Juliana C. Taube

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Education

Georgetown University *Washington, DC*
PhD in Biology *2023 - present*
Advisor: Shweta Bansal, PhD

Bowdoin College *Brunswick, ME*
A.B. *summa cum laude* with Honors in Mathematics, minor in Biology *2017 - 2021*
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)

Research Experience

Georgetown University *Washington, DC*
Graduate Student Researcher, Advisor: Shweta Bansal, PhD *2023 - present*
- 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

Research Associate *2021 - 2023*
- 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

Bowdoin College *Remote*
Student Researcher, Advisors: Mary Lou Zeeman, PhD; Mohammad Irfan, PhD *2021*
- Continued thesis work on coupled disease-behavior model by varying scales of risk perception & contact network structure

Centers for Disease Control and Prevention, Division of Global Migration & Quarantine, Office of Innovation, Development, Evaluation, and Analytics *Remote*
Intern, Advisors: Ardath Grills, PhD; Sarah Bowden, PhD; Michael Johansson, PhD *Summer 2020*
- 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

University of Georgia, Odum School of Ecology *Athens, GA*
Student Researcher, Advisors: John M. Drake, PhD; Paige B. Miller, PhD (Remote) *Fall 2020*
- Expanded transmission trees database to include COVID-19, extended analysis, and released data online

Student Researcher (REU) *Summer 2019*
- 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

Dartmouth Hitchcock Medical Center *Lebanon, NH*
Intern, Advisor: Peter F. Wright, MD *Summer 2017*
- Compiled and summarized literature on smallpox and polio eradication efforts, highlighting similarities and differences
- Organized data on bronchiolitis and RSV hospitalizations in New England

Publications

6. **Taube JC**, Susswein Z, Colizza V, Bansal S. (2025). Characterising non-household contact patterns relevant to respiratory transmission in the USA: analysis of a cross-sectional survey. *The Lancet Digital Health, 7*(8), 100888. doi:10.1016/j.landig.2025.100888 🔗 📄

5. **Taube JC***, Merritt A*, Bansal S. (2025). The extent and drivers of gender and race/ethnicity imbalance in infectious disease dynamics research. *Proceedings of the Royal Society B, 292*(2050), 20250960 doi: 10.1098/rspb.2025.0960 🔗📄○

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

2. Simin PT, **Taube JC**, Vergu E, Bansal S, Opatowski L, Poletto C. Contact structure and population immunity shape the selective advantage of emerging variants. *medRxiv*. doi: 10.1101/2025.11.07.25339691. 🔗

1. Zipfel CM*, **Taube JC***, Bansal S. Characterizing the impacts of disease on behavior: policy, perception, and potential for infection. *In prep*.

Presentations

Characterizing contact patterns and the drivers of pandemic behavior change in the US
Talk for the EPIcx Lab at INSERM   *2025*

All contacts are not equal: Spatiotemporal constraints shape network structure
Poster at Epidemics 10   *2025*

Characterizing the impacts of disease on behavior: policy, perception, and potential for infection
Talk at MIDAS Meeting 2025   *2025*

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

Total	$130,055	
2025	$350	**Georgetown Conference Travel Grant** to attend Epidemics 10
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** from Rocky Mountain Biological Laboratory to attend Epidemics 7
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

MIDAS Trainee Executive Committee   *Virtual*
Member in 2023, co-lead in 2024 & 2025; planned & facilitated trainee events for the MIDAS Network, *2023 - 2025*
including skill workshops, career panels, research talks, & networking sessions at the annual conference

Georgetown Biology Student-Faculty Liaison   *Washington, DC*
Took notes at department faculty meetings and relayed important information to Biology graduate students *2024 - 2025*

Bowdoin Curriculum Implementation Committee   *Brunswick, ME*
Alternate member; attended committee meetings to provide student perspective on course proposals *2020 - 2021*

Training

Apprenticeship in Teaching Program   *Washington, DC*
Georgetown University   *2023 - 2025*
Attended 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 *Washington, DC*
GEORGETOWN UNIVERSITY *Spring 2022*
Workshops on universal design, assessments in STEM courses, use of office hours, and science communication

Exploring Racial Justice: An Intragroup Dialogue for White Identified Students *Virtual*
BOWDOIN COLLEGE *Spring 2021*
Six-week workshop exploring social justice issues and white privilege without burdening students of marginalized identities

Summer Institute in Biostatistics *Minneapolis, MN*
UNIVERSITY OF MINNESOTA *Summer 2018*
Coursework in biostatistics, epidemiology, and statistical computing using R and SAS

Skills

Programming R, Python, Stan, SQL
Software LaTeX, Git, MacOS, Microsoft Office