American Society of Reproductive Medicine) Forum II (Taipei, Taiwan): **Application of causal mediation model to reproductive medicine** 2021 January
 41. Department of Finance, Shih Hsin University (Taipei, Taiwan): **Causal mediation model** 2020 December
 42. Department of Physics, National Cheng Kung University (Tainan, Taiwan): **Causal inference of mediation mechanism** 2020 December
 43. 2020 Taiwan Mathematical Society Annual Meeting, Fu Jen Catholic University (Taipei, Taiwan): **Causal mediation of semicompeting risks** 2020 December
 44. Department of Applied Mathematics, National Sun Yat-sen University (Kaohsiung, Taiwan): **Causal mediation of hepatitis C on mortality via liver and non-liver diseases** 2020 October
 45. Institute of European and American Studies, Academia Sinica (Taipei, Taiwan): **Causal inference and causal mediation** 2020 September
 46. Statistical Science Camp 2020, Academia Sinica (Taipei, Taiwan): **Causal inference** 2020 September
 47. *2020 Joint Statistical Meeting* (virtual conference): **Variance component tests of multivariate mediation effects under composite null hypotheses** 2020 August [invited session]
 48. Institute of Statistical Science, Academia Sinica (Taipei, Taiwan): **Hypothesis test of causal mediation** 2020 July
 49. Institute of Public Health, National Yang Ming University (Taipei, Taiwan): **Causal mediation of hepatitis B and C on mortality via liver cancer** 2020 March
 50. Symposium on Statistical Science in Biomedicine and Public Health (Taipei, Taiwan): **Causal mediation of hepatitis B and C on mortality via liver cancer** 2019 December [invited session]
 51. The 11th International Chinese Statistical Association (ICSA) International Conference (Zhejiang University, Hangzhou, China): **A nonparametric approach to semi-competing risks via causal mediation modeling** 2019 December [invited session]
 52. *[Keynote Speech]* Novartis China Analytics Conference (Shanghai, China): **Causal mediation of hepatitis B and C on mortality via liver cancer** 2019 December
 53. The 11th International Conference on Multiple Comparison Procedures (Taipei, Taiwan): **Variance component tests of multivariate mediation effects under composite null hypotheses** 2019 December
 54. Math Club Series, Department of Mathematics, National Taiwan University (Taipei, Taiwan):

Causal mediation of semi-competing risks 2019 November

55. Department of Statistics, Chinese University of Hong Kong (Hong Kong): **Causal mediation of semi-competing risks** 2019 November
56. Department of Statistics, National Cheng Chi University (Taipei, Taiwan): **Causal mediation of semi-competing risks** 2019 October
57. Department of Applied Mathematics, National Sun Yat-sen University (Kaohsiung, Taiwan): **Causal mediation of semi-competing risks** 2019 October
58. Department of Statistics, National Taipei University (New Taipei City, Taiwan): **Causal mediation of semi-competing risks** 2019 September
59. The 6th International Symposium on Biopharmaceutical Statistics (ISBS) (Kyoto, Japan): Panel Discussion on **Estimand, Missing Data, and Sensitivity Analysis** 2019 August [invited panel]
60. The 6th International Symposium on Biopharmaceutical Statistics (ISBS) (Kyoto, Japan): **Causal mediation of semi-competing risks** 2019 August [invited session]
61. The 2019 International Chinese Statistical Association (ICSA) China Conference (Nankai University, Tianjin, China): **Causal mediation of semi-competing risks** 2019 July [invited session]
62. *The 3rd International Conference on Econometrics and Statistics (EcoSta 2019)* (National Chung Hsin University, Taichung, Taiwan): **Causal mediation of semi-competing risks** 2019 June [invited session]
63. *The 28th South Taiwan Statistics Conference* (National Chung Hsin University, Taichung, Taiwan): **Causal mediation of semi-competing risks** 2019 June [invited session]
64. 2019 Hangzhou International Conference on Frontiers of Data Science (Hangzhou, China): **Causal mediation of semi-competing risks** 2019 May [invited session]
65. Department of Statistics, National Cheng Kung University (Tainan, Taiwan): **A nonparametric approach to semi-competing risks via causal mediation modeling** 2019 May
66. Institute of Statistics, National Tsing-Hua University (Hsinchu, Taiwan): **Causal mediation of semi-competing risks** 2019 March
67. **[Keynote Speech]** Achievement Symposium of Discipline of Statistics, Ministry of Science and Technology (Tainan, Taiwan): **Joint significance test of mediation** 2019 February
68. ISI-ISM-ISSAS Joint Conference (Taipei, Taiwan): **Causal mediation of semi-competing risks** 2019 January [invited session]
69. Symposium on Statistics and Risk Management Science: Data Analytics at the Chinese University of Hong Kong (Hong Kong): **Causal mediation of semi-competing risks** 2018 November [invited talk]
70. 2018 Chinese Statistical Association and National Central University Joint Statistical Meetings (Taoyuan, Taiwan): **A nonparametric approach to semi-competing risks via causal mediation modeling** 2018 November [invited session]
71. **[Keynote Speech]** 2018 Statistics Week Taiwan (Taipei, Taiwan): **Causal mediation analysis: from univariate to multivariate mediators** 2018 November

