Hannah Waddel

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CONTACT

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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*

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

CONFERENCE PARTICIPATION

- **Epidemics9**, Bologna, Italy — 2023
  Presentation, "Scalable and robust mechanistic integration of epidemiological and genomic data for phylodynamic inference"
- **National Institute of Statistical Sciences (NISS) Graduate Student Research Conference** — 2021, 2022, 2023
  Conference organizing committee
- **National Conference on Undergraduate Research**, Edmond, OK, USA — 2018
  Poster, "The Community Ecology of the Music Canon"
- **Utah Conference of Undergraduate Research**, Cedar City, UT, USA — 2018
  Poster, "The Community Ecology of the Music Canon"
- **Utah Conference of Undergraduate Research**, Salt Lake City, UT, USA — 2016
  Poster, "Transcription Factor Interactions in Developing Hair Cells"

PROFESSIONAL EXPERIENCE

- **Biostatistics 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
- Statistical consultant and collaborator for student research projects in Emory's Genetics Counseling Training Program

- **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**, SPSS Short Course (Part of HGC 740C) Summer 2022, Summer 2023
- **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 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

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

- **First Place** 2023
  Senior PhD Student Presentation Day, Emory University Department of Biostatistics
- **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** 2013

Technical Skills

- **Programming and Software**: Advanced Proficiency in R, RShiny, R package development, and Rcpp; SAS. Intermediate Proficiency in Python; C++; Bash/Unix; 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; fitting Bayesian models via Markov Chain Monte Carlo, JAGS (Just Another Gibbs Sampler), or INLA (Integrated Nested Laplace Approximation)

Affiliations

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

Other

- **Reviewer** 2023
  Journal of the Royal Society Interface
- **Bruins in Genomics Summer Research Experience** 2017
  Project: "Evaluating the Efficiency of Single-Cell Data in Cell-Type Deconvolution"
- **Society of Actuaries Exam P (Probability)** 2016