Kuan-Hung (Peter) Yeh

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peterntuph.github.io* | *kuan-hung yeh* | *Google Scholar

Biostatistician passionate in **molecular diagnostics** industry for cancers. **4+** years of hands-on research experience collaborating with experts in Biotech, National labs, Universities, and Hospitals. Turning data into actionable insights to transform cancer care & revolutionize public health

Programming Languages & Toolkits: R (Markdown, Shiny), SAS, Git/GitHub, Linux, SQL

Research Topics: Clinical Trials, Real-World Evidence (RWE), Survival Analysis, Precision Oncology

EDUCATION

Ph.D, Bioinformatics, University of California, San Diego (UCSD) — *San Diego, CA*

- Overall GPA: 4.0/4.0 — *Sep. 2023 - Present*

Master of Science, Biostatistics, University of California, Los Angeles (UCLA) — *Los Angeles, CA*

- Overall GPA: 3.93/4.0 — *Jun. 2023*
- Selected Courses: Longitudinal Analysis, Biostatistical Consulting, Machine Learning

Bachelor of Science, Public Health, National Taiwan University (NTU) — *Taipei, Taiwan*

- Overall GPA: 3.75/4.0 — *Jun. 2020*
- **Honor Graduate** w/ Elite Scholarship & Dr. KP Chen Memorial Scholarship
- **Selected Courses**: Survival Analysis, Computational Biology, Epidemiology

RESEARCH EXPERIENCES

Foundation Medicine, Inc. (Affiliate of Roche Group) — *Boston, MA*

Biostatistician Intern, *Advisor: Dr. Chang Xu* — *Jun. 2022 – Sep. 2022*

- Designed new criteria for reproducibility in **diagnostic assay precision study** to increase statistical power by 90% while controlling type I error *[Shiny App]*
- Proposed Quality Assurance protocol based on new reagent design in **FoundationOne® Liquid CDx** (F1LCDx)
- Implemented and verified the performance metrics for new PicoGreen dsDNA Quantification reagent (TMV)

Department of Medicine Statistics Core (DOMStat), UCLA — *Los Angeles, CA*

Graduate Consultant Intern, *Advisor: Prof. Chi-Hong Tseng* — *Dec. 2022 – Jun. 2023*

- Generated statistical outputs to support a **three-arm randomized controlled trial**
- Conducting **Mediation Analysis** to prove that intrinsic motivation explains the underlying mechanism of the relationship between interventions and health behavior for weight-loss *[Report]*

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

Graduate Student Researcher, *Advisor: Prof. Bogdan Pasaniuc* — *May. 2022 – Jun. 2023*

- Demonstrating genetic architecture impacts parameter estimation in Cox model and PGS-based risk stratification
- Developed **survival data simulation pipeline** based on different hazard assumption

Biostatistics & Bioinformatics Core lab, NTU — *Taipei, Taiwan*

Undergraduate Researcher, *Advisor: Prof. Tzu-Pin Lu* — *Jun. 2019 – Feb. 2020*

- Constructed the **First Prognostic Model** for Asian Colon Cancer Patients *[ASO '21]*
- Reported the prognostic difference across different ancestry and customized a Cox model in Asian population
- Provided a robust overall **survival/risk prediction** to facilitate clinical shared decision-making *[Web]*
    - **Best Research Poster Award** in Research Symposium, NTUPH *[Poster]*

PUBLICATIONS & PRESENTATIONS

1. Stephanie L. Orstad, Joseph A. Ladapo, Judith Wylie-Rosett, Chi-Hong Tseng, **Kuan-Hung Yeh**, Un Young, Rebecca Chung, Soma Wali, Melanie Jay "Effects of financial incentives for meeting behavioral goals vs. weight loss targets on program attendance, self-weighing, dietary tracking, and physical activity following a 6-month weight loss intervention" *(under review at Society of Behavioral Medicine)*
2. **Kuan-Hung Yeh**, Yi Ding, Bogdan Pasaniuc. "Impact of genetic architecture in fitting polygenic scores in Cox Proportional Hazards Models" *Poster presentation at 2023 American Society of Human Genetics*
3. Han-Ching Chan, Chi-Cheng Huang, Ching-Chieh Huang, Amrita Chattopadhyay, **Kuan-Hung Yeh**, Wen-Chung Lee, Chun-Ju Chiang, Skye Hung-Chun Cheng, Tzu-Pin Lu, (2021) "Predicting Colon Cancer-Specific Survival for the Asian Population Using National Cancer Registry Data from Taiwan". *Annals of Surgical Oncology* 29:853–863

4. **Kuan-Hung Yeh**, Ching-Heng Lin, Tzu-Hung Hsiao and Tzu-Pin Lu, "Genome-Wide Association Study (GWAS) on Metabolic Syndrome in Subjects with Abdominal Obesity in a Taiwanese Population" *Oral presentation at 2020 IEEE International Conference on Bioinformatics and Biomedicine (2020 IEEE BIBM).*
5. **Kuan-Hung Yeh**, Tzu-Pin Lu, "Using National Cancer Registry Data to Develop Prediction Model for Colon Cancer in Taiwan" *Poster presentation at 2019 Taiwan Public Health Joint Annual Conference.*

SELECTED PROJECTS

2022 Machine Learning in Bioinformatics @UCLA *[Link]* *Los Angeles,CA*

Predicting 30-day mortality for ICU Patients using the MIMIC IV dataset *Dec. 2022*

- Conducted **missing data imputation** by Multiple Imputation by Chained Equations (MICE)
- Compared five **supervised learning** methods on predicting 30-day mortality in ICU Patients
- Developed an outperformed XGBoost Model with **0.72** AUC, **0.69** AUPRC, and **92%** accuracy

2019 Taichung Veteran General Hospital *Taichung, Taiwan*

Genome-Wide Association Study (GWAS) on Metabolic Syndrome *Sep. 2019*

- Found **Novel Genetics Locus** on metabolic syndrome from genome-wide association study (GWAS)
- Analyzed and combined phenotype and genotype data to quantify the risk of metabolic syndrome
    - **Published** and **Oral Presented** at 2020 IEEE BIBM *[Video]*

2018 TMU x MIT (Sana) HIOT Hackathon *Taipei, Taiwan*

1st Prize with $3,000 USD *[News Link]* *Oct. 2018*

- A Hackathon organized by **Taipei Medical University** and Computer Science and Artificial Intelligence Laboratory (CSAIL), **Massachusetts Institute of Technology**
- Proposed an Ultrasound Assisting System based on CNN for **Real-time auto examination** of **Internal Hemorrhage** in ICU with a **93%** accuracy rate

HONORS & AWARDS

J Yang Scholarship, Department of Bioinformatics, UCSD Sep *'23*

Honor Graduate, Public Health Dept. at NTU *Jun '20*

Elite Scholarship, Elite-Well Education Foundation *Fall '19*

Dr. KP Chen Memorial Scholarship *Spring '19*

- Dr. KP Chen is the **Father of Public Health in Taiwan**, whose most well-known contribution is to clarify the causality between Blackfoot disease and Arsenicosis
- Dr. KP Chen Memorial Scholarship is the **highest award for public health student in Taiwan**

Innovation Award, Pharmacy School at NTU *Sep '18*

Dr. Jiang Jian Memorial Scholarship, Public Health Dept. at NTU *Fall '18*

Best Research Poster Award, NTUPH Annual Research Symposium *Fall '18*

PROFESSIONAL ASSOCIATIONS

- Association of Schools and Programs of Public Health (ASPPH)
- American Statistical Association (ASA)
- Taiwan Public Health Association (TPHA)