72. *2018 Joint Statistical Meeting* (Vancouver, Canada): **Hypothesis test of mediation under a composite null hypothesis** 2018 August [invited session]
73. International Chinese Statistical Association China Conference (Qingdao, China): **Variance component tests of sparse multivariate mediation effects under composite null hypothesis** 2018 July [invited session]
74. Department of Occupational Safety and Health, China Medical University (Taichung, Taiwan): **Tests of mediation under a composite null hypothesis** 2018 June
75. Institute of Molecular Biology, Academia Sinica (Taipei, Taiwan): **IMB biostatistics workshop** 2018 April
76. Genomics Research Center, Academia Sinica (Taipei, Taiwan): **Statistics at the bench: the good, the bad and the ugly** 2018 March
77. Institute of Epidemiology and Preventive Medicine, National Taiwan University (Taipei, Taiwan): **Causal mediation analysis** 2018 January
78. Department of Statistics, Tunghai University (Taichung, Taiwan): **Hypothesis test of causal mediation under a composite null hypothesis** 2018 January
79. Institute of Statistics, National University of Kaohsiung (Kaohsiung, Taiwan): **Hypothesis test of causal mediation under a composite null hypothesis** 2017 December
80. ISI-ISM-ISSAS Joint Conference 2017 (Tokyo, Japan): **Hypothesis test of causal mediation under a composite null hypothesis** 2017 November [invited session]
81. Taiwan Data Science Annual Conference 2017 (Taipei, Taiwan): **Challenges and opportunities for data science by confounding: a case study of causality between cigarette smoking and lung cancer survival** 2017 November [invited session]
82. Academia Sinica 2017 Open House (Taipei, Taiwan): **Statistics in big data era: from genetic fortunetelling to causal inference** 2017 October
83. Data Science Program, College of Medicine, Fu-Jen University (New Taipei City, Taiwan): **Genomics and epigenomics** 2017 October
84. Institute of Statistics, National Chung-Hsin University (Taichung, Taiwan): **Hypothesis test of causal mediation under a composite null hypothesis** 2017 October
85. *2nd Pacific Rim Cancer Biostatistics Workshop* (Kanazawa, Japan): **iGWAS: a novel approach to discover genotype-based gene signature of glioma risk** 2017 October [invited talk]
86. *2017 Workshop on High-dimensional Statistical Analysis* (Taipei, Taiwan): **Epigenome-wide analyses of sparse mediation effects under composite null hypothesis** 2017 August [invited talk]
87. *2017 Joint Statistical Meeting* (Baltimore, ML, USA): **Mendelian randomization for survival outcomes using semiparametric transformation models** 2017 August [invited session]
88. *The 26th South Taiwan Statistics Conference* (National Taipei University, New Taipei City, Taiwan): **Mendelian randomization for survival outcomes using semiparametric transformation models** 2017 June [invited session]
89. *2017 Conference on Lifetime Data Science* (Storrs, CT, USA): **Mendelian randomization for**

- survival outcomes using semiparametric transformation models** 2017 May [invited session]
90. Graduate Institute of Statistics, National Central University (Taoyuan, Taiwan): **Mendelian randomization for survival outcomes using semiparametric transformation models** 2017 May
91. Institute of Statistics, National University of Kaohsiung (Kaohsiung, Taiwan): **Mendelian randomization for survival outcomes using semiparametric transformation models** 2017 April
92. Data Science Forum, National Center of Theoretical Science (Taipei, Taiwan): **Mendelian randomization for survival outcomes using semiparametric transformation models** 2017 March
93. Institute of Epidemiology and Preventive Medicine, National Taiwan University (Taipei, Taiwan): **Causal mediation analysis: from concept to applications** 2017 January
94. Institute of Epidemiology and Preventive Medicine, National Taiwan University (Taipei, Taiwan): **X-by-Y interactions: what do we mean by that in statistics, in causality and in genomics?** 2016 December
95. *10th International Chinese Statistical Association International Conference* (Shanghai, China): **Hypothesis test of mediation effect in causal mediation model with high-dimensional continuous mediators.** 2016 December [invited session]
96. Institute of Statistics, National Chiao-Tung University (Hsinchu, Taiwan): **X-by-Y interactions: what do we mean by that in statistics, in causality and in genomics?** 2016 December
97. Institute of Biomedical Sciences, Academia Sinica (Taipei, Taiwan): **A new perspective on medicine and genomics by causal mediation modeling.** 2016 December
98. Department of Mathematics, National Chung Cheng University (Chiayi, Taiwan): **Causal mediation analysis of survival outcome using semiparametric probit models.** 2016 December
99. Institute of Population Health Sciences, National Health Research Institutes (Miaoli, Taiwan): **X-by-Y interactions: what do we mean by that in statistics, in causality and in genomics?** 2016 December
100. *2016 Joint Statistical Meeting* (Chicago, IL, USA): **Mediation analysis for survival data using semiparametric probit models with application to integrative genomics,** 2016 August (Invited)
101. Dr. Xihong Lin's Group Meeting (Boston, MA, USA): **Joint significance of mediation effects,** 2016 July
102. New England Statistical Symposium (New Haven, CT, USA): **Hypothesis Test of Mediation Effect in Causal Mediation Model with High-dimensional Continuous Mediators,** 2016 April (Invited)
103. *Biostatistics Seminar, MD Anderson Cancer Center* (Houston, TX, USA): **Mediation analysis for survival data using semiparametric probit models with application to integrative genomics,** 2016 February
104. *Grand Round, MD Anderson Cancer Center* (Houston, TX, USA): **Mediation analysis: application to medicine and genomics,** 2016 February
105. *Biostatistics Seminar, University of California, Berkeley, School of Public Health* (Berkeley, CA, USA): **Survival mediation model: application to medicine and genomics,** 2016 February

