

FAN BU

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PROFESSIONAL AFFILIATIONS

Tenure-track Assistant Professor

Jan 2024 - present

Department of Biostatistics, University of Michigan - Ann Arbor

Postdoctoral Scholar

Aug 2021 - Dec 2023

Department of Biostatistics, University of California - Los Angeles

Supervisor: Dr. Marc Suchard

Visiting Scholar

Sept 2022 - Nov 2022

Simons Institute, University of California - Berkeley

Research Intern

May 2020 - Aug 2020

Duke Center for AIDS Research

EDUCATION

Department of Statistical Science, Duke University

2017 - 2021

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

Advisor: Dr. Alexander Volfovsky

School of Mathematical Sciences, Peking University

2013 - 2017

B.S. in Mathematics and Applied Mathematics

PUBLICATIONS & PREPRINTS

† denotes student mentee

Statistical Methodology:

N. Hartman and **F. Bu**. Joint Models for Health Services Delivery During Infectious Disease Epidemics (2025+). *Under review*.

P. Chatha†, **F. Bu**, J. Regier, E. Snitkin, and J. Zelner. Neural Posterior Estimation for Stochastic Epidemic Modeling (2025+). *Under revisions*.

F. Bu, A. E. Aiello, A. Volfovsky, and J. Xu. Stochastic EM algorithm for partially observed stochastic epidemics with individual heterogeneity (2025). *Biostatistics*.

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*. (Winner of 2024 ISBA Biostats and Pharma Best Paper Award.)

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, 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*.

Substantive Science:

F. Bu , R. Wu[†], A. Ostroplets, [...], R. Khera, G. Hripscak, and M. A. Suchard. Comparative Cardiovascular Effectiveness of Individual Glucagon-Like Peptide 1 Receptor Agonists and Sodium-Glucose Cotransporter-2 Inhibitors as Second-Line Type 2 Diabetes Mellitus Treatments (2025+). *Under review*.

S. Chattopadhyay, **F. Bu** , M. J. Schuemie, J. A. McLeggon, E. Westlund, G. Hripscak, P. Ryan, and M. A. Suchard. Comparative performance of the concurrent comparator design with existing vaccine safety surveillance approaches on real-world observational health data (2025+). *Under review*.

C. Kim, **F. Bu** , C. Blacketer, A. Ostroplets, [...], and Y. Lu. Comparative safety of second-Line antihyperglycemic agents in older adults with type 2 diabetes: a multinational real-world evidence from LEGEND-T2DM (2025+). *Under review*.

C. Reyes, T. Duarte-Salles, A. Pistillo, **F. Bu** , [...], and M. A. Suchard. Gastrointestinal Adverse Effects of Second-Line Anti-Diabetic Drugs: A Federated Cohort Study (2025+). *Under revisions*.

L. Rountree[†], G. Tong, **F. Bu** , M. Ranney, and B. Mukherjee. Association of COVID-19 outcomes with measures of institutional and interpersonal trust: An ecological analysis using national data from 61 countries (2025). *Nature Scientific Reports*.

V. Obregon-Perko, A. Awasthi, R. Barfield, [...], **F. Bu** , [...], and A. Chahroudi. Biomarkers for viral rebound timing and control post-ART in SHIV-infected infant macaques (2025). *Science Translational Medicine* (in print).

D. Morales, **F. Bu** , B. Viernes, [...], and M. A. Suchard. Risk of thyroid tumours with glucagon-like peptide-1 receptor agonists: international cohort study (2025). *Diabetes Care*.

L. Rountree[†], Y.T. Lin, C. Liu, M. Salvatore, A. Admon, B. K. Nallamothu, K. Singh, A. Basu, **F. Bu** , B. Mukherjee. Reporting of Fairness Metrics in Clinical Risk Prediction Models: A Call for Change to Ensure Equitable Precision Health Benefits for All (2025). *Online Journal of Public Health Informatics*.

