Kuan-Hung (Peter) Yeh

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

A **Biostatistician/Real-World Data Scientist** with a passion for supporting regulatory decision-making for drugs and biological products. 4+ years of hands-on research experience collaborating with experts in Biotech, National labs, Universities, and Hospitals. My mission is to revolutionize and advance public health through data-driven innovation.

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

Research Topics: Real-World Evidence (RWE), Causal Inference, Survival Analysis, Clinical Trials

Education

University of California, San Diego (UCSD) — ***San Diego, CA***
- Ph.D in Biomedical Informatics (Overall GPA: 4.0/4.0) — *Sep. 2023 - Present*

University of California, Los Angeles (UCLA) — ***Los Angeles, CA***
- Master of Science in Biostatistics (Overall GPA: 3.93/4.0) — *Jun. 2023*
- Selected Courses: Longitudinal Analysis, Causal Inference, Machine Learning

National Taiwan University (NTU) — ***Taipei, Taiwan***
- Bachelor of Science in Public Health (Overall GPA: 3.75/4.0) — *Jun. 2020*
- Selected Courses: Survival Analysis, Computational Biology, Epidemiology

Research Experience

Department of Biomedical Informatics, UCSD — ***La Jolla, CA***
Graduate Researcher, *Advisor: Dr. Siddharth Singh & Dr. Ronghui Xu* — *Sep. 2023 - Present*
- Led multiple **comparative effectiveness research** on different treatment strategies in Gastroenterology utilizing advanced survival analysis and causal effect estimation methods
- Skilled in statistical methods for observational studies, including multiple imputation and marginal structural model.

Department of Medicine Statistics Core (DOMStat), UCLA — ***Los Angeles, CA***
Graduate Consultant Intern, *Advisor: Prof. Chi-Hong Tseng* — *Dec. 2022 – Jun. 2023*
- Generated comprehensive statistical analyses and data visualizations for a **three-arm randomized controlled trial**
- Performed **mediation analysis** to demonstrate intrinsic motivation as the mechanism linking interventions to weight-loss behaviors *[Report]*

Foundation Medicine, Inc. (Affiliate of Roche Group) — ***Boston, MA***
Biostatistician Intern, *Advisor: Dr. Chang Xu* — *Jun. 2022 – Sep. 2022*
- Developed criteria for **diagnostic assay precision studies**, boosting statistical power 90% *[Shiny App]*
- Proposed Quality Assurance protocol based on new reagent design in **FoundationOne® Liquid CDx**
- Implemented and verified the performance metrics for new PicoGreen dsDNA Quantification reagent

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. **Impact of Setons on Perianal Fistula Outcomes in Crohn's Disease Patients Receiving Anti-TNF Therapy**
   Jeffrey McCurdy, Javeria Munir, Simon Parlow, Gagan Sambhi, Jacqueline Reid, Russell Yanofsky, Talal Alenezi, Joseph Meserve, **Kuan-Hung Yeh**, Brenda Becker, Zubin Lahijanian, Anas Hussam Eddin, Ranjeeta Mallick, Tim Ramsay, Greg Rosenfeld, Ali Bessissow, Talat Bessissow, Vipul Jairath, David H Bruining, Blair Macdonald and Siddharth Singh; *(under review at Clinical Gastroenterology and Hepatology)*
2. **Treatment sequencing: Long-term outcomes of an infliximab-first vs. vedolizumab-first treatment strategy in biologic-naive patients with ulcerative colitis**
   Austin Haynesworth, **Kuan-Hung Yeh**, Han Hee Lee, Melissa Kirkpatrick, Brigid S. Boland, Gaurav Syal, Ronghui Xu, Siddharth Singh; *(under revision at AP&T)*

3. **Impact of Goal-Based vs Weight-Based Financial Incentives on Adherence and Behaviors in Weight Loss Program**
   Stephanie L. Orstad, Joseph A. Ladapo, Judith Wylie-Rosett, Chi-Hong Tseng, **Kuan-Hung Yeh**, Un Young, Rebecca Chung, Soma Wali, Melanie Jay; *(under revision at Society of Behavioral Medicine)*
4. **Impact of genetic architecture in fitting polygenic scores in Cox Proportional Hazards Models**
   Kuan-Hung Yeh, Yi Ding, Bogdan Pasaniuc; *Poster presentation at American Society of Human Genetics (ASHG 2023)*
5. **Predicting Colon Cancer-Specific Survival for Asian Population Using Taiwan National Cancer Registry Data**
   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; *Annals of Surgical Oncology* (2021)
6. **Genome-Wide Association Study of Metabolic Syndrome in Abdominally Obese Taiwanese Individuals**
   Kuan-Hung Yeh, Ching-Heng Lin, Tzu-Hung Hsiao and Tzu-Pin Lu; *Oral presentation at IEEE International Conference on Bioinformatics and Biomedicine (2020 IEEE BIBM).*
7. **Using National Cancer Registry Data to Develop Prediction Model for Colon Cancer in Taiwan**
   Kuan-Hung Yeh, Tzu-Pin Lu; *Poster presentation at 2019 Taiwan Public Health Joint Annual Conference.*

Academic Honors

J Yang Scholar, 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*

Selected Projects

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

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]*

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

Professional Associations

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