Ronan C. Corgel

Infectious Disease Epidemiologist

Washington, DC | rcc92@georgetown.edu | rcorgel.com | rcorgel | rcorgel

Summary

I'm currently a third-year PhD student in Georgetown University's Global Infectious Disease program where I'm advised by Dr. Shweta Bansal and a member of the Bansal Lab. My research interests broadly include the mathematical modeling of infectious disease dynamics, public health surveillance, and the impact of human behavior on disease transmission.

Education

Georgetown University — Washington, DC

Doctor of Philosophy (PhD) in Global Infectious Disease — Aug. 2023 - Exp. May 2028

- **Advisor:** Dr. Shweta Bansal
- **Dissertation Title:** *In Progress*

Summer Institute in Statistics and Modeling in Infectious Diseases — Atlanta, GA

Summer Institute Student — Jul. 2024

- **Coursework:** MCMC for Infectious Diseases Modeling I, MCMC for Infectious Diseases Modeling II, Simulation-Based Inference for Epidemiological Dynamics

Johns Hopkins Bloomberg School of Public Health — Baltimore, MD

Master of Science (ScM) in Epidemiology — Aug. 2021 - May 2023

- **Advisor:** Dr. Amy Wesolowski
- **Thesis Title:** *"Characterizing the Impact of Integrating Spatially Aggregated Human Mobility Data into Infectious Disease Models"*

Johns Hopkins University — Baltimore, MD

Bachelor of Arts (BA) in Public Health Studies & Economics — Aug. 2014 - May 2018

- Senior focus in Biostatistics at the Johns Hopkins Bloomberg School of Public Health
- **Activities:** Four-year member of the Johns Hopkins Men's Varsity Swimming Team, JHU Consulting Club

Professional Experience

Centers for Disease Control and Prevention — Baltimore, MD

ORISE Fellow — Jul. 2023 - Aug. 2023

- Joined the CDC as a summer ORISE Fellow at the newly created Center for Forecasting and Outbreak Analytics (CFA)
- Primarily worked on projects involving public health surveillance of COVID-19 and influenza hospitalizations

U.S. News & World Report — Washington, DC

Health Data Analyst — Sept. 2019 - Jul. 2021

- Utilized data science and statistical techniques to evaluate the quality of care provided by hospitals and nursing homes across the United States
- Derived patient care outcomes, created public-facing dashboards, and co-authored data journalism articles

Charles River Associates — Washington, DC

Antitrust & Competition Economics Analyst — Jul. 2018 - Sept. 2019

- Performed data analyses for companies and law firms regarding mergers, acquisitions, and antitrust litigation disputes
- Main cases focused on anti-competitive drug pricing and monopolization of health care data

Research Experience

Georgetown University — Washington, DC

Graduate Researcher — Aug. 2023 - Present

- Conducting research on how social behavior and spatial dynamics shape infectious disease transmission under the guidance of Dr. Shweta Bansal
- Working on projects involving the syndromic surveillance of respiratory viruses, resident-visitor mixing patterns that facilitate disease spread, and forecasting surges in disease activity

Johns Hopkins Bloomberg School of Public Health — Baltimore, MD

Graduate Researcher — Oct. 2021 - May 2023

- Worked with Dr. Amy Wesolowski in the Infectious Disease Dynamics research group to analyze data on human mobility and develop infectious disease models
- Examined asymmetric travel patterns in Sub-Saharan Africa, modeled disease dynamics from measles vaccination in Madagascar, and explored mobility patterns relevant to dengue spread in Sri Lanka

Publications

Preprint

1. **Corgel, R.**, Tiu, A., Bansal, S. (2025). "Demonstrating the utility of respiratory virus syndromic surveillance with high-volume electronic medical claims in the United States" *medRxiv*.
2. **Corgel, R.**, Grantz, K. H., Gardner, L. et al. (2025). "Characterizing the impact of incorporating spatially aggregated human mobility data into infectious disease models." *medRxiv*.

In Press

1. Kostandova, N., **Corgel, R.**, Bansal, S. et al. (2025). "Improving mobility data for infectious disease research." *Nature Human Behavior*. https://doi.org/10.1038/s41562-025-02151-3

Presentations

2025 **Demonstrating the utility of influenza syndromic surveillance with high-volume medical claims.**
Epidemics 10: International Conference on Infectious Disease Dynamics, *San Diego, California*, Poster.

Characterizing resident-visitor mixing for spatial disease transmission dynamics.
Models of Infectious Disease Agent Study (MIDAS) Network Annual Meeting, *Bethesda, MD*, Scientific Presentation.

2024 **Syndromic surveillance of influenza using medical claims data.**
Models of Infectious Disease Agent Study (MIDAS) Network Annual Meeting, *Silver Spring, MD*, Speed Talk & Poster.

Characterizing the impact of incorporating spatially aggregated human mobility data into infectious disease models.
Summer Institute in Statistics and Modeling in Infectious Diseases (SISMID), *Atlanta, GA*, Poster.

Teaching

Summer Institute in Statistics and Modeling in Infectious Diseases — Virtual

Teaching Assistant — Jul. 2025

- Assisted in the online module Spatial and Metapopulation Modeling, co-taught by Dr. Shweta Bansal and Dr. Vittoria Colizza
- Developed laboratory assignments, led laboratory sessions, and provided general course support

Johns Hopkins Bloomberg School of Public Health **Baltimore, MD**

Teaching Assistant Jan. 2023 - Mar. 2023

- Served as a teaching assistant for Concepts and Methods in Infectious Disease Epidemiology, a core infectious disease epidemiology class for master's and Ph.D. students, taught by Dr. David Dowdy
- Provided classroom support, held weekly office hours, and graded student homework assignments

Professional Activities

Society Membership

2023-2025 **Member,** Models of Infectious Disease Agent Study (MIDAS) Network *United States*

Mentorship

2024-2025 **Mentor,** Managed and advised the research project of an undergraduate research assistant *Washington, DC*

2022-2023 **Peer Mentor,** Provided advice and guidance to first-year master's students *Balitmore, MD*

Academic Service

2022-2023 **Master's Student Representative,** Johns Hopkins University Department of Epidemiology *Baltimore, MD*

2021-2023 **Member,** Epidemology Student Organization (ESO) *Baltimore, MD*

Honors & Awards

2024 **Halloran Travel Scholarship,** Summer Institute in Statistics and Modeling in Infectious Diseases *Atlanta, GA*

2023 **Service Recognition Award,** Johns Hopkins University Department of Epidemiology *Baltimore, MD*

2018 **General Honors,** Johns Hopkins University *Baltimore, MD*

2016-2018 **Dean's List,** Johns Hopkins University *Baltimore, MD*

2016-2018 **National College Athlete Honor Society,** Chi Alpha Sigma *Baltimore, MD*

Technical Skills

Programming R (Proficient), Stata (Proficient), Python (Intermediate), SQL (Intermediate)

Geospatial Software ArcGIS (Intermediate), QGIS (Beginner)

Other Git, Microsoft Office Suite (Excel, PowerPoint, Word), Tableau