C. Cai, M. Hribar, Sally Baxter, [...], **F. Bu** , [...], and Patrick B. Ryan. Semaglutide and Nonarteritic Anterior Ischemic Optic Neuropathy (2025). *JAMA Ophthalmology*.

F. Bu , E. Minty, A. Aminorroaya, C. Blacketer, [...], and M. A. Suchard. Multi-national Patterns of Individual Cardioprotective Agents as Second-line Treatments for Type 2 Diabetes Mellitus: a LEGEND-T2DM Study (2024). *Proceedings of the 2025 OHDSI Global Symposium*.

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). *Journal of the American College of Cardiology*.

C. Cai, A. Nishimura, M. Bowring, [...], **F. Bu** , [...], and Patrick B. Ryan. Similar risk of kidney failure among patients with blinding diseases who receive ranibizumab, aflibercept, and bevacizumab (2024). *Ophthalmology Retina*.

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*.

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*.

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 & HONORS

2024 ISBA Biostats and Pharma Best Paper Award. For “Inferring HIV Transmission Patterns from Viral Deep-Sequence Data via Latent Spatial Poisson Processes”	<i>February 2025</i>
Blackwell-Rosenbluth Award (for outstanding early-career statisticians) by the International Society for Bayesian Analysis.	<i>November 2024</i>
OHDSI Best Collaborator Showcase for clinical application (nominated).	<i>October 2024</i>
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>
American Statistical Association Section on Bayesian Statistical Science (ASA SBSS) Student Paper Award. For “Likelihood-based Inference for Partially Observed Epidemics on Dynamic Networks”	<i>August 2020</i>
Joint Statistical Meetings 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>

RESEARCH GRANTS & AWARDS

US FDA CBER BEST Initiative, 75F40120D00039 “OHDSI-based FDA BEST Community Engagement and Development Coordination Center” Role: UM site PI (lead PI: George Hripcsak, Columbia University)	<i>Sep 2024 - March 2025</i>
Bill & Melinda Gates Foundation, INV-077867 “Comparative Effectiveness of Different Dosing Schedules of PCV in Brazil” Role: UM site PI (lead PI: Kayoko Shioda, Boston University)	<i>Aug 2024 - Aug 2026</i>

MIDAS Propelling Original Data Science (PODS) program *Aug 2024 - July 2025*
“Neural Posterior Estimation (NPE) approaches for fitting high-dimensional stochastic epidemic models to real-world spatiotemporal disease data”
Role: dual PI (with Jon Zelner, University of Michigan)

US CDC NCIRD U01, IP001138 *Jan 2025 - Aug 2025*
“Data driven transmission models to optimize influenza vaccination and pandemic mitigation strategies”
Role: co-I (PI: Jon Zelner, University of Michigan)

PROFESSIONAL SERVICE

Professional Societies:

Program Chair for *Biopharmaceutical section of the International Society for Bayesian Analysis*. *January 2025 - present*

Associate Chair for *ENAR Social Media Committee* *September 2023 - December 2024*

Program Chair for *the junior section of the International Society for Bayesian Analysis (j-ISBA)*. *January 2022 - December 2023*

Editorial and Review Responsibilities:

Member for Book of OHDSI Committee. *March - December 2025*

Judge for ASA SBSS student paper competition. *October - December 2024*

Scientific Review Committee member for 2024 OHDSI Global Symposium. *March - October 2024*

Co-editor for BaYSM 2023 proceedings, “*New trends in Bayesian Statistics*”. *May - December 2024*

Grant proposal reviewer for UKRI. *February 2024*

Journal reviewer for: *The Proceedings of the National Academy of Sciences (PNAS)*, *Nature Communications*, *Nature Cardiovascular Research*, *Journal of the American Statistical Association (JASA)*, *Biometrics*, *Annals of Applied Statistics (AOAS)*, *Journal of Computational and Graphical Statistics (JCGS)*, *Statistics in Medicine*, *Biostatistics*, *Bayesian Analysis*, *Statistical Science*, *Communications in Statistics*, *Science Advances*, *Environmental and Ecological Statistics*, *Statistics and Public Policy*, and *Statistics and Computing*.

