

# Hailey D. Robertson

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## EDUCATION

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### Yale University, School of Public Health

*New Haven, CT*

Ph.D. in Epidemiology of Microbial Diseases

*Aug. 2024 - present*

Research interests: arthropod-borne viruses, emerging infectious diseases, disease ecology, climate change, machine learning (Advisors: Dr. Nathan Grubaugh, Dr. Colin Carlson)

### University of Southern California, Keck School of Medicine

*Los Angeles, CA*

B.S. Global Health, Minor in Human Security & Geospatial Intelligence

*Aug. 2017 - May 2021*

GPA: 3.87, *magna cum laude*

Independent research: Spatial distribution of waterborne infectious disease prevalence along U.S.-Mexico border using hotspot analysis (Advisor: Prof. Ed Avol)

## PROFESSIONAL EXPERIENCE

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### Yale University

*New Haven, CT*

Doctoral Student, PIs: Drs. Nathan Grubaugh & Colin Carlson

*Aug. 2024 - present*

- Develop and apply statistical and machine learning models to investigate the transmission dynamics of vector-borne and zoonotic diseases under scenarios of global change, supporting scenario-based adaptive capacity and global health preparedness efforts
- Contribute to peer-reviewed publications, present findings at interdisciplinary conferences spanning computer science, ecology, and global health, and communicate scientific findings with the public

### Georgetown University

*Washington, D.C. (Remote)*

Researcher & Data Engineer, PIs: Drs. Ellie Graeden & Rebecca Katz

*Aug. 2022 - Aug. 2024*

- Managed end-to-end data analysis projects in global public health and disease ecology, including project scoping, data acquisition and cleaning, statistical and machine-learning analysis (numpy, pandas, scikit-learn), data visualization (matplotlib), and communication of findings to stakeholders
- Supervised four undergraduate and three graduate students across three different projects

### Talus Analytics

*Boulder, CO (Remote)*

Research Associate, PI: Dr. Ellie Graeden

*June 2021 - Aug. 2022*

- Maintained backend data architecture and debugged application code for 8 websites within the International Disease and Events Analysis platform using SQL, PostgreSQL, and Python
- Performed analysis to write policy briefs and press conference talking points for decision-makers, including about COVID-19 variants, non-pharmaceutical interventions, and vaccine distribution

### Data Analytics & Research Intern

*May 2020 - June 2021*

- Validated thresholds for hospital capacity by performing sensitivity analysis with Python (pandas), using results to improve early warning detection for hospital surges and critical supply chain alerts
- Built mathematical models accounting for the effects of testing, non-pharmaceutical interventions, and vaccination on the transmission of COVID-19 to inform decision-making for state leadership

### USC Security & Political Economy Lab

*Los Angeles, CA*

Lead Research Assistant, PI: Drs. Megan Becker & Jonathan Markowitz

*Aug. 2019 - May 2021*

- Developed case studies to evaluate the causal mechanisms that link natural resources and conflict
- Supervised 6 peer researchers, cleaned data using R, and edited manuscripts for publication

## William & Mary Global Research Institute

Research Fellow - International Justice Lab, PI: Dr. Kelebogile Zvobgo

Williamsburg, VA

Jan. 2018 - Present

- Drafted manuscript using case studies from our [dataset](#), the first of its kind on the political impact of truth commissions, to inductively generate theory about transitional justice in democracies
- Managed 8 researchers and reviewed their coding to ensure inter-coder reliability

## USC Global Health & Human Rights Institute

Research Assistant, Advisor: Dr. Laura Ferguson

Los Angeles, CA

Jan. 2018 - May 2019

- Drafted a report describing the human rights-related barriers to HIV, TB, and malaria services in Kenya which was used for the Global Fund's [baseline assessment](#) of healthcare needs

## Project Consent

Managing Director

Topeka, KS (Remote)

Jan. 2016 - May 2019

- Oversaw public awareness campaigns, including “Consent is Simple” which received a Webby Award for “Best Video Campaign” in 2017 and amassed over 15,000,000 combined viewers on social media
- Trained 6 new interns in sexual assault advocacy, social media campaign strategy, and team policy
- Managed collaboration requests for fundraisers and campaigns from diverse outside sponsors such as It's On Us (Obama White House), HBO's The Tale, and Break the Cycle