106. *Biostatistics Seminar, University of North Carolina at Chapel Hill, Gillings School of Global Public Health* (Chapel Hill, NC, USA): **Survival mediation model: application to medicine and genomics**, 2016 January
107. *Seminar Series of Division of Clinical Research, Fred Hutchinson Cancer Research Center* (Seattle, WA, USA): **Mediation analysis: application to medicine and genomics**, 2015 November
108. *Seminar Series of Division of Public Health, Fred Hutchinson Cancer Research Center* (Seattle, WA, USA): **Mediation analysis for survival data using semiparametric probit models with application to integrative genomics**, 2015 September
109. *2015 Joint Statistical Meeting* (Seattle, WA, USA): **Mediation analysis for survival data using semiparametric probit models**, 2015 August (Topic contributed)
110. *2015 Emerging Information and Technology Association (EITA) Young Investigator Conference* (Cambridge, MA, USA): **Mediation analysis for survival data using semiparametric probit models**, 2015 August (Invited)
111. *2015 Joint International Chinese Statistical Association Applied Statistics Symposium and Graybill Conference* (Fort Collins, Colorado, USA): **Hypothesis test of mediation effect in causal mediation model with high-dimensional mediators**, 2015 June (Invited)
112. Framingham Heart Study, NIH/Boston University (Framingham, MA, USA): **Integrative genomics under the framework of causal mediation modeling**, 2014 December
113. Department of Biostatistics, Boston University (Boston, MA, USA): **Integrative genomics under the framework of causal mediation modeling**, 2014 October
114. Department of Environmental Health Sciences, University of Albany (Albany, NY, USA): **Integrative genomics under the framework of causal mediation modeling**, 2014 September
115. *2014 Emerging Information and Technology Association (EITA) Conference* (Cambridge, MA, USA): **Integrative modeling of multi-platform genomic data**, 2014 July (Invited)
116. *2014 Joint Meeting of International Chinese Statistical Association and Korean International Statistical Society* (Portland, OR, USA): **Integrative modeling of multi-platform genomic data under the framework of mediation analysis**, 2014 June (Invited)
117. *2014 Annual Meeting of Boston Taiwanese Biotechnology Association* (Boston, MA, USA): Academic career panel, 2014 June (invited)
118. *2014 Atlantic Causal Inference Conference* (Providence, RI, USA): **Integrative modeling of multi-platform genomic data under the framework of causal mediation modeling**, 2014 May
119. *2014 New England Statistics Symposium* (Boston, MA, USA): **Integrative modeling of multi-platform genomic data under the framework of mediation analysis**, 2014 April (contributed)
120. *2014 ENAR (International Biometric Society) Annual Meeting* (Baltimore, MD, USA): **Integrative modeling of multi-platform genomic data under the framework of mediation analysis**, 2014 March (contributed)
121. Genomics Research Center, Academic Sinica (Taipei, Taiwan): **Integrative modeling of**

