

Charlotte Fowler
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Date of Preparation

October 3rd, 2024

Academic Appointments

08/2024 – Present **Assistant Professor of Mathematical Sciences**
Worcester Polytechnic Institute, Worcester, MA

04/2020 – 05/2024 **Graduate Research Assistant**
Department of Biostatistics, Mailman School of Public Health
Columbia University, New York, NY
Advisor: Linda Valeri

Education

08/2019 – 05/2024 Columbia University, New York NY
PhD in Biostatistics, May 2024
MPhil in Biostatistics, August 2022
Dissertation title: Causal inference and time series methods for N-of-1
mobile health studies with missing data
Advisor: Linda Valeri

08/2015 – 05/2019 Macalester College, St. Paul, MN
B.A. in Applied Mathematics and Statistics, May 2019
Summa Cum Laude; Phi Beta Kappa Member
Concentration in Community and Global Health
Minor in Latin American Studies

Academic Service

2024 – Present Mathematical Sciences Diversity, Equity, and Inclusion Committee
2024 – Present Mathematical Sciences Undergraduate Committee
2024 – Present Global Health MS Advisory Committee

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| 2020 – 2024 | Club Organizer, Columbia University Biostatistics Computing Club |
| 2020 – 2024 | Club Organizer and Founding member, Columbia Statistics in the Community (STATCOM) |
| 05/2023 | Session Chair, Columbia Biostatistics Practicum Symposium |
| 05/2022 | Session Chair, Columbia Biostatistics Practicum Symposium |

Professional Organizations and Societies

Memberships

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| 03/2022 – Present | American Statistical Association |
| 02/2023 – Present | Eastern North American Region (ENAR) of the International Biometrics Society |

Journal Referee

Biostatistics, BMJ Medicine, Epidemiology

Educational Contributions

Direct Teaching

Biostatistics Epidemiology Summer Training Diversity Program (BEST)

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| Summer 2023 | Introduction to Introduction to Biostatistics (13 enrolled students) |
| Summer 2022 | Introduction to Introduction to Biostatistics (15 enrolled students) |

Teaching Assistant

Department of Biostatistics, Columbia University

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| Spring 2022 | Topics in Advanced Statistical Computing |
| Fall 2022 | Probability (Lead TA) |
| Spring 2021 | Latent Variable and Structural Equation Modeling |
| Fall 2021 | Probability (Lead TA) |
| Spring 2020 | Introduction to Health Data Science |

Columbia Summer Research Institute Biostatistics and Epidemiology

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| Summer 2020 | Introduction to Biostatistics and Introduction to Epidemiology |
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Preceptor

Department of Mathematics, Statistics, and Computer Science, Macalester College

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| Spring 2019 | Introduction to Epidemiology |
| Fall 2018 | Introduction to Epidemiology |
| Fall 2017 | Introduction to Statistical Modeling |

Publications

Peer Reviewed Publications

1. **Fowler, C.**, Cai, X., Baker, J. T., Onnela, J. P., & Valeri, L. (2024). Testing unit root non-stationarity in the presence of missing data in univariate time series of mobile health studies. *Journal of the Royal Statistical Society Series C: Applied Statistics*.
2. Pitts, A. J., & **Fowler, C. R.** (2024). Comparison of open-source software for producing directed acyclic graphs. *Journal of Causal Inference*.
3. Rogers, R. T., Rogers, R., DeSilva, N., **Fowler, C. R.**, & Marino, L. (2024). Prevalence of tobacco smoking among U.S. residents with primary psychosis: A systematic review of national and regional samples. *Current Psychology*.
4. Mosinger, E., Thaler, K., Paz Garcia, D., & **Fowler, C.** (2022). Civil Resistance in the Shadow of the Revolution: Historical Framing in Nicaragua's Sudden Uprising. *Comparative Politics*, 54.1.
5. **Fowler, C.**, Homandberg, L., Steele, C., Bolt, M.A., Tintle, N., Ulrich, R., & Christians, M. (2020). Adult correlates of adverse childhood experiences in Ukraine. *Child Abuse & Neglect*, 107.

Manuscripts in Preparation

1. **Fowler, C.R.**, Cai, X., Rahimi-Eichi, H., Baker J.T., Ongur, D., Onnela, J.P., & Valeri, L. (2024). Accounting for effect modification by latent disease state for individual causal effect estimation among bipolar participants in mobile health studies.
 2. **Fowler, C.R.**, Rahimi-Eichi, H., Cai, X., Baker J.T., Onnela, J.P., Goldsmith, J., and Valeri, L. (2024). Functional data analysis approach for individual causal mediation analysis in N-of-1 mobile health studies.
 3. Kimhy, D., **Fowler, C.R.**, Valeri, L., Rogers, R.S., Xu, X., Buchsbaum, R., Stefancic, A., Cabassa, L.J., Nossell, I., & Stroup T.S. (2024) First Episode Psychosis Digital Monitoring: Feasibility, Compliance, and Response Variability.
 4. Kimhy, D., **Fowler, C.R.**, Valeri, L., Rogers, T.S., Xu, X., Buchsbaum, R., Stefancic, A., Cabassa, L.J., Nossell, I., & Stroup T.S. (2024) Real-Time Medication Side Effects in Individuals with First Episode Psychosis: Daily Course, Variance, Impact on Functioning, and Comparison to Retrospective Ratings.
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Presentations

Invited Talks

1. "Individual causal effect estimation accounting for latent disease state in bipolar disorder smartphone studies," Conference on Statistical Learning and Data Science, Newport Beach, CA (11/06/24)
2. "Individual causal effect estimation accounting for latent disease state in bipolar disorder smartphone studies," Computational and Methodological Statistics, Berlin, Germany (12/2023)

3. “Accounting for effect modification by latent disease state for individual causal effect estimation among bipolar participants in mobile health studies,” Columbia Biostatistics Annual Research Symposium, New York, NY (09/2023)

Contributed Talks

1. “Accounting for effect modification by latent disease state for individual causal effect estimation among bipolar participants in mobile health studies,” Eastern North American Region, Baltimore, MA
2. “Accounting for effect modification by latent disease state for individual causal effect estimation among bipolar participants in mobile health studies,” Joint Statistical Meetings, Toronto, Canada (08/2023)
3. “Testing unit root non-stationarity in the presence of missing data in univariate time series of mobile health studies,” Eastern North American Region, Nashville, TN (03/2023)
4. “Testing unit root non-stationarity in the presence of missing data in univariate time series of mobile health studies,” Joint Statistical Meetings, Washington, D.C. (08/2022)

Posters

1. “Testing unit root non-stationarity in the presence of missing data in univariate time series of mobile health studies,” Tom Ten Have Symposium, Boston, MA (06/2023)
2. “Testing unit root non-stationarity in the presence of missing data in univariate time series of mobile health studies,” American Causal Inference Conference, Austin, TX (05/2023)
3. “Ukraine Specific Risk Factors for Intermittent Explosive Disorder (IED),” NSF Research Experience for Undergraduates Symposium, Washington, D.C. (10/2018)

Campus Talks

1. “Software to draw directed acyclic graphs,” Causal Inference Learning Group and Computing Club, New York, NY (02/2022)
 2. “Testing unit root non-stationarity in the presence of missing data and future works,” Functional Neuroimaging & Bioinformatics Lab, virtual (12/2022)
 3. “Testing unit root non-stationarity in the presence of missing data in univariate time series of mobile health studies,” Causal Inference Learning Group, Mailman School of Public Health, New York, NY (10/2022)
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