## PUBLICATIONS

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### Journal articles

1. John Drake, Justin Bahl, Michael Cacciatore, Amin Ghadami, Ellie Graeden, Barbara Han, Glen Nowak, Éric Marty, **Hailey Robertson**, Pejman Rohani, Sukanta Sarkar, Guppy Stott, Amy Winter, and Bogdan Epureanu. Leveraging systems-of-systems analysis to strengthen epidemic intelligence for preparedness and response. *Health Security*. DOI: [10.1177/23265094251396048](https://doi.org/10.1177/23265094251396048)
2. Collin J. Schwantes, Cecilia A. Sánchez, Tess Stevens, Ryan Zimmerman, Greg Albery, Daniel J. Becker, Cole B. Brookson, Rebekah C. Kading, Carl N. Keiser, Shashank Khandelwal, Stephanie Kramer-Schadt, Raphael Krut-Landau, Clifton McKee, Diego Montecino-Latorre, Zoe O'Donoghue, Sarah H. Olson, Timothée Poisot, **Hailey Robertson**, Sadie J. Ryan, Stephanie N. Seifert, David Simons, Amanda Vicente-Santos, Chelsea Wood, Ellie Graeden, and Colin J. Carlson. A minimum data standard for wildlife disease surveillance studies. *Scientific Data*. DOI: [10.1038/s41597-025-05332-x](https://doi.org/10.1038/s41597-025-05332-x)
3. **Hailey Robertson**, Barbara A. Han, Adrian A. Castellanos, David Rosado, Guppy Stott, Ryan Zimmerman, John Drake, and Ellie Graeden (2025). Understanding Ecological Systems Using Knowledge Graphs: An Application to Highly Pathogenic Avian Influenza. *Bioinformatics Advances*. DOI: [10.1093/bioadv/vbaf016](https://doi.org/10.1093/bioadv/vbaf016)
4. Gunnar Ljungqvist, Ciara Weets, Tess Stevens, **Hailey Robertson**, Ryan Zimmerman, Ellie Graeden, and Rebecca Katz (2025). Global Patterns in Access and Benefit-Sharing: A Comprehensive Review of National Policies. *BMJ Public Health* DOI: [10.1136/bmjph-2024-001800](https://doi.org/10.1136/bmjph-2024-001800)
5. Ciara Weets, Colin Carlson, **Hailey Robertson**, Kate Toole, Lauren McGivern, Ellie Graeden, and Rebecca Katz (2025). The WHO Disease Outbreak News during the Covid-19 pandemic. *PLOS Global Public Health*. DOI: [10.1371/journal.pgph.0004025](https://doi.org/10.1371/journal.pgph.0004025)
6. Colin Carlson, Cole Brookson, Daniel J. Becker, Caroline Cummings, Rory Gibb, Alexis Heckley, Torre Lavelle, **Hailey Robertson**, Amanda Vicente, Ciara Weets, and Timothee Poisot (2025). Pathogens and planetary changes. *Nature Reviews Biodiversity*. DOI: [10.1038/s44358-024-00005-w](https://doi.org/10.1038/s44358-024-00005-w)
7. Mackenzie Moore, **Hailey Robertson**, David Rosado, Ellie Graeden, Colin Carlson, and Rebecca Katz (2024). Core components of infectious disease outbreak response. *SSM - Health Systems*. DOI: [10.1016/j.ssmhs.2024.100030](https://doi.org/10.1016/j.ssmhs.2024.100030)

8. **Hailey Robertson**, Ellie Graeden, Justin Kerr, Michael Van Maele, and Rebecca Katz (2024). Follow the Money: A Global Analysis of Funding Dynamics for Global Health Security. *Health Affairs Scholar*. DOI: [10.1093/haschl/qxae083](https://doi.org/10.1093/haschl/qxae083)
9. Rebecca Katz, Kate Toole, **Hailey Robertson**, Alaina Case, Justin Kerr, Siobhan Robinson-Marshall, Jordan Schermerhorn, Sarah Orsborn, Michael Van Maele, Ryan Zimmerman, Tess Stevens, COVID AMP Coding Team, Alex Phelan, Colin Carlson, and Ellie Graeden (2023). COVID AMP: An Open Access Database of COVID-19 Response Policies. *Scientific Data*. DOI: [10.1038/s41597-023-02398-3](https://doi.org/10.1038/s41597-023-02398-3)
10. Ellen Carlin, Ellie Graeden, **Hailey Robertson**, and Rebecca Katz (2022). Informing pandemic preparedness through a digital global health security library. *Health Security*. DOI: [10.1089/hs.2021.0141](https://doi.org/10.1089/hs.2021.0141)

