

Shu-Hsien Cho

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RESEARCH INTERESTS Survival analysis, clinical trial, causal mediation analysis, electronic health record, integrative genomic data analysis.

EDUCATION **University of Texas MD Anderson Cancer Center UTHealth Graduate School of Biomedical Sciences**, Houston, TX

Ph.D., Quantitative Sciences (Biostatistics Track) , *Expected*: Summer 2025

- Coursework: Foundations of Statistical Inference I&II (Rice STAT 532&533)

National Chengchi University, Taipei, Taiwan

B.S., Statistics , B.A., Economics (Double Major), *Certificate in Mathematical Finance, Certificate in Actuarial Statistics*, Jan 2017

Cumulative GPA: 3.65/4

- Coursework: Advanced Probability Theory, Statistical Computing and Simulation, Statistics and Machine Learning, Applied Bayesian Methods, Survival Analysis, Logistic Regression Analysis.
- Relevant Project
 - Analyzed the prostate cancer data consist of SELDI-TOF mass spectra of serum samples of people.
 - Studied the patient behavior and medical resources disequilibrium in Taiwan through Taiwan National Health Insurance Research Database (NHIRD)

RESEARCH EXPERIENCE **Graduate Research Assistant** Aug 2020 to present
University of Texas MD Anderson Cancer Center UTHealth Graduate School of Biomedical Sciences

Research Assistant Feb 2017 to Jul 2020
Institute of Statistical Science, Academia Sinica
Supervisor: Yen-Tsung Huang, MD, ScD

- Develop a methodology to identify path-specific effects with Cox model to infer survival probability in TCGA lung cancer data and Taiwan liver cancer cohort with hepatitis C and hepatitis B infection.
- Develop a semiparametric approach formulating the semi-competing risks as a causal mediation problem to infer cumulative hazard difference in a liver cancer progression to mortality with hepatitis B infection.
- Help with the study: Using statin lipid-lowering medications to prevent recurrence of liver cancer after cauterization treatment: double-blind randomized controlled trial (Investigator: Dr. Yao-Chun Hsu)
 - Analyze M2BPGi and its association with subsequent hepatocellular carcinoma development in nucleoside analogues-treated chronicle hepatitis B patients in R language.
 - Organize machine learning study group and prepare the training program for the members of our lab and collaboration lab at Institute of Molecular Biology.

Summer School Student Jul 2014 to Aug 2014
Mathematical Finance Track, Institute of Mathematics, Academia Sinica

- Long Run VaR simulation
Constructed the long run VaR of TAIEX and Standard and Poor 500. Built several time series model (GARCH, TGARCH) using log-return and simulated 10000 paths.

JOURNAL
PUBLICATIONS

1. Hong J-S., **Cho S-H.** and Huang Y-T., “Semiparametric causal mediation modeling of hepatitis B on mortality through liver cancer incidence” 2020+. submitted to *Biostatistics*. (co-first author)
2. **Cho S-H.**, and Huang Y-T., “Mediation Analysis with Causally Ordered Mediators Using Cox Proportional Hazards Model” *Statistics in Medicine*. (2019) 38(9):1566-1581.
3. Hsu Y-C., Jun T., Huang Y-T., Yeh M-L., Lee C-L., **Cho S-H.**, Lin J-T., Yu M-L., Nguyen M. H., and Tanaka Y., “Serial changes in serum M2BPGi level and risk of hepatocellular carcinoma after antiviral therapy in chronic hepatitis B” *Alimentary Pharmacology & Therapeutics*. (2018) 48(10):1128-1137.

AWARDS

- Grants for Young Scholars Attending International Academic Conferences Abroad — Academia Sinica Aug 2018
- Poster Competition Award — Institute of Statistical Science, Academia Sinica, Feb 2018
- Academic Excellence Award (Ranking: 2/41), Department of Statistics, National Chengchi University, Spring 2015

PRESENTATIONS

- Statistical Meetings
- A meta-analysis approach to causal mediation modeling of semi-competing risks.
 - The 28th South Taiwan Statistics Conference, National Chung Hsing University, Taichung, Taiwan, Jun 2019
 - Mediation Analysis with Causally Ordered Mediators Using Cox Proportional Hazards Model
 - Royal Statistical Society 2018 International Conference, Cardiff City Hall, Wales, United Kingdom, Sep 2018
 - The 27th South Taiwan Statistics Conference, National Cheng Kung University, Tainan, Taiwan, Jun 2018
- Taiwan R User Group
- MLB Database and Data Analysis May 2018

TEACHING
EXPERIENCE

- Teaching Assistant Sep 2015– Jun 2016
- Calculus
Instructor: Yen-Lung Tsai, Ph.D,
Department of Mathematical Sciences, National Chengchi University
- Designed two-hour lectures and prepared exercises according to the syllabus every week.
 - Helped students to finish GeoGebra assignments.

TRAINING

- Genomic Epidemiology Workshop, Genomic Research Center, Academia Sinica, Aug 2017

OTHER EXPERIENCE	<p>A Baseball Data Analysis Blog - Shu N Yu Baseball Feb. 2018 to present</p> <ul style="list-style-type: none"> • Combined statistical thinking with baseball data with R to explore issues in baseball games (e.g. Quantified effect of different stadiums, Visualization of strike-zone). • Guest speaker of Taiwan R User Group, the event held in May 2018 attracted hundreds of attendees. • Storytelling – Translated statistical language into stories on baseball fields.
CAMPUS ACTIVITIES	<p>Security Research Society, National Chengchi University</p> <ul style="list-style-type: none"> • Chief Director of Course and Academic Division July 2012 – June 2013 <ul style="list-style-type: none"> • Designed the training program focusing on financial instrument and investment. Delivering the training program in the fashion of lecture by weekly basis. Published the research report of Taiwan Stock Market. • Student Camp General Coordinator Jan 2013 – July 2013 <ul style="list-style-type: none"> • An 120-person summer camp. Integrated all divisions and Decision Making. Presentation to sponsors and students.
SKILLS	<p>Advanced Proficiency: R, L^AT_EX Intermediate Proficiency: Matlab, Python, SQL, Linux, C</p>
REFERENCES	<p>Yen-Tsung Huang, MD, ScD Associate Research Fellow Institute of Statistical Science Academia Sinica, Taiwan</p> <p style="text-align: right;">Phone: +886-2787-5685 E-mail: ythuang@stat.sinica.edu.tw</p>