

Danyang Li

5608 Ellsworth Ave, Pittsburgh, PA 15232; Phone: (+1)314-445-8338; E-mail: dal274@pitt.edu

EDUCATION

Department of Biostatistics, University of Pittsburgh

September 2022 - Now

- PhD in Biostatistics, Overall GPA: 3.92/4.0
- Selected courses: Multiple Testing, Asymptotic Methods in Statistics, Survival Analysis, Statistical Methods in Omics Data, Mixed Model, Advanced R Computing, Molecular Basis of Human Inherited Disease

Department of Statistics, University of Washington – Seattle

September 2020 – May 2022

- MS in Statistics, Overall GPA: 3.94/4.0
- Selected courses: Statistical Inference, Design and Analysis of Experiments, Statistical Methods for Spatial Data, Bayesian Statistics for Social Science, Nonparametric Regression and Classification, Statistical Computation

Department of Mathematics and Statistics, Washington University in St. Louis

September 2019- May 2020

- Transferred after first year, Overall GPA: 4.0/4.0; Transferred after first year
- Selected courses: Probability, Time Series Analysis, Multivariate Statistical Analysis, Stochastic Process

School of Physics, Peking University, China

September 2013- July 2017

- B.S. in Atmospheric and Oceanic Science, major GPA: 3.20/4.0
- Selected courses: Advanced Mathematics, Linear Algebra, Data Structure and Algorithm

WORKING EXPERIENCE

Graduate Student Researcher

September 2022-Now

UPMC Hillman Cancer Center

- Subclone analysis using single-cell RNA-sequencing data to evaluate tumor clone changes in paired cancer models.
- Congruence analysis for cancer models (both in vitro and in vivo) to evaluate dissimilarity between models and primary tumors

UPMC Magee-Women's hospital

- Conducted differential expression analysis, pathway analysis, statistical modeling, and bioinformatics analysis to support grant proposals and research publications.
- Worked with diverse data types, including clinical data, single-cell RNAseq, bulk RNAseq, Whole-genome sequencing, and Whole-genome bisulfite sequencing data.

Graduate Student Researcher (Volunteer)

April 2021– June 2023

Biostatistics Division, Kaiser Permanente Washington Health Research Institute

- Conducted extensive simulation studies to evaluate the potential for bias amplification of spatial models in the presence of unmeasured spatial confounding for binary exposure
- Generalized a novel statistical model originally designed for continuous exposure to categorical data types
- Applied and compared models on a real-world electronic health record data to estimate impacts of some spatially patterned binary exposures (smoking status and dichotomized residential density) on body weight.

Business Intelligence Development Engineer

January 2018– May 2018

Yizuanbao Network Technology Company Limited, Shanghai

- Queried, summarized, and analyzed sales data to evaluate customer growth rates, channel engagement, and the effectiveness of promotional strategies, identifying key areas for sales growth.
- Visualized analysis results and delivered weekly reports to non-technical audiences.

AWARD

- **2024 International Biometric Society ENAR Distinguished Student Paper Award**
- **2023 Best Qualifying Exam Performance Award**

RESEARCH INTERESTS

Statistical Methodology:

Spatial statistics, Joint latent class, Dimension reduction, Bayesian statistics, Nonparametric model

Application fields:

Disease Subtyping, Multi-omics integration, Spatial transcriptomics, Congruence analysis

Disease Domain Experience:

Breast/Ovarian cancer, Lung disease, Substance use disorder

PUBLICATION

- Wei Zong, **Danyang Li**, Marianne Seney, Colleen McClung, George C. Tseng*. (2024) Model-based multi-facet clustering with high-dimensional omics applications. Biostatistics. Accepted.
- Neil Carleton, Thomas Radomski, **Danyang Li**, Jian Zou, ..., Steffi Oesterreich, George Tseng, Adrian Lee, and Priscilla McAuliffe. (2024) Electronic Health Record-Based Nudge Intervention and Axillary Surgery in Older Women with Breast Cancer: A Nonrandomized Controlled Trial. JAMA Surgery.
- Yao Wang, **Danyang Li**, Joseph Widjaja, Rong Guo, Li Cai, Rongzhen Yan, Sahin Ozsoy, Giancarlo Allocca, Jidong Fang, Yan Dong, George C. Tseng, Chengcheng Huang, Yanhua H. Huang. (2024) An EEG Signature of MCH Neuron Activities Predicts Cocaine Seeking. Biological Psychiatry
- Liu Xiaoyang, Li Hao, He Ping, **Li Danyang**, Zheng Yuanyuan. Comparison on the Precipitation Measurement Between GPM/DPR and CINRAD Radars. Journal of Applied Meteorological Science, 2018, 29(6): 667-679
- FANG Ming, **LI Danyang**, XU Kun. Rarefied ionization analysis for lunar exploration type capsule[J]. ACTA AERODYNAMICA SINICA, 2019, 37(6): 924-930.

Paper under review

- **Danyang Li**, Maricela F. Cruz, Stephen J. Mooney, Andrea J. Cook, and Jennifer F. Bobb*. (2024) Mitigating the risk of bias amplification when controlling for unmeasured spatial confounding in binary exposure studies. (**This paper received the 2024 ENAR Distinguished Student Paper Award**)

ARTICLES UNDER PREPARATION

- **Danyang Li**, Wei Zong, Wenjia Wang, George C. Tseng*. (2024) Multivariate outcome-guided disease subtyping for high-dimensional omics data (**Selected for oral presentation for the 2025 ENAR**)
- Ruofei Yin, **Danyang Li**, Wei Zong, George C. Tseng*. (2024) Artifact of Detecting Biomarkers Associated with Sequencing Depth in RNA-Seq

Teaching Assistant

University of Pittsburgh

- Advanced Statistical Inference
- Statistical Methods for Omics Data

September 2024-Now

September 2023-December 2023