### Pre-prints & Works in preparation

1. Michael Catchen, Francis Banville, Amélie C. Boutin, Cole B. Brookson, Colin J. Carlson, Gabriel Dansereau, Rory Gibb, Marianne Houle, Benjamin Kaza, **Hailey Robertson**, David Simons, Setphanie N. Seifert, Timothée Poisot. A protocol for biodiversity-informed wildlife disease surveillance. *Under revision at PLoS Ecosystems*.
2. Nastaran Far, **Hailey Robertson**, Adriana Rudling, and Kelebogile Zvobgo. Confronting Truth: A Theory of Transitional Justice in Established Democracies. *In preparation*

### Technical reports

1. Graeden E, **Robertson H**, and Abramowitz S. **COVID-19 and Behavioral Health in the District of Columbia**. Report prepared for the *Office of the D.C. Auditor*. April 20, 2023.

### Public scholarship

1. **Robertson, H**. “Topeka scientist says NSF funds critical to infectious disease forecasting.” *Topeka Capital-Journal*. 28 Jun. 2025.
2. Dasaraju S, Menon S, Nair-Desai S, and **Robertson H**. “Winning Hearts & Minds: Through a Shot in the Arm.” *USC Center for Public Diplomacy*. 21 Apr. 2021.
3. Far N, **Robertson H**, and Zvobgo K. “The International Criminal Court just elected a new chief prosecutor. Here’s what you need to know.” *The Washington Post [Monkey Cage]*. 17 Feb. 2021.

### PRESENTATIONS AND TALKS

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- 2026 **Robertson H**, Sánchez CA, Lopes R, Grubaugh ND, and Carlson CJ. “Sylvatic maintenance of arboviruses under scenarios of global change.” Yale Early-Career Researcher EEID Symposium. New Haven, Connecticut. 27 February 2026. [*Oral presentation*]
- Robertson H**, Sánchez CA, Lopes R, Grubaugh ND, and Carlson CJ. “Sylvatic maintenance of arboviruses under scenarios of global change.” Vector-Borne and Zoonotic Disease, and Yale against Malaria Research Symposium. New Haven, Connecticut. 6 February 2026. [*Oral presentation*]
- 2025 **Robertson H**, Sánchez CA, Lopes R, Grubaugh ND, and Carlson CJ. “Sylvatic maintenance of arboviruses under scenarios of global change.” Ecological Society of America Annual Meeting. Baltimore, Maryland. 12 August 2025. [*Oral presentation*]
- 2024 **Robertson H**, Graeden E, and Katz R. “Follow the Money: A Global Analysis of Funding Dynamics for Global Health Security.” Global Health Security Conference. Sydney, Australia. 19 June 2024. [*Oral presentation*]

**Robertson H**, Graeden E, Castellanos A, Stott G, Rosado D, Drake J, and Han B. “Understanding Zoonotic Disease Systems Using Knowledge Graphs.” Global Health Security Conference. Sydney, Australia. 20 June 2024. [*Poster*]

**Robertson H**. “Toward a Knowledge Graph to Predict Zoonotic Disease Spillover.” Invited talk, Georgetown Global Public Health Seminar Series. 22 January 2024. [*Virtual seminar*]

2023 **Robertson H**, Graeden E, Castellanos A, Rosado D, Drake J, and Han B. “Knowledge Graphs for Scalable Data Integration: A Case Study of Highly Pathogenic Avian Influenza (HPAI).” Models of Infectious Disease Agent Study (MIDAS) Network Annual Meeting. Atlanta, Georgia. 30 October 2023. DOI: [10.17605/OSF.IO/Y7MPF](https://doi.org/10.17605/OSF.IO/Y7MPF) [*Lightning talk and poster*]