- multiplatform genomic data for cancer survival**, 2014 January
122. Department of Computer Science and Engineering, National Sun Yat-Sen University (Kaohsiung, Taiwan): **Integrative modeling of multiplatform genomic data for cancer survival**, 2014 January
 123. *Program of Cancer Genomics retreat*, Harvard School of Public Health (Wellesley, MA, USA): **Integrative modeling of multi-platform genomic data under the framework of mediation analysis**, 2013 October
 124. *Big Data Seminar Series*, Harvard School of Public Health (Boston, MA, USA): **Integrative modeling of multi-platform genomic data under the framework of mediation analysis**, 2013 September
 125. *Advances in Statistical Methods for Cancer Genetic Epidemiology Symposium*, Sloan-Kettering Memorial Cancer Center (New York, NY, USA): **Integrative modeling of multi-platform genomic data**, 2013 August (invited)
 126. *2013 Joint Statistical Meeting* (Montreal, Canada): **Integrative modeling of expression and quantitative trait loci in genetic association studies of complex diseases**, 2013 August (contributed)
 127. *Boston Taiwanese Biotechnology Association* (Boston, MA, USA): **Integrative modeling of multi-platform genomic data**, 2013 June
 128. College of Public Health, National Taiwan University (Taipei, Taiwan): **Integration of data and knowledge in genome-wide association studies using causal mediation modeling**, 2012 October
 129. Genomics Research Center, Academic Sinica (Taipei, Taiwan): **Analysis of high-throughput genomic data: from single marker to multiple markers and multiple sets of markers**, 2012 October
 130. *Biostatistics Seminar/Lectureship Series*, Brown University (Providence, RI, USA): **Integration of data and knowledge in genome-wide association studies using causal mediation modeling**, 2012 September
 131. *Joint Statistical Meeting* (San Diego, CA, USA): **Joint analysis of SNPs and gene expression in genome-wide association studies**, 2012 August (contributed)
 132. *Program of Quantitative Genomics Retreat*, Harvard School of Public Health (Boston, MA): **Joint analysis of SNPs and gene expression in genome-wide association studies using causal mediation model**, 2012 April
 133. Brown University (Providence, RI, USA): **Analysis of high-throughput genomic data: from single marker to multiple markers and multiple sets of markers**, 2012 April
 134. The University of Texas School of Public Health, Public Health Innovation Seminar (Houston, TX, USA): **Analysis of high-throughput genomic data: from single marker to multiple markers and multiple sets of markers**, 2012 March
 135. *Program of Quantitative Genomics Retreat*, Harvard School of Public Health (Boston, MA, USA): **Gene set analyses using the variance component test**, 2011 November
 136. *Annual Dana-Farber/Harvard Cancer Center Lung Cancer Program Symposium* (Boston, MA,

- USA): **Cigarette smoking increases copy number alterations in non-small cell lung cancer**, 2010
137. *Annual Meeting of American Association for the Study of Liver Diseases* (San Francisco, CA, USA): **Combined effect of chronic hepatitis B and C virus infection on hepatocellular carcinoma: importance of hepatitis B viral load**, 2005

Editorial Activities and Grant/ Review

- **Associate Editor**

Lifetime Data Analysis (2021/07-present)

Statistica Sinica (2021/06-present)

- **Peer reviewer for statistical journals:**

Annals of Statistics, Annals of Applied Statistics, Biometrics, Biometrika, Biostatistics, Computational Statistics, Computational Statistics and Data Analysis, Electronic Journal of Statistics, Journal of the American Statistical Association (Theory and Method), Journal of the American Statistical Association (Applications and Case Studies), Journal of Business and Economic Statistics, Journal of the Royal Statistical Society, Series B, Pharmaceutical Statistics, Statistica Sinica, Statistics in Biosciences, Statistics in Medicine

- **Peer reviewer for scientific journals:**

Behavior Research Method, Bioinformatics, BMC Bioinformatics, BMC Cancer, BMC Genomics, BMC Infectious Diseases, BMC Medical Research Methodology, British Medical Journal, Cancer Epidemiology, Biomarkers and Prevention, Carcinogenesis, Clinical Cancer Research, Environment International, Epidemiology, Epigenetics, EurAmerica, Genetics, Hepatology, Human Genetics, IEEE/ACM Transactions on Computational Biology and Bioinformatics, International Journal of Cancer, International Journal of Epidemiology, Journal of Gastroenterology and Hepatology, Journal of Medical Laboratory and Diagnosis, Medicine, Nature Communications, Nucleic Acid Research, Neuro-Oncology, Occupational and Environmental Medicine, The Pharmacogenomics Journal, Pharmacoepidemiology and Drug Safety, PLoS Computational Biology, PLoS Genetics, PLoS One, Proceedings of the National Academy of Sciences, Scientific Report

- **Guest co-editor** for *Cancer Informatics*

- **Grant reviewer:**

Medial Research Council, UK (2014, 2015)

Ministry of Science and Technology, Taiwan (2017[1], 2018[4], 2019[5], 2020[6], 2021[4+7])

Professional Affiliations

International Biometric Society, Eastern North American Region (ENAR)	2010/10 - present
American Statistical Association	2011/02 - present
International Chinese Statistical Association	2014/04 – present
Chinese Institute of Probability and Statistics (Taiwan)	2018/12 - present

Teaching Experience

Course offered at National Taiwan University

1. Causal inference (MATH5237; 2020 Spring; 2020 Fall; 2021 Fall) [sole instructor]
2. Survival analysis (MATH5193; 2019 Fall; 2022 Spring; 2023 Spring) [sole instructor]
3. Introduction to Statistics (MATH2601; 2017 Fall, 2018 Fall) [sole instructor]
4. Statistics (MATH3601) (2019 Spring; 2021 Spring) [sole instructor]
5. Review of Epidemiologic Topics (EPM8071; 2018/2019/2020/2021 Spring) [co-instructor]
6. Advanced Epidemiology (EPM7110; 2016/2017/2018/2019/2020/2021 Fall) [co-instructor]
7. Biostatistics and Epidemiology (PH2021; 2017 Spring, 2018 Spring) [co-instructor]

