

# FAN BU

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<https://fanbu1995.github.io>

## PROFESSIONAL AFFILIATIONS

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### Postdoctoral Scholar

Department of Biostatistics, University of California - Los Angeles

*Aug 2021 - present*

### Visiting Scholar

Simons Institute, University of California - Berkeley

*Sept 2022 - Nov 2022*

### Research Intern

Duke Center for AIDS Research

*May 2020 - Aug 2020*

## EDUCATION

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### 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

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

## PUBLICATIONS AND PREPRINTS

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(† denotes first-author work)

**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 (2023). *Under review*. [arXiv:2302.11567](#)<sup>†</sup>

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*.

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*.

**F. Bu**, A. E. Aiello, A. Volfovsky, and J. Xu. Likelihood-based Inference for Partially Observed Stochastic Epidemics with Individual Heterogeneity (2021). *Under revisions for Annals of Applied Statistics*; [arXiv:2112.07892](#).<sup>†</sup>

**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**).<sup>†</sup>

**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)*.<sup>†</sup>

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](#).

## WORKING PAPERS

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**F. Bu**, A. Nishimura, L. H. Smith, K. Kostka, P. B. Ryan, G. Hripcsak, and M. A. Suchard. Bayesian Safety Surveillance with Adaptive Bias Correction (2022+)<sup>†</sup>. *pending funders' approval; draft manuscript available upon request*

V. Obregon-Perko, A. Awasthi, **F. Bu**, R. Barfield, S. J. Berendam, B. Yagnik, T. Styles, M. Kumar, E. Fray, J. Siliciano, R. R. Amara, G. G. Fouda, S. R. Permar, C. Chan, A. Chahroudi. Viral and Immune Predictors of Time to Viral Rebound in SHIV-infected Infant Macaques (2021+).

## TEACHING & MENTORING

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Mentor for the 2022 B.I.G. summer research program at UCLA.	<i>Summer 2022</i>
Instructor of Record for <i>STA101: Data Analysis/Statistical Inference</i> .	<i>Summer 2021</i>
Lab instructor and teaching assistant for <i>STA199: Introduction to Data Science</i> .	<i>Fall 2020</i>
Lab instructor and teaching assistant for <i>STA723: Statistics Case Studies</i> .	<i>Spring 2020</i>
Lab instructor and teaching assistant for <i>STA601: Bayesian Methods and Modern Statistics</i> .	<i>Fall 2019</i>
Team manager and student mentor for <i>Duke Data+ 2019</i> .	<i>Summer 2019</i>
Instructor of <i>Duke Statistical Science Bootcamp</i> .	<i>August 2018</i>

## AWARDS AND HONORS

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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

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### ORAL PRESENTATIONS:

Invited talk at WNAR 2023 (scheduled).	<i>June 2023</i>
Invited workshop presentation at Brin Mathematics Research Center (scheduled).	<i>April 2023</i>
Contributed talk at ENAR 2023.	<i>March 2023</i>
Invited colloquium talk at Reed College.	<i>March 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

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Program Chair for <i>the junior section of the International Society for Bayesian Analysis (j-ISBA)</i> .	<i>January 2022 - present</i>
Judge for <i>Duke Datathon</i> .	<i>October 2020 &amp; 2021</i>
Consultant for <i>DataFest: COVID-19 Virtual Data Challenge</i> .	<i>April 2020</i>
Consultant for <i>ASA DataFest @ Duke</i> .	<i>April 2018 &amp; April 2019</i>

**Journal review** 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*, *Statistical Science*, *Science Advances*, and *Environmental and Ecological Statistics*.

## SELECT ONGOING & PAST RESEARCH

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Bayesian Methods Development for Sequential Monitoring of Observational Data for Vaccine Safety, under FDA's CBER BEST collaborative contract (2021+). *Work in progress*.

The Evolution of Popularity and Images of Characters in Marvel Cinematic Universe Fanfictions (2018). (Technical report at *arXiv:1805.03774*)

Traffic Speed Nowcasting Based on Urban Road Network and Artificial Neural Network (2017). (B.S. thesis)

Detection of Differential Genetic Networks (2016). (Supported by the National Undergraduate Innovation Grant of China)