# Jacob Sussman

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## EDUCATION

**The University of Utah**, Salt Lake City, UT 2021 - 2025
Honors B.S. Physics
B.S. Applied Mathematics
Honors Integrated Minor in Health (Including study abroad courses in Kpong, Ghana)
*Honors thesis: "Spatio-temporal Models of Valley Fever Incidence Using INLA and Stochastic PDE'S"*
GPA: 3.97

## RESEARCH EXPERIENCE

**The University of Utah, Division of Epidemiology** May 2023 - Present
*Undergraduate Research Assistant*
Worked in the Walter Lab carrying out applied epidemiology research, focused on TB transmission as it relates to environmental factors in high incidence settings. Tasks have involved cleaning data, analyzing data, performing spatial analysis, generating maps/figures, and communicating work through writing and presentation. This work has involved collaboration with members of Paraguay's National Program for Tuberculosis Control. I have presented this project as a poster at local and national infectious disease and TB conferences. I am the co-first author on a manuscript currently submitted to the Lancet Regional Health. Currently working on spatial models of Valley fever incidence in the Western U.S. using Bayesian hierarchical models implemented with integrated nested Laplace approximation. This work has been funded by the UROP program through the University of Utah Office of Undergraduate Research, and May 2024 I was named a Wilkes Scholar and awarded funding through the Wilkes Center for Climate Science & Policy at the University of Utah.

**University of Colorado Anschutz, Department of Biostatistics** June - August 2024
*Colorado Summer Institute in Biostatistics Student*
As part of the NIH-funded Summer Institute in Biostatistics, worked with Dr. Brandie Wagner at the University of Colorado Anschutz to create a partial latent class model built on an enriched set of clinical markers from pediatric pneumonia datasets as a computational approach to determine the etiology of an individual's pneumonia infection. Used the R package BAKER to build a predictive model using diagnostic test sensitivity and specificity priors from clinical data. (https://github.com/kbcoulter/PPEARL)

**The University of Utah, Department of Physics** January - May 2022
*Science Research Initiative Scholar*
Worked in the Boehme lab on a semester-long project learning to fabricate and characterize OLED devices in order to study spin electronics in varying conditions.

**WORK EXPERIENCE**

**The University of Utah Honors College** 2022 - Present

*Peer Mentor*

Co-led a weekly discussion group for first-year students in the honors college, focused on promoting intellectual engagement with liberal arts philosophies, problem solving, and the transition to college.

**The University of Utah Honors College** January - May 2023

*Teaching Assistant (Honors 2951 - Global Health)*

TA responsibilities included assisting in organizing pre-class materials and grading, supporting students in completing class projects, and building community within the course and Honors Integrated Minor cohort.

**AWARDS/HONORS**

Student Research Lightning Talk Competition, 1st place, Wilkes Climate Summit (2025)
Wilkes Scholar, University of Utah Wilkes Center (Summer, Fall 2024; Mentor: Dr. Katharine Walter)
The University of Utah School of Medicine Global Health Case Competition, 1st place (February 2024)
UROP Scholar, University of Utah Office of Undergraduate Research (Fall 2023, Spring 2024; Mentor: Dr. Katharine Walter)
University of Utah College of Science Dean's List (2021 - 2025)
University of Utah Presidential Merit Scholarship (2021 - 2025)

**PRESENTATIONS**

Wilkes Climate Summit, The Wilkes Center for Climate Science & Policy, Salt Lake City, UT, May 2024. “Modeling Valley Fever Endemicity with INLA and Mammal Distributions” (poster, “lighting” talk)

Bay Area Tuberculosis Science Symposium, UCSF Mission Bay, San Francisco, CA, September 2024. “Tuberculosis in Paraguay is Concentrated in Vulnerable Populations” (poster)

CoSIBS Project Symposium, CU Anschutz, Denver, CO, August 2024. “PPEARL - Pediatric Pneumonia Etiology Analysis applying an R Latent model” (poster)

Immunology, Inflammation, and Infectious Disease (3i) Symposium, The University of Utah, Salt Lake City, UT, April 2024. “The Spatial Concentration of Tuberculosis in Paraguay's Marginalized Populations” (poster)

Undergraduate Research Symposium, The University of Utah, Salt Lake City, UT, April 2024.
“The Spatial Concentration of Tuberculosis in Paraguay's Marginalized Populations” (poster)

**PAPERS**

Medina, A; **Sussman, J**; Sosa, N; Valdez, M; Andrews, JR; Croda, J; Sanabria, GE; Sequera, G; Aguirre, S; Walter, KS. “The concentration of tuberculosis within Paraguay’s incarcerated and Indigenous populations, 2018-2022” (Preprint medRxiv, accepted to the Lancet Regional Health - Americas)

**SERVICE EXPERIENCE**

**The University of Utah Bennion Center** March 2024

*Alternative Break Participant*

Participated in “Mass Incarceration and Abolition” week-long service break in Oakland, CA. Volunteered with Legal Services for Prisoners with Children, Flying Over Walls, Root and Rebound, and the San Francisco Public Library.