Courses offered at Academia Sinica

1. TIGP Bio S2 Advanced Statistical Methods in Bioinformatics (2017 Spring, 2018 Spring, 2019 Spring, 2020 Spring, 2021 Spring, 2022 Spring) [co-instructor]

Courses offered at Brown University

1. PHP2222 Genetics, Human Populations and Diseases (2013 Fall, 2014 Fall)
2. PHP2130 Human Biology for Epidemiology (2014 Spring)
3. PHP2223 Statistical Genetics (2015 Spring)
4. PHP2150 Foundations in Epidemiologic Research Methods (2015 Fall)

Guest lecture offered at Brown University

1. PHP2180 Interpretation and Application of Epidemiology (2014 Spring, 2015 Spring): Mediation Analysis
2. PHP2250 Advanced Quantitative Methods in Epidemiologic Research (2013 Fall, 2014 Fall): Concepts and Definitions of Confounding

Workshop/Short Course at Professional Conference

1. Co-organizer/Co-instructor of 'Integrative Analytics of Multiplatform Genomic Data: under the Framework of Causal Mediation Modeling' (Continued Education Program), *Joint Statistical Meeting 2015* (Seattle, WA)

Teaching assistantship at Harvard School of Public Health

1. BIO501 Linear and Longitudinal Regression (graduate-level): Summer 2010
2. BIO232 Methods I (Biostatistics PhD core requirement course): Fall 2010, Fall 2011
3. EPI236 Analytic Clinical Epidemiology (graduate-level): Summer 2011

Advising

1. Academia Sinica (2017 Spring-)
 - 1) 卓書賢 Shu-Hsien Cho (BSc, Research Assistant, 2017/03-2020/08)
 - 2) 賴恩語 En-Yu (June) Lai (PhD, Postdoctoral Fellow, 2017/10-)
 - 3) 蘇家瑩 Jia-Ying Su (MSc, Research Assistant, 2018/02-)
 - 4) 洪鉅昇 Ju-Sheng Hung (BSc, Research Assistant, 2018/07-2021/09)
 - 5) 王敏琪 Ming-Chi Wang (MSc, Research Assistant, 2019/01-2021/10)

- 6) 謝函芝 Han-Chi Hsieh (BSc, Research Assistant, 2019/02-2021/08)
- 7) 余日彰 Jih Chang Yu (PhD, Postdoctoral Fellow, 2019/05-)

2. National Taiwan University

- 1) 洪鉅昇 Ju-Sheng Hung (Undergrad student, Math, 2018/02-2018/06)
- 2) 何昀霖 Yun-Lin Ho (Master student, Applied Math/Statistics, 2018/09-)
- 3) 黃意婷 Yi-Ting Huang (PhD student, Epidemiology and Preventive Medicine, 2019/06-)
- 4) 莊沅蓉 (Undergrad student, Math, 2020/02-)
- 5) 陳彥宇 (Undergrad student, Math/Economics, 2020/07-2021/09)

3. Dissertation/thesis committee

- 1) 范掀裕 Hsien-Yu Fan: PhD, Institute of Epidemiology and Preventive Medicine, National Taiwan University; *Early pubertal timing and the risk of cardiovascular diseases: causal mediation and genome-wide pleiotropy analyses*, 2022 June
- 2) 翁雪珊 Shiue-Shan Weng: PhD, Institute of Public Health, National Yang Ming Chiao Tung University; *Does mode of conception affect breastfeeding and the risks for cancer, cardiovascular diseases and diabetes in children?* 2022 January
- 3) 古玫生 Mei-Sheng Ku: PhD, Institute of Environmental Health, National Taiwan University; *Environmental PM2.5 exposure effect in association with oral cancer and colorectal cancer carcinogenesis*, 2021 October
- 4) 廖樂誼 Le-Hsuan Liao: MSc, Institute of Statistics, National Yang Ming Chiao Tung University; *Integral mediation – interaction analysis with multiple mediators*, 2021 July
- 5) 李承謙 Chen-Chien Lee: MSc, Institute of Statistics, National Yang Ming Chiao Tung University; *Multiply robust estimation of causal mediation analysis for multiple mediators*, 2021 July
- 6) 江翎瑋 Ling-Wei Jiang: MSc, Institute of Statistics, National Chiao Tung University; *Marginal estimation for Copula models in the presence of competing risks*, 2020 July
- 7) 陳建亨 Jian-Heng Chen: MSc, Institute of Statistics, National Chiao Tung University; *Evaluation of surrogate endpoints under semi-competing risks*, 2020 July
- 8) 周孟穎 Meng-Ying Chou: PhD, Institute of Statistics, National Chiao Tung University; *Identifying and estimating the antagonism with marginal sufficient component cause model*, 2020 May
- 9) 林珮璇 Pei-Hsuan Lin: MSc, Institute of Statistics, National Chiao Tung University; *General approach of causal mediation analysis with causally ordered multiple mediators and survival outcome*, 2020 May
- 10) 蔡濬安 Chun-An Tsai: MSc, Institute of Statistics, National Chiao Tung University; *Approaches to mediation analysis in the presence of the death-truncated mediator*, 2020 May
- 11) 杜宜娟 Yi-Juan Du: MSc, Institute of Statistics, National Chiao Tung University; *Integration of all existing methods for causal multi-mediation analysis*, 2020 May

