

# FAN BU

fbu@umich.edu

<https://fanbu1995.github.io>

## PROFESSIONAL AFFILIATIONS

---

### Tenure-track Assistant Professor

Department of Biostatistics, University of Michigan - Ann Arbor

Jan 2024 - present

### Postdoctoral Scholar

Department of Biostatistics, University of California - Los Angeles

Aug 2021 - Dec 2023

### Visiting Scholar

Simons Institute, University of California - Berkeley

Sept 2022 - Nov 2022

### Research Intern

Duke Center for AIDS Research

May 2020 - Aug 2020

## EDUCATION

---

### Department of Statistical Science, Duke University

Ph.D. in Statistics; Dissertation: Stochastic Process Models on Dynamic Networks

2017 - 2021

### School of Mathematical Sciences, Peking University

B.S. in Mathematics and Applied Mathematics

2013 - 2017

## RESEARCH INTERESTS

---

Bayesian statistics and statistical computation for complex and large-scale datasets; stochastic processes and dynamic models; observational healthcare studies and informatics; computational social science.

## PUBLICATIONS & PREPRINTS

---

### Statistical Methodology:

**F. Bu**, J. Kagaayi, M. K. Grabowski, J. Xu, and O. Ratmann. Inferring HIV Transmission Patterns from Viral Deep-Sequence Data via Latent Spatial Poisson Processes (2024). *Biometrics*. In print.

**F. Bu**, M. J. Schuemie, A. Nishimura, L. H. Smith, K. Kostka, T. Falconer, J. A. McLeggon, P. B. Ryan, G. Hripcsak, and M. A. Suchard. Bayesian Safety Surveillance with Adaptive Bias Correction (2023). *Statistics in Medicine*.

M. Schuemie, **F. Bu**, A. Nishimura and M. Suchard. Adjusting for Both Sequential Testing and Systematic Error in Safety Surveillance using Observational Data: Empirical Calibration and MaxSPRT (2023). *Statistics in Medicine*.

**F. Bu**, A. E. Aiello, A. Volfovsky, and J. Xu. Likelihood-based Inference for Partially Observed Stochastic Epidemics with Individual Heterogeneity (2021+). *Under revisions*. *arXiv:2112.07892*.

**F. Bu**, A. E. Aiello, J. Xu, and A. Volfovsky. Likelihood-based Inference for Partially Observed Epidemics on Dynamic Networks (2020). *Journal of the American Statistical Association* (**Winner of 2020 ASA SBSS Student Paper Award**).

**F. Bu**, S. Xu, K. Heller, and A. Volfovsky. SMOGS: Social Network Metrics of Game Success (2019). *The 22nd International Conference on Artificial Intelligence and Statistics (AISTATS)*.

W. Zhang, **F. Bu**, D. Owen-Oas, K. Heller, and X. Zhu. Who Started It? Identifying Root Sources in Textual Conversation Threads (2018). *arXiv:1809.03648*.

### Scientific & Collaborative:

**F. Bu**, F. Arshad, G. Hripcsak, P. B. Ryan, M. J. Schuemie, and M. A. Suchard. Response to Comments on “Serially Combining Epidemiological Designs Does Not Improve Overall Signal Detection in Vaccine Safety Surveillance” (2024). *Drug Safety*. In print.

T. V. Anand, **F. Bu**, M. J. Schuemie, M. A. Suchard, and G. Hripcsak. Comparative safety and effectiveness of angiotensin converting enzyme inhibitors and thiazides and thiazide-like diuretics under strict monotherapy (2024). *Journal of Clinical Hypertension*. In print.

R. Khera, A. Aminorroaya, L. S. Dhingra, P. M. Thangaraj, A. P. Camargos, **F. Bu**, [...], and M. A. Suchard. Comparative Effectiveness of Second-line Antihyperglycemic Agents for Cardiovascular Outcomes: A Large-scale, Multinational, Federated Analysis of the LEGEND-T2DM Study (2024). *Under review*.

R. Khera, L.S. Dhingra, A. Aminorroaya, [...], **F. Bu**, [...], and M. A. Suchard. Multinational patterns of second line antihyperglycaemic drug initiation across cardiovascular risk groups: federated pharmacoepidemiological evaluation in LEGEND-T2DM (2023). *BMJ medicine*.

F. Arshad, M. J. Schuemie, **F. Bu**, [...], and M. A. Suchard. Serially Combining Epidemiological Designs Does Not Improve Overall Signal Detection in Vaccine Safety Surveillance (2023). *Drug Safety*.

E. A. Voss, A. Shoaibi, L. Y. H. Lai, [...], **F. Bu**, [...], and P. B. Ryan. Contextualising adverse events of special interest to characterise the baseline incidence rates in 24 million patients with COVID-19 across 26 databases: a multinational retrospective cohort study (2023). *EClinicalMedicine*.

R. Asencio, **F. Bu**, L. Tucker, G. Varela, J. Moody, and A. Volfovsky. Network Position and Emergent Phenomena: A Multi-team System Case Study (2022+). *Under revisions*.

