

Hongjiao (Pearl) Liu

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Education

University of Washington

Ph.D. in Biostatistics

Seattle, WA

Expected: Aug. 2023

Advisor: Michael C. Wu, Ph.D.

Research interests: genomics, kernel machine methods, statistical methods for high-dimensional data

Example projects:

- Adjustment for covariates and sample dependence in a kernel-based association test for high-dimensional variables
- Kernel-based genetic association analysis for microbiome phenotypes

Johns Hopkins University

Baltimore, MD

B.S. in Applied Mathematics and Statistics

May 2018

Second major: Molecular and Cellular Biology

Research Experience

Department of Biostatistics, University of Washington

Seattle, WA

Research Assistant - Supervisor: Dr. Bruce S. Weir

Sept. 2018 – Dec. 2020

- Study of population structure based on different genetic systems

Shanghai First Maternity and Infant Hospital

Shanghai, China

Research Intern - Supervisor: Dr. Yan Zhao

Jun. 2018 – Aug. 2018

- Data analysis in epidemiological research related to maternal and fetal health

Memorial Sloan Kettering Cancer Center

New York, NY

Research Intern - Supervisor: Dr. Zhirong Bao

Jun. 2017 – Aug. 2017

- Improving the performance of software-based cell lineage tracing in *C. elegans* embryos

Johns Hopkins University School of Medicine

Baltimore, MD

Research Assistant - Supervisor: Dr. Aravinda Chakravarti

Jan. 2016 – May 2017

- Bias correction in RNA-Seq data of the GTEx project

Shanghai Institutes for Biological Sciences

Shanghai, China

Research Intern - Supervisor: Dr. Shuhua Xu

Jun. 2015 – Aug. 2015

- Dissecting bacterial genetic differentiation in human gut microbiome

Teaching Experience

Department of Biostatistics, University of Washington

Seattle, WA

Teaching Assistant - Supervisor: Dr. James P. Hughes

Sept. 2020 – Dec. 2020

- BIOST 511: Medical Biometry I

Publications

Zhao, Y., Wang, L., **Liu, H.**, Cao, Z., Su, X., Cai, J. and Hua, J., 2019. Particulate Air Pollution Exposure and Plasma Vitamin D Levels in Pregnant Women: A Longitudinal Cohort Study. *The Journal of Clinical Endocrinology & Metabolism*, 104(8), pp.3320-3326.

Li, J., Fu, R., Yang, Y., Horz, H.P., Guan, Y., Lu, Y., Lou, H., Tian, L., Zheng, S., **Liu, H.**, Shi, M., Tang, K., Wang, S. and Xu, S., 2018. A metagenomic approach to dissect the genetic composition of enterotypes in Han Chinese and two Muslim groups. *Systematic and applied microbiology*, 41(1), pp.1-12.

Posters and Presentations

Liu, H. and Wu, M.C. "Kernel-based genetic association analysis for microbiome phenotypes." The 70th Virtual Meeting of The American Society of Human Genetics, Oct. 2020.

Liu, H., Santella, A. and Bao, Z. “A likelihood-based scoring system to improve cell lineage tracing in *C.elegans*.” Summer Undergraduate Research Program at Sloan Kettering Institute, New York, NY, Aug. 2017.

Awards and Honors

Johns Hopkins Applied Mathematics and Statistics Achievement Award

May 2018

Phi Beta Kappa

May 2018

Dean’s List

Fall 2014 – Spring 2018

Technical Skills

Programming: R, Python, MATLAB

Document presentation: LaTeX, R Markdown

Language: Chinese (native), English (fluent)