2019 **Robertson H**. “Troubled Waters: A Comparative Spatial Analysis of Water System Vulnerability and Environmental Health in Colonias Along the U.S.-Mexico Border.” University of Southern California Undergraduate Research Symposium. Los Angeles, CA. 18 Dec. 2019. [*Poster*]

## PANELS & WORKSHOPS

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- 2026 “Cross-Scale Questions in the Ecology and Evolution of Emerging Viruses.” Co-Organizer, VERENA Institute at Yale University. 4 March 2026.
- 2022 “Strengthening Health System Resilience and Security: a curated collection of surge capacity tools.” Invited panel, USAID Local Health System Sustainability Project. 29 Sept. 2022. [[Recording](#)]
- 2018 “A Changing Film Industry with Project Consent.” Invited workshop keynote, California State University, Long Beach, Women in Film Association. 29 Nov. 2018.

## OPEN-SOURCE DATA

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1. **Hailey Robertson**, Ellie Graeden, Stephanie Eaneff, Cecil John, Justin Kerr, Jessica Lin, Yasser Omar, Kelsey Smith, Tess Stevens, Harshini Tammareddy, Michael van Maele, Ryan Zimmerman, and Rebecca Katz (2024). Global Health Security (GHS) Tracking dataset. *Zenodo*. DOI: [10.5281/zenodo.11267145](https://doi.org/10.5281/zenodo.11267145)
2. Rebecca Katz, Mackenzie Moore, Madison Alvarez, Aurelia Attal-Juncqua, Madison Berry, Matthew Boyce, Ellin Carlin, JL Chretien, Justin Kerr, Samantha Lau, Jessica Lin, Lauren McGivern, **Hailey Robertson**, Jordan Schermerhorn, Emily Sherman, Kelsey Smith, Claire Standley, Nicole Stephan, Tess Stevens, Juliana St Goar, Hannah Todd, Kate Toole, Michael Van Maele, Ciara Weets, Aika Wojt, Emily Woodrow, Ryan Zimmerman, and Ellie Graeden. (2024). Georgetown Outbreak Activity Library (GOAL). *Zenodo*. DOI: [10.5281/zenodo.11061125](https://doi.org/10.5281/zenodo.11061125)
3. Rebecca Katz, Kate Toole, **Hailey Robertson**, Alaina Case, Justin Kerr, Siobhan Robinson-Marshall, Jordan Schermerhorn, Sarah Orsborn, Michael Van Maele, Ryan Zimmerman, Tess Stevens, COVID AMP Coding Team, Alex Phelan, Colin Carlson, and Ellie Graeden (2023). COVID Analysis and Mapping of Policies dataset. *Zenodo*. DOI: [10.5281/zenodo.8087600](https://doi.org/10.5281/zenodo.8087600)

## FELLOWSHIPS AND GRANTS

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- 2025 **Dean’s Fund for Colloquia and Symposia**: Yale Symposium on Pressing Questions of Cross-Scale Challenges in the Ecology and Evolution of Emerging Viruses. Role: Co-Lead (\$800)
- 2024-27 **Graduate Research Fellow**, National Science Foundation (~\$250,000)
- 2020 **Provost’s Undergraduate Research Fellowship**, University of Southern California (\$1,000)  
**Summer Undergraduate Research Fellowship**, University of Southern California (\$3,000)

## HONORS AND AWARDS

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- 2024-26 **Dean's Research Award**, Yale School of Public Health (\$2,000)
- 2020 **Legislative Member of the Year** for student government, University of Southern California  
**Second Place, Undergraduate Writer's Conference**, University of Southern California (\$500)
- Robertson, H. "Leveraging Freedom Against Motherhood: A Case Study of *U.S v. Summer Thyme Creel* and Sterilization as a Sentencing Mitigation Factor"
- 2019 **Academic Achievement Award**, University of Southern California  
**Advocacy Director of the Year** for student government, University of Southern California
- 2017-21 **Debate Scholarship**, University of Southern California (~\$200,000)  
**Leadership Scholar**, University of Southern California (~\$40,000)  
**Dean's List** for GPA 3.5+, Keck School of Medicine, University of Southern California
- 2017 **Vincent de Paul Scholarship**, SCL Health (\$500)  
**Best Video Campaign**, Webby for Good
- Project Consent, "Consent is Simple"