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

Conference Organization:

Scientific Programme Committee member for CFE-CMStatistics 2025 *March - December 2025*

Scientific Programme Committee member for CFE-CMStatistics 2024 *April - December 2024*

Organizing Committee member for BIRS-CMO Workshop “Frontiers of Bayesian Inference and Data Science”. *December 2023 - September 2024*

Organizing Committee member for 2024 ISBA EAC conference. *February - June 2024*

Invited session (j-ISBA sponsored) organizer for Joint Statistical Meetings (JSM) 2024 *December 2023 - August 2024*

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

Internal & Miscellaneous:

Faculty judge for <i>Michigan Student Symposium for Interdisciplinary Statistical Sciences (MSSISS)</i>	March 2025
Chair of seminar committee for UM Biostatistics.	September 2024 - August 2025
J-FAB committee member for UM School of Public Health.	September 2023 - August 2025
Judge for <i>Duke Datathon</i> .	October 2020 & 2021
Consultant for <i>DataFest: COVID-19 Virtual Data Challenge</i> .	April 2020
Consultant for <i>ASA DataFest @ Duke</i> .	April 2018 & April 2019

TEACHING & MENTORING

While at University of Michigan:

Ph.D. committee member for:

Prayag Chatta (Statistics), Leyao Zhang (Biostatistics), Mingyan Yu (Biostatistics), Tasmine Clement (Bioinformatics), and Troy (Zirui) Zhou (Epidemiology).

<i>Biostatistics 602: Biostatistical Inference.</i>	Winter 2025
<i>Biostatistics 602: Biostatistical Inference.</i>	Winter 2024

While at UCLA:

Instructor for OHDSI Tutorials at the 2023 Global Symposium.	Fall 2023
Mentor for the 2022 <i>B.I.G. summer research program</i> .	Summer 2022

While at Duke University:

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

INVITED TALKS & PRESENTATIONS

Oral Presentations:

Invited talk at CmStatistics 2025.	December 2025 (scheduled)
Invited talk at EcoSta 2025.	August 2025 (scheduled)
Topic contributed talk at Joint Statistical Meetings.	August 2025
Invited talk at IMS New Researchers Conference (NRC).	August 2025
Invited talk at the ISBA BioPharm meeting.	June 2025

Invited talk at the 14th International Conference on Bayesian Nonparametrics.	<i>June 2025</i>
Invited seminar talk at Statistics Department, UC Riverside.	<i>June 2025</i>
Invited talk at 2025 Bayesian Young Statisticians Meeting (BaYSM).	<i>April 2025</i>
Invited seminar talk at Duke Biostatistics & Bioinformatics.	<i>February 2025</i>
Invited seminar talk at Centre for Statistics in Medicine (CSM) Botnar Research Centre, Oxford University.	<i>December 2024</i>
Invited talk at the UM Statistics student seminar.	<i>November 2024</i>
Invited talk at the Duke Statistical Science Alumni Symposium.	<i>October 2024</i>
Invited talk at the 2024 International Day of Women in Statistics and Data Science (IDWSDS) Conference.	<i>October 2024</i>
Contributed talk at ISBA World Meetings 2024.	<i>July 2024</i>
Invited talk at Ecosta 2024.	<i>July 2024</i>
Invited talk at the Online Seminar on Spatial and spatio-temporal Point processes and beyond (OSSP).	<i>April 2024</i>
Invited talk at the Statistical Methods for Infectious Diseases Across Scales Workshop (by Penn State University).	<i>April 2024</i>
Recent publications highlight talk at OHDSI community meeting.	<i>March 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 EcoSta 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>

Poster Presentations:

Collaborator Showcase poster presentation at the 2024 OHDSI Global Symposium.	<i>October 2024</i>
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Poster presentation at the 2022 ISBA World Meeting.	<i>June 2022</i>
Poster presentation at the Dynamics & Evolution of Human Viruses meeting.	<i>April 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>