- 12) Mahantesh I Biradar: PhD, Program of Molecular Medicine, TIGP/National Yang Ming University/Academia Sinica; *The causal role of central obesity and hyperuricemia on the risk of metabolic syndrome: mendelian randomization study with Taiwan Biobank data*, 2020 January
 - 13) Cheng-Chieh Liu: MSc, Institute of Epidemiology and Preventive Medicine, National Taiwan University; *Association between Serum Lipid Profiles and Risk of Active Tuberculosis: A Prospective Cohort Study*, 2019 July (chair)
 - 14) Ying-Wen Liang: MSc, Institute of Statistics, National Chiao Tung University; *Generalized Controlled Direct Effect for Multiple Mediation Analysis with Multiple Mediators*, 2019 July (chair)
 - 15) Geng-Hsien Lin: MSc, Institute of Statistics, National Chiao Tung University; *Causal Effect Decomposition and Risk Attribution – Unification of Counterfactual and Sufficient Cause Framework*, 2019 July (chair)
 - 16) Guan-Yi Lin: MSc, Institute of Statistics, National Chiao Tung University; *Stochastic Approach for Sufficient Component Cause Interaction Applied to Longitudinal Studies with Right Censoring*, 2019 July (chair)
 - 17) Novi Ajeng Salehah: MSc, Institute of Statistics, National Chiao Tung University; *Causal Mediation Analysis with Truncated Mediator by Survival Outcome*, 2019 July (chair)
 - 18) Shih-Wen Lin: MSc, Institute of Statistics, National Chiao Tung University; *The Mediation Parameter estimation and Sample Size Calculations for the Multiple Mediation Model*, 2019 July (chair)
 - 19) Chia-Chun Wang: PhD, Institute of Epidemiology and Preventive Medicine; National Taiwan University; *Assessment and Management of Non-normal Heterogeneity in Meta-analyses*, 2019 July
 - 20) Jia-Ying Su: MSc, Institute of Epidemiology and Preventive Medicine; National Taiwan University; *Smoking-Induced Differential Gene Expression Patterns in Human Lung Adenocarcinomas and Squamous Cell Carcinomas: An Assessment of Mediation*, 2018 Feb (chair)
 - 21) Jui-Hsiang Lin: PhD, Institute of Epidemiology and Preventive Medicine; National Taiwan University; *Analysis of Mechanistic Interactions in Epidemiologic Studies*, 2018 Jan
4. Graduate advising, Brown University (2013 Fall-2018 Spring):
- 1) Su Chu (PhD student, Epidemiology; role: advisor)
 - 2) Yi (Jamie) Zhang (PhD student, Biostatistics; role: co-advisor)
 - 3) Xiaochen Lin (PhD student, Epidemiology; role: dissertation committee)
 - 4) Stephannie Shih (PhD student, Epidemiology; role: dissertation committee)
 - 5) Yi Zhao (PhD student, Biostatistics; role: dissertation committee)
 - 6) Ashley A. Smith (PhD student, Pathology and Laboratory Medicine; role: dissertation committee)

5. Undergraduate advising, Brown University (2013 Fall-2015 Spring)
 - 1) As academic adviser: Danielle Alvarez, Chien Teng Chia, Julia Dodenhoff, Margaret House, Viet Nguyen, Taneil Ruffin
 - 2) As research adviser: Thomas Hsu (BS/MD student)
 - 3) As reader: Marisa Millenson

