

Yung-Han (Tina) Chang

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 [Yung-Han \(Tina\) Chang](#) |  [yhc0211](#)

Education

The University of Texas MD Anderson Cancer Center **Houston, TX**

Ph.D., Quantitative Science *05/2028(Expected)*

- Concentrated in biostatistics and bioinformatics

University of California, Los Angeles **Los Angeles, CA**

M.S., Biostatistics *06/2024*

- Selected Courses: Survival Analysis, Longitudinal Analysis, Data Science

National Taiwan University **Taipei, Taiwan**

B.S., Agronomy *06/2020*

- Concentrated in biostatistics and bioinformatics
- Vice President of Student Association

Experience

MD Anderson Cancer Center **Houston, TX**

Graduate Student Researcher *08/2024 - Present*

- Using conditionally symmetric multidimensional Gaussian mixtures to test a large-scale composite null hypothesis in replication analysis.
- Utilized isoform-level transcriptome-wide association studies to uncover genetic risk mechanisms for six cancers that are undetected at the gene-level association studies.

Department of Computational Medicine, UCLA **Los Angeles, CA**

Research Assistant, Advisor: [Prof. Bogdan Pasaniuc](#) & [Prof. Arjun Bhattacharya](#) *09/2022 - 06/2024*

- Examined potential factors that drive the lack of portability of gene expression imputation in transcriptome-wide association studies across ancestry.
- Led an analysis of isoform-level transcriptome-wide association studies to assess breast cancer risk.

National Taiwan University Hospital **Taipei, Taiwan**

Data Scientist, Advisor: [MD, ScD Chien-Chang Lee](#) *11/2021 - 09/2022*

- Evaluated the performance of a polygenic risk score in predicting COVID-19 severity compared to using a clinical risk equation based on data collected from UK Biobank.
- Performed a large-scale genome-wide association study (GWAS) on headache cases from the Taiwan Biobank.
- Conducted a competitive analysis of cloud computing applications in medicine between Azure and AWS and delivered a presentation to the CTO of Microsoft Taiwan.

National Taiwan University **Taipei, Taiwan**

Student Researcher, Advisor: [Prof. Chen-Tuo Liao](#) *10/2019 - 06/2020*

- Predicted pumpkin hybrid performance through a genomic selection model to accelerate the breeding procedure.
- Collaborated with the Council of Agriculture to predict tea trees' dry weight and wet weight through climate and environmental factors.

- Quality control assessments for the marketing data of international pharmaceutical companies in Asia.
- Aligned efforts with analysts to conduct data visualizations and prepared marketing reports for clients.
- Transferred qualitative survey results into quantitative information for further quantitative analysis.

Publications & Presentations

- **Yung-Han Chang**, S. Taylor Head, Tabitha Harrison, Yao Yu, Chad D. Huff, Bogdan Pasaniuc, Sara Lindström, Arjun Bhattacharya. [“Isoform-level analyses of 6 cancers uncover extensive genetic risk mechanisms undetected at the gene-level”](#). *Poster Presentation at American Society for Human Genetics Annual Meeting 2024 & Preprint on medRxiv*
- Meng-Han Tsai, Sung-Chu Ko, Amy Huaishuan Huang, Lorenzo Porta, Cecilia Ferretti, Clarissa Longhi, Wan-Ting Hsu, **Yung-Han Chang**, Jo-Ching Hsiung, Chin-Hua Su, Filippo Galbiati, Chien-Chang Lee. [“Predicting mortality in hospitalized influenza patients: integration of deep learning-based chest X-ray severity score \(FluDeep-XR\) and clinical variables”](#). *Published by Journal of the American Medical Informatics Association.*
- Arjun Bhattacharya, **Yung-Han Chang**, Bogdan Pasaniuc, Sara Lindstroem. [“Isoform-level transcriptome-wide analyses identify extensive genetic mechanisms for breast cancer risk undetectable on the gene-level”](#). *Poster Presentation at the American Association for Cancer Research Annual Meeting 2024*
- **Yung-Han Chang**, Yi Ding, Arjun Bhattacharya, Bogdan Pasaniuc. [“Factors Influencing the Portability of Gene Expression Imputation in Transcriptome-Wide Association Studies across Ancestry”](#). *Poster Presentation at American Society for Human Genetics Annual Meeting 2023 & International Genetic Epidemiology Society Annual Meeting 2023*
- Ye Liu, Chia-Hung Yo, Jiun-Ruey Hu, Wan-Ting Hsu, Jo-Ching Hsiung, **Yung-Han Chang**, Shyr-Chyr Chen, Chien-Chang Lee. [“Sepsis increases the risk of in-hospital cardiac arrest: a population-based analysis”](#). *Published by Internal and Emergency Medicine*
- Wan-Ting Hsu, Yu-Ting Lee, Jasmine Tan, **Yung-Han Chang**, Frank Qian, Kuei-Yu Liu, Jo-Ching Hsiung, Chia-Hung Yo, Sung-Chun Tang, Xia Jiang, Chien-Chang Lee. [“Genome–phenome wide association study of broadly defined headache”](#). *Brain Communications, Volume 5, Issue 3, 2023*
- Lee CC, Lee MG, Huang IH, Tan J, McCaw ZR, Su KY, Hsu TC, Huang RYJ, Kuo PH, Chen SC, **National Taiwan University Hospital, Health Data Science Research Group**. [“Genome-wide association study of primary dysmenorrhea in the Taiwan Biobank validates associations near the NGF and IL1 gene loci”](#). *J Hum Genet. 2022 Aug;67(8):449-458*

Skills

Programming: R, Python, SAS, SQL, Linux, Git/GitHub, Bash

Honors & Awards

Co-reviewer, Nature Communications (2024)

Co-reviewer, Biometrics (2023)

Dr. Kuang-Dong Wu Scholarship (USD 1,500)