Madeline R. Abbott

Curriculum Vitae

Harvard University
School of Public Health
Center for Biostatistics in AIDS Research
677 Huntington Ave.
Boston, MA 02115

Updated: August 2025
mabbott@sdac.harvard.edu
madelineabbott.github.io

ACADEMIC POSITIONS

Harvard T.H. Chan School of Public Health, Center for Biostatistics in AIDS Research — Boston, MA, 2024-present
Research Associate

University of Michigan, Department of Biostatistics — Ann Arbor, MI, 2018-2024
Graduate Student Research Assistant

EDUCATION

University of Michigan, Department of Biostatistics — Ann Arbor, MI
Ph.D. in Biostatistics — 2024

- *Thesis*: Joint longitudinal and survival models for intensive longitudinal data from mobile health studies
- *Co-advisors*: Drs. Walter Dempsey and Jeremy M. G. Taylor

M.S. in Biostatistics — 2020

Macalester College — Saint Paul, MN
B.A. in Applied Mathematics and Statistics with minor in Biology and concentration in Community and Global Health — 2018

AWARDS & HONORS

1. *Distinguished Student Paper Award* from the Eastern North American Region (ENAR) of the International Biometric Society (2025)
2. NIH F31 Ruth L. Kirschstein Predoctoral Individual National Research Service Award: *Joint longitudinal and survival models for intensive longitudinal data from mobile health studies of smoking cessation* (2023-2024)
3. *Research Poster Award* from the International Chinese Statistics Association Applied Statistics Symposium (2023)
4. *Best Oral Presentation Award* from the Michigan Student Symposium for Interdisciplinary Statistical Sciences (MSSISS, 2023)
5. *Best Speed Presentation Award* from MSSISS (2022)
6. *Rackham Conference Travel Grant*, University of Michigan (2022, 2023, 2024)
7. *NIH T32 Predoctoral Biostatistics Training in Cancer Research trainee*, University of Michigan (2018-2021)
8. *Summa cum laude*, Macalester College (2018)
9. *Phi Beta Kappa Honor Society* (2018)

10. *Capstone Prize*, selected by Mathematics, Statistics, and Computer Science faculty for a distinguished senior capstone presentation, Macalester College (2018)
11. *Project with Best Insight* in the American Statistical Association DataFest Competition, Macalester College (2018)
12. *Dewitt Wallace Distinguished Scholarship*, annual award based on academic merit, Macalester College (2014-2018)
13. *Dean's List*, Macalester College (2014-2018)

PUBLICATIONS

*denotes equal contributions as co-first authors

Peer-reviewed

1. **Abbott MR**, Dempsey WH, Nahum-Shani I, Potter LN, Wetter DW, Lam CY, Taylor JMG. A Bayesian joint longitudinal-survival model with a latent stochastic process for intensive longitudinal data. *Biometrics*. 2025; 81(2), ujaf052.
2. **Abbott MR**, Dempsey WH, Nahum-Shani I, Lam CY, Wetter DW, Taylor JMG. A continuous-time dynamic factor model for intensive longitudinal data arising from mobile health studies. *Psychometrika*. 2025; 1-22.
3. Huch E, Shi J, **Abbott MR**, Golbus J, Moreno A, Dempsey W. RoME: A robust mixed-effects bandit algorithm for optimizing mobile health interventions. *Advances in Neural Information Processing Systems (NeurIPS)*. 2024; 37: 128280-128329.
4. **Abbott MR**, Nahum-Shani I, Lam CY, Potter LN, Wetter DW, Dempsey WH. A latent variable approach to jointly modeling longitudinal and cumulative event data using a weighted two-stage method. *Statistics in Medicine*. 2024; 43(21): 4163-4177.
5. Das R*, **Abbott MR***, Schipper MJ, Sahai V, Bednar F, Hadley S, Evans JR, Lawrence TS, Cuneo KC. Predictors of acute and late toxicity in patients receiving chemoradiation for unresectable pancreatic cancer. *Advances in Radiation Oncology*. 2023; 8(6).
6. **Abbott MR**, Beesley LJ, Bellile EL, Shuman AG, Rozek LS, Taylor JMG. Comparing individualized survival predictions from random survival forests and multistate models in the presence of missing data: a case study of patients with oropharyngeal cancer. *Cancer Informatics*. 2023; 22.
7. Tosoian JJ, Feldman AS, **Abbott MR**, Mehra R, Tiemeny P, Stuart Wolf Jr J, Stone S, Wu S, Daignault-Newton S, Taylor JMG, Wu C-L, Morgan TM. Biopsy cell cycle proliferation score predicts adverse surgical pathology in localized renal cell carcinoma. *European Urology*. 2020; 78(5): 657-660.
8. Hartman HE, Sun Y, Devasia TP, Chase EC, Jairath NK, Dess RT, Jackson WC, Morris E, Li P, Hochstedler KA, **Abbott MR**, Kidwell KM, Walter V, Wang M, Wang X, Zaorsky NG, Schipper MJ, Spratt DE. Integrated survival estimates for cancer treatment delay among adults with cancer during the COVID-19 pandemic. *JAMA Oncology*. 2020; 6(12): 1881-1889.
9. Cobian A, **Abbott M**, Sood A, Sverchkov Y, Hanrahan L, Guilbert T, Craven M. Modeling asthma exacerbations from electronic health records. *AMIA Joint Summits on Translational Science Proceedings*. 2020; 98-107.
10. Volkening A, **Abbott MR**, Catey D, Chandra N, Dubois B, Lim F, Sandstede B. Modeling stripe formation on growing zebrafish tailfins. *Bulletin of Mathematical Biology*. 2020; 82(5).