Department/University Service

1. Program Coordinator, TIGP-Bioinformatics (2022/11-)
2. Acting Program Coordinator, TIGP-Bioinformatics (2022/03-2022/10)
3. Chair, Admission committee, TIGP-Bioinformatics (2022)
4. Admission committee, TIGP-Bioinformatics (2020/2021)
5. DayCare Working Committee, Academia Sinica (2019/04-2021/07)
6. Search Committee Chair, Institute of Statistical Science, Academia Sinica (2019/07-2020/04)
7. Personnel/Promotion/Recruitment Committee, Institute of Statistical Science, Academia Sinica (2019/08-2020/07)
8. Institutional Review Board (IRB) on Biomedical Science Research, Academia Sinica (2018/10-2020/09)
9. Statistical Cooperation Center, Institute of Statistical Science, Academia Sinica (2019/01-)
10. Organizer, 2018 Statistical Science Camp, Institute of Statistical Science, Academia Sinica (2018/02-2018/09)
11. Reviewer for TIGP-Bioinformatics PhD Admission (2018/04)
12. Working group committee, Institute of Statistical Science, Academia Sinica (2018/01-2018/12)
13. Colloquium chair, Institute of Statistical Science, Academia Sinica (2018/01-2018/06)
14. Personnel/promotion/recruitment committee, Institute of Statistical Science, Academia Sinica (2017/08-2018/07)
15. Curriculum committee, Department of Epidemiology, Brown University (2015 Fall-2016 Spring)
16. PhD qualifying examination committee, Department of Epidemiology, Brown University (2015 Fall-2016 Spring)
17. Admission committee, Department of Epidemiology, Brown University (2013 Fall-2016 Spring)
18. Social event committee, Department of Epidemiology, Brown University (2013 Fall-2015 Spring)
19. Environmental Health Planning Ad Hoc committee, Department of Epidemiology, Brown University (2013 Fall-2014 Spring)
20. Molecular genetic working group, Department of Epidemiology, Brown University (2013 Spring-2016 Spring)
21. Cultural consultant, Institutional Review Board, Brown University (2014 Fall)

Professional Service

1. Co-organizer, 2023 International Conference for Statistics and Data Science (July 12-13, 2023), Academia Sinica, Taiwan

2. Secretary, Taiwan Chapter of the International Chinese Statistical Association (ICSA) (2023-2024)
3. Member, Expert Committee, COVID-19 vaccine effectiveness, Central Epidemic Command Center (中央流行疫情指揮中心), Centers for Disease Control, Ministry of Health and Welfare
4. Member, Expert Committee, Taiwan National Hepatitis C Program Office (國家 C 肝辦公室), Ministry of Health and Welfare (2022)
5. Member, Board of Directors (BoD), International Association of Statistical Computing, Asian Regional Section (2022-2024)
6. Member, Board of Directors (理事) (2022/01-), The Chinese Institute of Probability and Statistics (Taiwan)
7. Scientific Program Committee of 5th International Conference on Econometrics and Statistics (EcoSta2022), Ryukoku University (Kyoto, Japan).
8. Section Organizer of “Statistics in COVID-19” and “Mediation Analyses” (invited sessions), 2021 Statistical Conference: Statistics in the Era of Big Data and AI, Fu-Jen Catholic University (New Taipei, Taiwan).
9. Section Chair of “Advances in survival analyses in the era of data science” (invited session), The 11th ICSA International Conference 2019 (Hangzhou, China)
10. Vice President (副理事長) (2019/10-2021/12), The Chinese Institute of Probability and Statistics (Taiwan)
11. Member, Board of Directors (理事) (2019/01-2021/13), The Chinese Institute of Probability and Statistics (Taiwan)
12. Secretary General (秘書長) (2019/01-2019/10), The Chinese Institute of Probability and Statistics (Taiwan)
13. Scientific Program Committee, The 2020 Joint Meeting of Taipei International Statistical Symposium and ISI Regional Statistical Conference (Taipei, Taiwan)
14. Organizer, 4th International Conference on Econometrics and Statistics (EcoStat 2020) (Seoul, South Korea)
15. Panelist of the 6th International Symposium on Biopharmaceutical Statistics (Kyoto, Japan): Estimand, Missing Data, and Sensitivity Analysis
16. Section Chair/Panelist of 2018 Statistical Science Camp (Taipei, Taiwan)
17. Judge, ASA Section on Statistics in Genomics and Genetics’s Distinguished Student Paper Competition
18. Section Chair, ISI-ISM-ISSAS Joint Conference 2017 (Tokyo, Japan)
19. Section Co-chair, 2nd Pacific Rim Cancer Biostatistics Workshop (Kanazawa, Japan)
20. Section Chair/Panelist of 2017 Statistical Science Camp (Taipei, Taiwan)
21. Section Chair of ‘Statistical analysis with biomarkers and genetics’ (contributed papers), *Joint Statistical Meeting 2013* (Montreal, Canada)
22. Section Chair of ‘Statistical analysis for deep sequencing data in cancer research: methods and applications’ (invited session), *ENAR (Eastern North American Region International Biometric*

Society) 2015 Spring Meeting (Miami, FL)

23. Section Chair of 'Biomaterials, BioSoC, Bionanotech, BioNEMS/BioMEMS, and Biomedical Sciences and Engineering' (invited session), *EITA (Emerging Information and Technology Association) Young Investigator Conference 2015* (Cambridge, MA)
24. Short Course Co-organizer/Co-instructor of 'Integrative Analytics of Multiplatform Genomic Data: under the Framework of Causal Mediation Modeling' (Continued Education Program), *Joint Statistical Meeting 2015* (Seattle, WA)
25. Organizing Committee of "2015 Genetic Epidemiology Workshop", Academia Sinica (Taipei, Taiwan)
26. Section Chair and Co-organizer of 'Integrative genomics analytics for personalized medicine' (invited session), *Joint Statistical Meeting 2016* (Chicago, IL)