### Awards and Honors

---

|  |                      |
|--|----------------------|
| OHDSI Titan Award for Methodological Research.                               | <i>October 2022</i>  |
| Mentorship of Excellence award for 2022 UCLA B.I.G. summer research program. | <i>August 2022</i>   |
| ISBA World Meeting travel award.   | <i>June 2022</i>     |
| Duke CFAR Fall Retreat Best Poster Award.                                    | <i>October 2020</i>  |
| SBSS Student Paper Award; JSM travel award.                                  | <i>August 2020</i>   |
| Honorable Mention for Ph.D. Teaching Assistant for the Year                  | <i>May 2020</i>      |
| Women in Machine Learning Workshop (WiML) travel award.                      | <i>December 2017</i> |

### Invited Talks and Presentations

---

#### Oral Presentations:

|   |                      |
|---|----------------------|
| Invited talk at the Statistical Methods for Infectious Diseases Workshop (hosted by Penn State University). | <i>April 2024</i>    |
| Invited talk at ENAR 2024.  | <i>March 2024</i>    |
| Invited talk at CMStatistics 2023.  | <i>December 2023</i> |
| Invited talk at the RAND statistics seminar.  | <i>Nov 2023</i>      |

|  |                       |
|--|-----------------------|
| Invited talk at EcoStat 2023.  | <i>August 2023</i>    |
| Invited talk at IISA 2023.   | <i>June 2023</i>      |
| Contributed talk at ENAR 2023.   | <i>March 2023</i>     |
| Invited colloquium talk at Reed College.   | <i>March 2023</i>     |
| Invited talk at the FDA CBER BEST Seminar Series.                                | <i>February 2023</i>  |
| Topic-contributed talk at CMStatistics 2022.                                     | <i>December 2022</i>  |
| Invited talk at the UCLA 2022 Fall Biomathematics Seminar Series .               | <i>November 2022</i>  |
| Invited presentation at the 2022 OHDSI Global Symposium.                         | <i>October 2022</i>   |
| Oral presentation at NSF Student Conference on COVID-19 Modeling.                | <i>January 2021</i>   |
| Invited talk at 2020 Bayesian Young Statisticians Meeting: Online (BAYSM:O).     | <i>November 2020</i>  |
| Topic-contributed talk at 2020 Joint Statistical Meetings.                       | <i>August 2020</i>    |
| Invited talk at the 3rd Annual AT&T Labs Graduate Student Symposium.             | <i>November 2019</i>  |
| Invited talk at the 2019 New England Symposium on Statistics in Sports (NESSIS). | <i>September 2019</i> |
| Spotlight talk on Duke Machine Learning Day.                                     | <i>March 2019</i>     |

### **Poster Presentations:**

|   |                      |
|---|----------------------|
| Poster presentation at the 2022 ISBA World Meeting.   | <i>June 2022</i>     |
| Poster presentation at the 22nd International Conference on Artificial Intelligence and Statistics (AISTATS). | <i>April 2019</i>    |
| Poster presentation at the 2018 ISBA World Meeting.   | <i>June 2018</i>     |
| Poster presentation at Women in Machine Learning Workshop (WiML) 2017.  | <i>December 2017</i> |

## **PROFESSIONAL SERVICE**

---

### **Professional Societies:**

|   |                                     |
|---|-------------------------------------|
| Associate Chair for <i>ENAR Social Media Committee</i>  | <i>September 2023 - present</i>     |
| Program Chair for <i>the junior section of the International Society for Bayesian Analysis (j-ISBA)</i> . | <i>January 2022 - December 2023</i> |

### **Editorial and Review Responsibilities:**

|  |   |
|--|---|
| Scientific Review Committee member for 2024 OHDSI Global Symposium. ( <i>Scheduled</i> ) | <i>March - October 2024</i>             |
| Editor for BaYSM 2023 proceedings.   | <i>May - Septebmer 2024 (Scheduled)</i> |
| Grant proposal reviewer for UKRI.  | <i>February 2024</i>                    |

**Journal reviewer** for: *The Proceedings of the National Academy of Sciences (PNAS)*, *Journal of the American Statistical Association (JASA)*, *Annals of Applied Statistics (AOAS)*, *Statistics in Medicine*, *Biostatistics*, *Statistical Science*, *Science Advances*, and *Environmental and Ecological Statistics*.

**Conference reviewer** for: *Uncertainty in Artificial Intelligence (UAI) 2024*.

### Conference Organization:

Organizing Committee member for BIRS-CMO Workshop  
“Frontiers of Bayesian Inference and Data Science”. *September 2024 (scheduled)*

Organizing Committee member for 2024 ISBA EAC conference. *June 2024 (scheduled)*

Organizing Committee member for Bayesian Young Statisticians  
Meeting (BaYSM) 2023. *May - November 2023*

### Miscellaneous:

Judge for *Duke Datathon*. *October 2020 & 2021*

Consultant for *DataFest: COVID-19 Virtual Data Challenge*. *April 2020*

Consultant for *ASA DataFest @ Duke*. *April 2018 & April 2019*

### TEACHING & MENTORING

---

Instructor for *Biostatistics 602: Biostatistical Inference*. *Winter 2024*

Mentor for the 2022 B.I.G. summer research program at UCLA. *Summer 2022*

Instructor of Record for *STA101: Data Analysis/Statistical Inference*. *Summer 2021*

Lab instructor and teaching assistant for *STA199: Introduction to Data Science*. *Fall 2020*

Lab instructor and teaching assistant for *STA723: Statistics Case Studies*. *Spring 2020*

Lab instructor and teaching assistant for *STA601: Bayesian Methods and Modern Statistics*. *Fall 2019*

Team manager and student mentor for *Duke Data+ 2019*. *Summer 2019*

Instructor of *Duke Statistical Science Bootcamp*. *August 2018*