Hannah Waddel

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CONTACT

Department of Biostatistics and Bioinformatics
Emory University
1518 Clifton Rd NE
Atlanta, GA 30322

Homepage: hbwddl.github.io/
Linkedin: linkedin.com/in/hannah-b-waddel/
✉ E-mail: hannah.b.waddel@emory.edu
GitHub: github.com/hbwddl

EDUCATION

Emory University, Atlanta, GA — 2018–2024 (expected)

- Ph.D. Biostatistics
- Advisors: Dr. Max Lau, Dr. Lance Waller
- Dissertation Title: "Phylodynamic inference incorporating pathogen diversity and outbreak data"

Emory University, Atlanta, GA — 2021

- M.S. Biostatistics

University of Utah, Salt Lake City, Utah. — 2018

- B.S. Mathematics. *Summa Cum Laude*

PROFESSIONAL EXPERIENCE

- **Intern** — Summer 2023
  Sanofi Vaccines Division, Swiftwater, Pennsylvania
  - Re-analyzed phase II clinical trial data from six trials under new assumptions and criteria
  - Received training in international clinical research standards and good clinical practice
- **Biostatistics Collaboration Core** — 2019-Present
  Department of Biostatistics and Bioinformatics, Emory University
  - Primary statistical collaborator providing support for medical and public health researchers at Emory University
  - Provides close consultation and collaboration with researchers on design and implementation of studies, and am the primary statistical analyst and technical writer for manuscripts
- **Actuarial Intern** — Summer 2016
  Willis Towers Watson, Denver, Colorado
  - Used proprietary software and programming language to calculate expected yearly payments to companies' pension plans
  - Completed project recommending more accurate pension mortality assumptions to an international company with over 14,000 employees in their pension plan

TEACHING

- **Co-Instructor**, Intro to Epidemiology and Biostatistics (HGC 707) — Fall 2022
- **Instructor**, Statistical Methods I Lab (BIOS 500L) — Fall 2020
  - Lab to practice SAS-based analysis for students taking introductory Biostatistics
- **Teaching Assistant**, Statistical Practice I (BIOS 580) — Fall 2022, Fall 2023
  - Advised student groups in collaborative statistical projects with real Emory investigators
- **Teaching Assistant**, Biostatistical Methods II (BIOS 591P) Spring 2020, Spring 2021, Spring 2022, Spring 2023
  - Developed R software and recitation plans to teach students linear and logistic regression methods
- **Teaching Assistant**, Statistical Methods I Lab (BIOS 500L) — Fall 2019

PUBLICATIONS

1. F Akbik, **H Waddel**, B Jaja, R Macdonald, R Moore, O Samuels, O Sadan. "Nicardipine Prolonged Release Implants For Prevention of Delayed Cerebral Ischemia After Aneurysmal Subarachnoid Hemorrhage: A meta-analysis". *Journal of Stroke and Cerebrovascular Diseases*, 2021. PubMed Link

2. O Sadan, **H Waddel**, R Moore, C Feng, Y Mei, D Pearce, J Kraft, C Pimentel, S Mathew, F Akbik, P Ameli, A Taylor, L Danyluk, K Martin, K Garner, J Kolenda, A Pujari, W Asbury, V Jaja, R L Macdonald, M Cawley, D Barrow, and O Samuels. "Intrathecal Nicardipine for Cerebral Vasospasm Post Subarachnoid Hemorrhage—a Retrospective Propensity-Based Analysis", *Journal of Neurosurgery*, 2021. PubMed Link

3. B Nadel, D Lopez, D Montoya, **H Waddel**, M Khan, and M Pellegrini. "Gene Expression Deconvolution Interactive Tool (GEDIT): Accurate Cell Type Quantification from Gene Expression Data". *Gigascience*, 2021. PubMed Link

Posters and Presentations

- **National Institute of Statistical Sciences (NISS) Graduate Student Research Conference** 2022
  Presentation, "A Systematic Bayesian Integration of Epidemiological and Genetic Data" (Literature Review)
- **NISS Graduate Student Research Conference** 2021
  Presentation, "Bayesian Inverse Reinforcement Learning for Collective Animal Movement" (Literature Review)
- **National Conference on Undergraduate Research** 2018
  Poster, "The Community Ecology of the Music Canon"
- **Utah Conference of Undergraduate Research** 2018
  Poster, "The Community Ecology of the Music Canon"
- **Bruins in Genomics Summer Research Experience** 2017
  Poster, "Evaluating the Efficiency of Single-Cell Data in Cell-Type Deconvolution"
- **Utah Conference of Undergraduate Research** 2016
  Poster, "Transcription Factor Interactions in Developing Hair Cells"

Grants

- **Independent Research Experience Undergraduate Grant ($1,000)** 2018
  Department of Mathematics and Department of Biology, University of Utah
  Title: "The Community Ecology of the Music Canon"
- **Independent Research Experience Undergraduate Grant ($2,000)** 2017
  Department of Mathematics and Department of Biology, University of Utah
  Title: "The Community Ecology of the Music Canon"
- **ORCA Undergraduate Student Mentoring Grant ($1,500)** 2016
  Office of Research and Creative Activities, Brigham Young University
  Title: "Transcription Factor Interactions in Developing Hair Cells"
- **ORCA Undergraduate Student Mentoring Grant ($1,500)** 2015
  Office of Research and Creative Activities, Brigham Young University
  Title: "Sensory Integration in Zebrafish Larvae"

Service

- **Archival Volunteer** 2021-Present
  Computer Museum of America
  - Organizing and describing documentation and other textual materials which relate to the museum's hardware and software collections
- **Graduate Student Network executive committee** 2020-Present
  National Institute of Statistical Sciences (NISS)
  - Founding member of the NISS Graduate Student Network
  - Our mission is to support the graduate students at NISS-affiliated academic departments throughout their graduate programs and in their early career
  - Planned bi-monthly events to support network's mission including webinars, panels, and socials
  - Organized virtual conferences in 2021, 2022, and 2023 for graduate students at all stages of their degree to present research
- **Student Council Representative** 2019-2022
  Department of Biostatistics and Bioinformatics, Emory University
- **COVID-19 Geospatial support** 2020
  Georgia Department of Public Health
  - Assisted GDPH with management, cleaning, and analysis of anonymized location data to assess impacts of COVID-19 lockdowns in Georgia

Honors and Awards

- **Scholarship** 2022
  Summer Institute in Statistics and Modeling in Infectious Disease, U. of Washington
- **Laney Graduate Fellowship** 2018
  Laney Graduate School, Emory University
- **Gibson Senior Award** 2018
  Department of Mathematics, University of Utah
- **Emeritus Librarian Scholarship** 2017
  J. Willard Marriott Library, University of Utah
- **Pi Mu Epsilon Mathematics Honor Society** 2017
  Department of Mathematics, University of Utah
- **National Merit Scholarship Finalist** 2013

Technical Skills

- **Programming**: Advanced Proficiency in R (and RShiny), SAS and Intermediate Proficiency in Python, C++, Bash, SQL, and ArcGIS Software
- **Statistics**: Generalized linear models, spatial statistics, causal inference and observational studies (via propensity score modeling and instrumental variables), survival analysis, meta-analysis, Bayesian hierarchical modeling, infectious disease modelling, time series analysis, probability theory

Affiliations

- **American Statistical Association (ASA)**
- **International Biometric Society (IBS)**, Eastern North American Region (ENAR)

Other

- **Society of Actuaries Exam P (Probability)** 2016