

Juliana C. Taube

she/her/hers | ✉ jt1352@georgetown.edu | ✉ taubejc@gmail.com | 🏠 jtaube.github.io

Education

Georgetown University

PHD IN BIOLOGY

Advisor: Shweta Bansal, PhD

Washington, DC

2023 - present

Bowdoin College

A.B. *summa cum laude* WITH HONORS IN MATHEMATICS, MINOR IN BIOLOGY

Undergraduate thesis: Modeling coupled disease-behavior dynamics of SARS-CoV-2 using influence networks

Advisors: Mary Lou Zeeman, PhD (Mathematics) and Mohammad Irfan, PhD (Computer Science, Digital & Computational Studies)

Brunswick, ME

2017 - 2021

Research Experience

Georgetown University

GRADUATE STUDENT RESEARCHER, ADVISOR: SHWETA BANSAL, PhD

- Described spatiotemporal trends in self-reported non-household contacts
- Characterized gender & race/ethnicity composition & citation practices in the field of infectious disease dynamics
- Disentangling aerosol and droplet respiratory disease transmission routes
- Quantifying the social and disease effects of hygienic behaviors across species & scales

Washington, DC

2023 - present

RESEARCH ASSOCIATE

- Analyzed spatiotemporal trends in self-reported mask-wearing behavior during the U.S. COVID-19 pandemic
- Mapped the immune landscape of orthopoxviruses at a fine spatial resolution using demographic and vaccination data

2021 - 2023

Bowdoin College

STUDENT RESEARCHER, ADVISORS: MARY LOU ZEEMAN, PhD; MOHAMMAD IRFAN, PhD

- Continued thesis work on coupled disease-behavior model by varying scales of risk perception & contact network structure

Remote

2021 - 2023

Centers for Disease Control and Prevention, Division of Global Migration & Quarantine, Office of Innovation, Development, Evaluation, and Analytics

INTERN, ADVISORS: ARDATH GRILLS, PhD; SARAH BOWDEN, PhD; MICHAEL JOHANSSON, PhD

- Organized county census & meat-packing plant data for boosted regression tree model to predict & characterize COVID-19 hotspots
- Collected data on COVID-19 superspreader events at large gatherings to estimate dispersion parameter
- Contributed to model implementation and assessment of interventions to mitigate COVID-19 spread on cruise ships

Remote

Summer 2020

University of Georgia, Odum School of Ecology

STUDENT RESEARCHER, ADVISORS: JOHN M. DRAKE, PhD; PAIGE B. MILLER, PhD (REMOTE)

- Expanded transmission trees database to include COVID-19, extended analysis, and released data online

Athens, GA

Fall 2020

STUDENT RESEARCHER (REU)

- Compiled and standardized infectious disease transmission trees from the literature into an R database
- Analyzed predictors of outbreak size & characterized the role of superspreading across outbreaks

Summer 2019

Dartmouth Hitchcock Medical Center

INTERN, ADVISOR: PETER F. WRIGHT, MD




- Compiled and summarized literature on smallpox and polio eradication efforts, highlighting similarities and differences
- Organized data on bronchiolitis and RSV hospitalizations in New England









Lebanon, NH

Summer 2017

Publications



4. **Taube JC**, Susswein Z, Bansal S (2023) Spatiotemporal trends in self-reported mask-wearing behavior in the United States: Analysis of a large cross-sectional survey. *JMIR Public Health and Surveillance* 9: e42128.

doi: 10.2196/42128   

3. **Taube JC***, Rest EC*, Lloyd-Smith JO, Bansal S (2022) The global landscape of smallpox vaccination history and implications for current and future orthopoxvirus susceptibility: a modelling study. *The Lancet Infectious Diseases*. 23(4): 454-462. doi: 10.1016/S1473-3099(22)00664-8.   
2. **Taube JC**, Miller PB, Drake JM (2022) An open-access database of infectious disease transmission trees to explore superspreader epidemiology. *PLoS Biology* 20(6): e3001685. doi: 10.1371/journal.pbio.3001685.   
1. Wright PF, Hoen AG, Jarvis JD, Zens MS, Dade EF, Karagas MR, **Taube JC**, Brickley EB (2022) Bronchiolitis hospitalizations in northern New England: Clues to disease prevention. *Therapeutic Advances in Infectious Disease* 9: 1-11. doi: 10.1177/20499361221099447  

* Authors contributed equally

Preprints & In Prep

3. **Taube JC**, Susswein Z, Colizza V, Bansal S (2024) Respiratory disease contact patterns in the US are stable but heterogeneous. *In review*. doi:10.1101/2024.04.26.24306450 
2. **Taube JC***, Merritt A*, Bansal S. The extent and drivers of gender and race/ethnicity imbalance in infectious disease dynamics research. *In review*. doi: 10.1101/2024.12.19.629420 
1. Zipfel CM*, **Taube JC***, Bansal S. Characterizing the impacts of disease on behavior: policy vs. perception. *In prep*.