PRESENTATIONS

Invited Oral Presentations

1. **Abbott MR,** Dempsey WH, Nahum-Shani I, Taylor JMG. A Bayesian joint longitudinal-survival model with a latent stochastic process for intensive longitudinal data. Eastern North American Region of the International Biometrics Society (ENAR; New Orleans, LA, 2025)
2. **Abbott MR**, Dorsch M, Zhang X, Arzac J, Dempsey W. Practical considerations when designing an MRT for an app-based mHealth intervention. Institute for Operations Research and the Management Sciences (Phoenix, AZ, 2023)

Contributed Oral Presentations

1. **Abbott MR**, Dempsey WH, Nahum-Shani I, Taylor JMG. A joint model for multivariate intensive longitudinal data and time-to-event data. Joint Statistical Meetings (JSM; Portland, OR, 2024)
2. **Abbott MR**, Nahum-Shani I, Lam CY, Potter LN, Wetter DW, Dempsey WH. A latent variable approach to jointly modeling longitudinal and cumulative event data using a weighted two-stage method. ENAR (Baltimore, MD, 2024)
3. **Abbott MR**, Dempsey W, Nahum-Shani I, Taylor JMG. A continuous-time dynamic factor model for intensive longitudinal data arising from mobile health studies. JSM (Toronto, ON, 2023)
4. **Abbott MR**, Dempsey W, Nahum-Shani I, Taylor JMG. A continuous-time dynamic factor model for intensive longitudinal data arising from mobile health studies. ENAR (Nashville, TN, 2023)
5. **Abbott MR**, Nahum-Shani I, Dempsey W. A latent variable approach to jointly modeling emotions and cigarette use in a mobile health study of smoking cessation. Michigan Student Symposium for Interdisciplinary Statistical Sciences (Ann Arbor, MI, 2023)
6. **Abbott MR,** Dempsey W, Nahum-Shani I, Taylor JMG. A joint longitudinal-survival model for mobile health data. ENAR (Houston, TX, 2022)
7. **Abbott MR**, Sverchkov Y, Craven M. Modeling asthma exacerbations using a semi-Markov model. University of Wisconsin Summer Research Symposium (Madison, WI, 2017)
8. Volkening A, **Abbott MR**, Catey D, Chandra N, Dubois B, Lim F, Sandstede B. Modeling stripe formation on zebrafish fins. Society for Industrial and Applied Mathematics Conference on Life Sciences (Boston, MA, 2016)

Posters

1. **Abbott MR**, Nahum-Shani I, Dempsey W. A latent variable approach to jointly modeling emotions and cigarette use in a mobile health study of smoking cessation. International Chinese Statistical Association Applied Statistics Symposium (Ann Arbor, MI, 2023)
2. **Abbott MR**, Beesley LJ, Taylor JMG. Comparing individualized survival predictions from random survival forests and multistate models: a case study of patients with oropharyngeal cancer. JSM (Washington DC, 2022)
3. **Abbott MR**, Beesley LJ, Morgan T, Spratt D, Taylor JMG. Machine learning and statistical models to predict prostate cancer outcomes. University of Michigan Rogel Cancer Center Spring Symposium (Ann Arbor, MI, 2019)
4. **Abbott MR**, Sverchkov Y, Craven M. Modeling asthma exacerbations using a semi-Markov model. Macalester College Fall Poster Session (Saint Paul, MN, 2017)

5. Volkening A, **Abbott MR**, Catey D, Chandra N, Dubois B, Lim F, Sandstede B. Modeling stripe formation on zebrafish fins. Macalester College Fall Poster Session (Saint Paul, MN, 2016)

TEACHING EXPERIENCE

University of Michigan

- Study Group Leader for BIOSTAT 601: Probability and Distribution Theory — Fall 2023
- Guest Lecturer on Generalized Linear Models, Big Data Summer Institute — Summer 2023
- Student in BIOSTAT 834: Pedagogical Methods for Biostatistics Courses — Winter 2022
- Guest Lecturer for BIOSTAT 803: Biostatistics in Cancer Seminar — Fall 2021

Macalester College

- Preceptor for Epidemiology course — Fall 2017
- Statistics Fellow — Fall 2016

SERVICE

Harvard T.H. Chan School of Public Health, Center for Biostatistics in AIDS Research

- R Working Group — 2025
- Statistical and Epidemiologic Methods Topic Resource — 2025

University of Michigan

- Rackham Student Diversity Ally — 2021
- Biostatistics Student Diversity, Equity, and Inclusion Committee — 2020-2022
- Biostatistics Department Diversity, Equity, and Inclusion Committee — 2020-2021
- Rackham Professional Development Diversity, Equity, and Inclusion Certificate — 2020-2021
- Peer Mentor — 2019-2023
- Statistics in the Community member — 2018-2019
- External Review Planning Committee member — 2019-2020
- Health Data Science Committee member — 2019-2020

Macalester College

- Women in Science and Math Peer Mentor — 2015-2018

EDITORIAL ROLES

Ad hoc reviewer

- Biostatistics — 2025
- Advances in Methods for Practices in Psychological Science — 2025
- Journal of Data Science — 2022
- University of Michigan Undergraduate Journal of Public Health — 2022

PROFESSIONAL MEMBERSHIPS

- International Antiviral Society-USA (IAS-USA) — 2024-present
- American Statistical Association — 2022-present

- Eastern North American Region (ENAR) of the International Biometric Society 2019-present

OTHER SKILLS

Programming languages

- R, RShiny, RMarkdown (advanced); Python (proficient); C++ (proficient); SAS (intermediate); MATLAB (basic)

Foreign language

- Spanish (proficient)