Grant Award

- **5R03CA182937-02 (NIH/NCI)** Project title: Integrative modeling of gene expression into GWAS of glioma, 2014/07/01-2016/06/30; Role: Principal Investigator (MPI)
- **1R01AG048825-01 (NIH/NIA)** Project title: Identifying targets for reducing obesity caused by early life disadvantage, 2014/09/30-2016/04/30; Role: Co-Investigator
- **Salomon Research Award (Brown University)** Project title: Gene-environment and gene-gene interactions in cancer survival, 2013/07/01-2014/12/31; Role: Principal Investigator
- **Junior Research Awards in Genetics and Molecular Population Studies (Brown School of Public Health)** Project title: Integrative modeling of multi-platform genomic data for cancer survival, 2015/01/01-2015/12/31; Role: Principal Investigator
- **1P20GM109035-01 (NIH/NIGMS)** Project title: Integrative genomics of cancer survival, 2016/09/01-2021/08/31; Role: Project PI [**Note:** the award was declined, due to the relocation to Academia Sinica]
- **105-2118-M-001-014-MY3 (Ministry of Science and Technology, Taiwan)** Project title: Statistical analytics for integrating cancer survival and multiplatform genomic data, 2016/10/01-2019/07/31; Role: Principal Investigator
- **106-2314-B-010-001 (Ministry of Science and Technology, Taiwan)** Project title: Differential impact of traffic vehicles on cardiovascular diseases: a causal multiple-mediator framework, 2017/06/01-2018/5/31; Role: Co-PI
- **106-2118-M-001-016-MY3 (Ministry of Science and Technology, Taiwan)** Project title: The dependent censoring issue in treatment switch and clustered/multivariate survival analysis, 2017/08/01-2020/7/31; Role: Co-PI
- **AS-CDA-108-M03 (Academia Sinica)** Project title: Statistical analytics for gene-environment integrative genomics, 2019/01-2023/12; Role: Principal Investigator
- **108-2118-M-001-013-MY5 (Ministry of Science and Technology, Taiwan)** Project title: Modeling natural history of human diseases, 2019/08-2024/07; Role: Principal Investigator
- **AS-PH-109-01-3 (Academia Sinica)** Project title: Causal inference on natural history of hepatitis C:

gene-virus-environment interaction, 2020/01-2021/12; Role: Principal Investigator

Patent

- **Method for prediction of 5' RNA splicing defects** (U.S. Patent and Trademark Office Serial Number 63/262,799; pending)
- **Method for prediction of 3' RNA splicing defects** (U.S. Patent and Trademark Office Serial Number 63/225,241; pending)

Software

(archived at <http://www.stat.sinica.edu.tw/personinfo/?sysid=5017880>)

- **Integrative genomic analyses**
 - **iGT-continuous** (Integrative Genomic Test for continuous phenotype using variance component tests (VCT) ; written in R)
 - **iGT-binary** (Integrative Genomic Test for binary phenotype using VCT; written in R)
 - **iGT-survival** (Integrative Genomic Test for survival phenotype using VCT under semiparametric linear transformation models; written in MATLAB)
 - **iGWAS** (Integrative Genome-Wide Association Study, jointly analyzing SNP and gene expression data; written in R)
 - **iGWAS-family** (Integrative Genome-Wide Association Study for family design data, jointly analyzing SNP and gene expression data (and DNA methylation data); written in R)
 - **iNOTE** (Integrative Network Omnibus Total Effect test; written in R)
- **Mediation analyses**
 - **M3S-Cox (rare)** (Multi-Mediator Model for Survival data using Cox models when the outcome is rare; written in R)
 - **M3S-Cox** (Multi-Mediator Model for Survival data using Cox models; written in R)
 - **M3S-Aalen** (Multi-Mediator Model for Survival data using Aalen additive hazard models; written in R)
 - **M3S-Probit** (Multi-Mediator Model for Survival data using semiparametric Probit models; written in MATLAB)
 - **MMT** (Multi-Mediation Test; test for mediation effects when the number of mediators may be larger than the sample size; written in R)
 - **MMT-JT** (Multi-Mediation Test using Joint significance Test; test for mediation effects with multiple mediators, or path-specific effects with multiple mediators; written in R)
 - **M3CB** (Multi-Mediator Model with Continuous mediators and Binary outcome; written in R)
 - **M3B2** (Multi-Mediator Model with Binary mediators and Binary outcome; written in R)
 - **MT-Comp** (Mediation Test under a Composite null hypothesis; written in R)
- **Pathway analyses**
 - **TEGS** (Test for the Effect of a Gene Set; for gene expression data; written in R)

- **TEGS-CN** (Test for the Effect of a Gene Set; for DNA Copy Number data; written in R)
- **Instrumental variable analyses**
 - **MR-ST** (Mendelian Randomization using Semiparametric Transformation models; test for the causal effect on survival outcomes with Mendelian randomization; written in MATLAB)