Presentations

The global landscape of smallpox vaccination history and implications for current and future orthopoxvirus susceptibility

Poster at World Vaccine Congress

2025

Rapid Talk at MIDAS Meeting 2024 

2024

The extent of gender & race/ethnicity imbalance in infectious disease dynamics research

Invited VERENA Lighthouse Lightning Talk (virtual)

2024

Contact patterns in the US vary over space but not time


Poster at MIDAS Meeting 2023 

2023

Poster at EEID 2023

2023

Characterizing spatiotemporal trends in self-reported mask-wearing behavior in the U.S.

Talk at MIDAS Meeting 2022 

2022

Talk at Delphi's COVID-19 Trends and Impacts Survey Monthly Collaboration Meeting (virtual)

2022

Modeling coupled disease-behavior dynamics of SARS-CoV-2 using influence networks

Invited talk for Prof. Mohammad Irfan's Research Group at Bowdoin College (virtual)

2021

An open-access database of infectious disease transmission trees to explore superspreader epidemiology

Rapid Fire Talk at MIDAS Meeting 2021 (virtual) 

2021

Poster at Epidemics 7 

2019

Awards & Honors

2024	\$2,785	SISMID Halloran Scholarship and travel funding
2023	\$111,000	NSF Graduate Research Fellow
2021	\$1,920	Student Faculty Research Grant Fellowship for summer research funding
2020		Phi Beta Kappa
2020	\$5,000	Bowdoin Funded Internship Grant for internship with CDC
2019	\$2,000	REU Travel Grant for Epidemics 7 from Rocky Mountain Biological Laboratory
2019		Bowdoin College Goldwater Scholarship Nominee
2017	\$3,000	Bowdoin Faculty Scholar for excellence in high school courses
2017	\$4,000	Bowdoin National Merit Scholarship

Teaching Experience

Georgetown University

Washington, DC

BIOLOGY TEACHING FELLOW

Fall 2022, 2023, 2024

- Modeling Populations and Diseases (BIOL 422/4615, GLID 522/5522): responsible for leading the weekly computational lab; grading labs, homeworks, & papers; holding office hours; & creating/updating keys for all assignments

Bowdoin College

Brunswick, ME

MATHEMATICS TEACHING ASSISTANT

Spring 2021

- Partial Differential Equations (MATH 3209): created videos to explain homework solutions or review confusing concepts

DIGITAL AND COMPUTATIONAL STUDIES TEACHING ASSISTANT

Spring 2021

- Contagion (DCS 3350): held office hours; compiled flight, mobility, population, and contact tracing data for student projects

COMPUTER SCIENCE TEACHING ASSISTANT

2019 - 2020

- Introduction to Computer Science (CSCI 1101, 4 semesters): held weekly office hours for multiple sections
- Social and Economic Networks (CSCI/DCS 2350, Fall 2020): held weekly office hours

Service

Georgetown Biology Student-Faculty Liasion

Washington, DC

- Take notes at department faculty meetings and relay important information to Biology graduate students

2024 - present

MIDAS Trainee Committee

virtual

- Co-lead starting 2024; plan and facilitate student events for the MIDAS Network, including lightning talks, research colloquia, and panels on PhD applications & work/life balance

2023 - present

Bowdoin Curriculum Implementation Committee

Brunswick, ME

- Alternate member; attended committee meetings to provide student perspective on course proposals, including how they fit into the Bowdoin curriculum, and whether they satisfied distribution requirements

2020 - 2021

Training

Apprenticeship in Teaching Program

Washington, DC

GEORGETOWN UNIVERSITY

2023 - present

Attend pedagogy workshops to develop teaching skills, including syllabus & course design, & teaching with AI

Summer Institute in Statistics and Modeling in Infectious Diseases (SISMID)

Atlanta, GA

EMORY UNIVERSITY

Summer 2024

Attended MCMC I, MCMC II, and Simulation-based Inference for Epidemiological Dynamics modules

Studying Identity, Diversity, and Equity in Science

Washington, DC

GEORGETOWN UNIVERSITY

Summer 2023

Discuss identity in science from a variety of disciplines to identify how research can contribute to a more equitable society

Teaching, Learning & Innovation Summer Institute

GEORGETOWN UNIVERSITY

Workshops on universal design, assessments in STEM courses, use of office hours, and science communication

Washington, DC

Spring 2022

Exploring Racial Justice: An Intragroup Dialogue for White Identified Students

BOWDOIN COLLEGE

Six-week workshop exploring social justice issues and white privilege without burdening students of marginalized identities

Virtual

Spring 2021

Summer Institute in Biostatistics

UNIVERSITY OF MINNESOTA

Coursework in biostatistics, epidemiology, and statistical computing using R and SAS

Minneapolis, MN

Summer 2018

Skills

Programming R, Python

Software LaTeX, Git, MacOS, Microsoft Office