JASPER YANG

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EDUCATION

University of Washington — Seattle, WA
PhD in Biostatistics — *Sept 2023 - Present*

University of Essex — Colchester, UK
MSc in Statistics — *Sept 2022 - Aug 2023*
Thesis: Two-phase sampling designs for multiple outcomes of interest

Grinnell College — Grinnell, IA
BA in Biology, Statistics concentration — *Aug 2017 - Dec 2021*

RESEARCH EXPERIENCE

Kaiser Permanente Washington Health Research Institute — Seattle, WA
Research Assistant (Advisor: Pamela Shaw) — *Jan 2022 - Aug 2022, Aug 2023 - Present*

- Led research project extending two-phase sampling methods for measurement error to setting where multiple parameters are of interest.
- Worked on designing and implementing statistical analysis plan for Multicultural Healthy Diet to Reduce Cognitive Decline (MHD) study.
- Worked on the R package 'optimall' for implementing and analyzing two-phase, multiwave studies.

University of Pennsylvania Department of Biostatistics, Epidemiology, and Informatics — Philadelphia, PA
Sept 2020 - June 2021
Research Assistant (Advisor: Pamela Shaw)

- Conducted statistical analysis of data collected from electronic health records (EHR) to investigate risk factors associated with the competing risks of death and discharge among patients hospitalized with COVID-19.
- Created the R package 'optimall' for efficient two-phase, multiwave sampling in R.
- Assisted the statistical team of a RCT for convalecent plasma COVID-19 treatment at the Perelman School of Medicine.

Grinnell College Biology Department — Grinnell, IA
Research Assistant (Advisor: Vida Praitis) — *May 2020 - August 2020*

- Led statistical analysis of scRNA-seq data in *C. elegans embryogenesis* using R with Bioconductor.
- Presented findings in a complete research paper.

Boston University Summer Institute in Biostatistics — Boston, MA
Trainee (Program directors: Anita DeStefano and Jacqueline Milton) — *June 2019 - July 2019*

- Conducted and presented a collaborative research project using PLINK software to analyze the GAW data set.
- Analyzed data collected from the Framingham Heart Study and Jackson Heart Study using SAS and R.

Grinnell College Global Learning Program — Grinnell, IA
(Program directors: Shannon Hinsa and Susan Ferguson) — *Jan 2018 - June 2018*

- Travelled to Costa Rica, Cuba, and Denmark to gather data for individual research project, a comparative analysis of the EMS systems of Costa Rica, Cuba, and the U.S.

BIBLIOGRAPHY

Published Manuscripts

1. **Yang JB**, Shepherd BE, Lumley T, Shaw PA. *Efficient Multi-Wave Sampling with the R Package optimall. Journal of Statistical Software*, (2025). https://doi.org/10.18637/jss.v114.i10.

2. Mossavar-Rahmani Y, Hyun N, Hakun JG, Katz MJ, Pavlovic JM, Zetterberg H, Wang Z, **Yang JB**, Wylie-Rosett J, Herbert JR, Sliwinski MJ, Shaw PA.*The effects of the Multicultural Healthy Diet on cognitive decline and Alzheimer's disease risk: a randomized controlled trial in middle-aged adults. American Journal of Clinical Nutrition*, (2025) https://doi.org/10.1016/j.ajcnut.2025.05.011.

3. Shaw PA, **Yang JB**, Mowery DL, Schriver ER, Mahoney KB, Bar KJ, Ellenberg SS. *Determinants of COVID-19 Hospital Outcomes in the University of Pennsylvania Health System*. *PlosOne,* (2022). https://doi.org/10.1371/journal.pone.0268528.

4. Bar K, Shaw P, Choi G, Aqui N, Fesnak A, **Yang JB**, Soto-Calderon H, Grajales L, Starr J, Andronov M, Mastellone M, Amonu C, Feret G, DeMarshall M, Buchanan M, Caturla M, Gordon J, Wanicur A, Monroy MA, Mampe F, Lindemuth E, Gouma S, Mullin A, Barilla H, Pronina A, Irwin L, Thomas R, Eichinger R, Demuth F, Prak E, Pascual JL, Short W, Elovitz M, Baron J, Meyer N, Degnan K, Frank I, Hensley S, Siegel DL, Tebas P. *A randomized, controlled, phase 1 study of convalescent plasma for individuals hospitalized with COVID-19 pneumonia. Journal of Clinical Investigation,* (2021). https://doi.org/10.1172/JCI155114

Submitted Manuscripts/Preprints

1. **Yang JB**, Shepherd BE, Lumley T, Shaw PA. *Optimal two-phase survey designs for generalized raking with multiple parameters of interest*, (2025) https://doi.org/10.48550/arXiv.2507.16945.

2. **Yang JB**, Lumley T, Shepherd BE, Shaw PA. *Improving optimal subsampling through stratification*, (2025) https://doi.org/10.48550/arXiv.2512.20837

PRESENTATIONS

2024 *Optimal Designs for Two-phase, Multi-wave Sampling with Multiple Parameters of Interest.* STRATOS Meeting - Leiden, NL.

2021 *Design and Implementation of Multi-wave Sampling Surveys in R.* ASA Joint Statistical Meetings - (Virtual).

2021 *Efficient multi-wave sampling with the R package 'optimall'.* UseR! Conference - (Virtual).

2021 *A Comparative Transcriptomic Analysis of Cell Migration in C. elegans.* International C. elegans conference - (Virtual).

2021 *Determinants of COVID-19 Outcomes in the University of Pennsylvania Health System.* University of Pennsylvania Department of Biostatistics, Epidemiology, and Informatics Research Day - Philadelphia, PA (Virtual).

2019 *EMS in the Americas: A Comparative Study of Pre-Hospital Emergency Care in the Costa Rica, Cuba, and the United States.* Grinnell College Undergraduate Research Symposium - Grinnell, IA.

SOFTWARE

optimall An R package for efficient design and analysis of two-phase, multiwave surveys. [CRAN], [Github]

HONORS AND FELLOWSHIPS

2022 **NSF Graduate Research Fellowship**

2021 **CoSIDA Academic All-America Player of the Year, Division III Men's Soccer** [Wiki], [Interview]

2021 **United Soccer Coaches Scholar All-American**

2021 **Honor G Scholar Award.** Awarded by Grinnell College for student-athlete with highest cumulative GPA.

2021 **Morgan Taylor '26 Award.** Awarded by Grinnell College for most outstanding athlete in a team sport.

2019, 2020, 2021 **CoSIDA Academic All-American, Men's Soccer (3x)**

2019 **NHLBI Summer Institute in Biostatistics Scholarship**

2017 **Grinnell College Dean's Scholarship**

OTHER RELEVANT EXPERIENCE

Emergency Medical Technician Bolton, MA

Oct 2015 - June 2017

- State certified EMT-basic in Massachusetts.

TEACHING

2021 **Teaching Assistant,** STAT 310: Statistical Modeling *(Professor: Shonda Kuiper)* Grinnell College

2025 **Teaching Assistant,** BIOST 522: Statistical Inference for Biometry I University of Washington
(Professor: Andrea Rotnizky)

COMPUTING SKILLS

R, Quarto, Python, Git, Latex