## COLLABORATIVE WORKING GROUPS

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- 2025 - Global Burden of Climate Change Study. Yale School of Public Health Transformation Award, led by C. Carlson at Yale University
- 2024-27 Viral Emergence Research Initiative (VERENA). NSF Biology Integration Institute, led by C. Carlson at Yale University
- 2024-26 Ecology and Evolution of Infectious Diseases Early-Career Researcher Working Group, led by W. Rogers at Yale University
- 2023-24 Biosecurity Central Expert Advisory Group, led by C. Standley at Georgetown University.
- 2022-25 Heterogeneous Model Integration for Infectious Disease Intelligence. NSF Predictive Intelligence for Pandemic Prevention Phase 1 project team, led by J. Drake at the University of Georgia.

## TEACHING EXPERIENCE

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### Yale University

*New Haven, CT*

#### Teaching Fellow

*EMD 531: Genomic Epidemiology of Infectious Diseases*

*Spring 2026*

Reviewed lecture material with graduate students; provided feedback and grading for exercises focused on evolutionary analysis of genetic data using various bioinformatic tools

#### Teaching Fellow

*EMD 538: Quantitative Methods for Infectious Disease Epidemiology*

*Fall 2025*

Developed materials and lectures for weekly laboratories; held office hours to review concepts in mathematical epidemiology and help graduate students build programming skills in R

#### Conversation Partner

*English Language Institute at Yale*

*Summer 2025*

Welcomed international PhD students to the United States, and led discussions and activities to improve English fluency among a multilingual group

### University of Southern California

*Los Angeles, CA (Remote)*

Teaching Assistant, IR 422: Ecological Security and Global Politics

*Fall 2020*

- Developed materials and held office hours for course covering principles of causal inference applied to environmental change and conservation, with emphasis on research design and data collection

## The Marlborough School

Assistant Debate Coach

Los Angeles, CA

Aug. 2018 - May 2021

- Coached middle and high school students in rhetoric, research, and communication strategies, resulting in the first-ever qualifiers to the national tournament in the schools' history

## SERVICE

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### Service to the University

- 2022-2024 Chair, Culture, Space, & Alumni Committee. Georgetown University Center for Global Health Science and Security. Washington, D.C.
- 2018-2021 Co-Chair and Founding Member, Student Advisory Council. USC Institute on Inequalities in Global Health. Los Angeles, CA.

### Service to the Community

- 2026- Chef, Dinner for a \$1. New Haven, CT.
- 2025- Advisory Board Member, Nashville Urban Debate League. Nashville, TN (Remote)
- 2023-2024 Judge, Nashville Urban Debate League. Nashville, TN.
- 2023 Judge, Atlanta Urban Debate League. Atlanta, GA.
- 2017-2021 Judge, Los Angeles Urban Debate League. Los Angeles, CA.

## PROFESSIONAL CERTIFICATIONS AND AFFILIATIONS

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### Certifications and training

- 2025 Yale Poorvu Center for Teaching and Learning: Engaging Students
- 2024 HarvardX CS109x: Data Science with Python – Dr. Pavlos Protopapas
- 2023 Neo4j: Fundamentals in Graph Databases  
Right to Be: Bystander Intervention Training
- 2022 CITI Program: Group 2. Social and behavioral research investigators and key personnel  
CITI Program: Social and Behavioral Responsible Conduct of Research  
CITI Program: GCP Social and Behavioral Research Best Practices for Clinical Research
- 2020 Episkills: Learn to Code in Python for Epidemiology – Dr. Caitlin Rivers

## SKILLS

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<b>Languages Spoken</b>	English (native), Spanish (intermediate)
<b>Programming &amp; Query Languages</b>	Python, R, SQL, Cypher
<b>Databases &amp; Data Management</b>	Neo4j, PostgreSQL, Airtable, Qualtrics, Git
<b>Quantitative Analysis &amp; Visualization</b>	ArcGIS, QGIS, Jupyter Notebook STATA, SPSS, $\text{\LaTeX}$
	Microsoft Suite, Adobe Creative Suite
<b>Web Development &amp; Design</b>	HTML/CSS/JS, Visual Studio Code, Amazon Web Services