

Juliana C. Taube

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Education

Bowdoin College

B.A. MATHEMATICS MAJOR, BIOLOGY MINOR, GPA: 4.00/4.00

Brunswick, ME

Anticipated May 2021

Course highlights: Statistics, Bayesian Statistics, ODEs, PDEs, Evolution, Ecology, Microbiology, Genetics*, Science Communication*, Data Structures, Social & Economic Networks, Contagion (*Spring 2021)

Summer Institute in Biostatistics

UNIVERSITY OF MINNESOTA

Minneapolis, MN

June - July 2018

Coursework: 6 weeks of classes in biostatistics, epidemiology, and statistical computing using R and SAS

Final project: Outlined clinical trial protocol of canakinumab in HIV+ patients

Skills

Programming R, Python, Java, Mathematica

Software LaTeX, Git, MacOS, Microsoft Office

Research Experience

Division of Global Migration & Quarantine, CDC

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

Remote

May - Aug. 2020

- Assisted with three different projects on the spread of COVID-19
- Gathered, cleaned, and wrangled census and meat-packing location data for COVID-19 hotspot model
- Used boosted regression tree machine learning model to predict and characterize COVID-19 county hotspots
- Collected data (attendance, venue size, event duration) for large gatherings considered COVID-19 superspreader events
- Looked for correlations between event aspects and disease transmission, in effort to estimate dispersion parameter
- Contributed to model implementation and assessment of interventions to mitigate COVID-19 spread on cruise ships

Odum School of Ecology, University of Georgia

STUDENT RESEARCHER (REU), ADVISOR: JOHN M. DRAKE, PHD

Athens, GA

May - July 2019

- Compiled and standardized infectious disease transmission trees from the literature into an R database
- Analyzed predictors of outbreak size & quantified the contribution of superspreading to onward transmission
- Tested theory relating frequency of superspreading events and the dispersion parameter

STUDENT RESEARCHER, ADVISOR: JOHN M. DRAKE, PHD

June - Dec. 2020

- Expanded database to include COVID-19 transmission trees and released data online at outbreaktrees.ecology.uga.edu 🔗
- Further explored frequency, timing, and generation of superspreaders for COVID-19 relative to other diseases using database
- Findings and results were submitted for publication in PLoS Biology

Dartmouth Hitchcock Medical Center

INTERN, ADVISOR: PETER F. WRIGHT, MD

Lebanon, NH

June - Aug. 2017

- Assisted with development of Gates Foundation funding proposal: Applying the Lessons Learned from Polio Eradication
- Compiled and summarized literature on smallpox and polio eradication efforts, highlighting similarities and differences
- Revised manuscript on bronchiolitis and RSV hospitalizations in New England (Aug. 2018)

Teaching Experience

Dept. of Computer Science, Bowdoin College

TEACHING ASSISTANT

Brunswick, ME

Jan. 2019 - present

- Lead weekly two-hour study groups to assist students with their assignments, including asking probing questions, finding the bugs in their code, and explaining concepts from class
 - Introduction to Computer Science (CSCI 1101): Jan. 2019 – Dec. 2020
 - Social and Economic Networks (CSCI/DCS 2350): Sept. – Dec. 2020
 - Contagion (DCS 3350): Jan. – May 2021

Volunteering Experience

Parkview Medical Center

VOLUNTEER

Brunswick, ME

Sept. - Dec. 2018

- Guided patients to the waiting room and procedure area
- Interacted with and comforted patients in the Pain Procedure Suite
- Organized billing materials, stocked medical supplies, and disinfected procedure furniture

Leadership & Co-curriculars

Women's Varsity Ice Hockey

PLAYER

Brunswick, ME

Aug. 2017 - present

- Dedicate ~20 hours/week to practices and games, while balancing full academic course load
- 2019-20 Community Service Representative, organized team community service activities
- 2020-21 Bowdoin Student-Athlete Advisory Committee Representative, advocate for team needs and work with administration to implement NCAA and NESCAC initiatives

Bowdoin Bridge Club

CLUB LEADER

Brunswick, ME

April 2018 - Nov. 2019

- Founded and chartered club, attended club leader trainings, advocated for club funding
- Recruited community members to coach and students to play on a weekly basis
- Prepared card hands and bidding schemes for student development

Posters

Epidemics 7

Charleston, SC

WHO INFECTED WHOM? CREATING A DATABASE OF TRANSMISSION TREES FOR COMPARATIVE OUTBREAK ANALYSIS

Dec. 2019

- Poster additionally presented at University of Georgia's Final Summer REU Poster Session (July 2019) and Bowdoin College's President's Summer Research Symposium (October 2019)

Publications

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

TAUBE JC, MILLER PB, DRAKE JM. *In Review at PLoS Biology*

<https://www.medrxiv.org/content/10.1101/2021.01.11.21249622v1> 

Bronchiolitis hospitalizations in rural New England, 2010 to 2017: A retrospective chart review.

WRIGHT PF, HOEN AG, JARVIS JD, BAI P, TAUBE JC, BRICKLEY EB. *Manuscript in preparation*

Awards & Fellowships

- 2020 **Almon Goodwin Prize**, given to exemplary members of Phi Beta Kappa
- 2020 **Phi Beta Kappa**
- 2018-20 **Sarah and James Bowdoin Scholar & Book Award Winner** (3x), Book Award is for students with 4.0 GPA
- 2019-20 **James Bowdoin Cup** (2x), given to the varsity athlete(s) with the highest GPA
- 2020 **Bowdoin Funded Internship Grant** \$5000
- 2019 **REU Travel Grant for Epidemics 7** \$2000, from Rocky Mountain Biological Laboratory
- 2019 **Bowdoin College Goldwater Scholarship Nominee**
- 2018 **First Year Chemistry Award**, recognizes outstanding promise and achievement in chemistry
- 2017 **Bowdoin Faculty Scholar** \$3000, recognizes students who achieved excellence in their high school coursework
- 2017 **Bowdoin National Merit Scholarship**