Fei Xue

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Employment

2021–current **Assistant Professor**, *Purdue University*, USA.

2019–2021 **Postdoc Researcher**, *The University of Pennsylvania*, USA.
Supervisor: Hongzhe Li

Education

2014–2019 **Ph.D. in Statistics**, *The University of Illinois at Urbana–Champaign*, USA.
Advisor: Annie Qu

2010–2014 **B.S. in Mathematics and Applied Mathematics**, *Fudan University*, China.

Research Interests

Data integration, missing data, mediation analysis, personalized modeling, precision medicine, high dimensional inference, variable selection, statistical genetics, and survival analysis.

Papers

1. **Fei Xue**, Annie Qu (2021). Integrating multi-source block-wise missing data in model selection. ***Journal of the American Statistical Association***, accepted. `https://doi.org/10.1080/01621459.2020.1751176`

2. **Fei Xue**, Yanqing Zhang, Wenzhuo Zhou, Haoda Fu, Annie Qu (2021). Multicategory angle-based learning for estimating optimal dynamic treatment regimes with censored data. ***Journal of the American Statistical Association***, accepted. `https://doi.org/10.1080/01621459.2020.1862671`

3. **Fei Xue**, Xiwei Tang, Grace Kim, Allison Aiello, Karestan Koenen, Sandro Galea, Derek Wildman, Monica Uddin, Annie Qu (2022). Heterogeneous Mediation Analysis on Epigenomic PTSD and Traumatic Stress in a Predominantly African American Cohort. ***Journal of the American Statistical Association***, accepted. `https://doi.org/10.1080/01621459.2022.2089572`

4. Xiwei Tang, **Fei Xue**, Annie Qu (2021). Individualized multi-directional variable selection. ***Journal of the American Statistical Association***, accepted. `https://doi.org/10.1080/01621459.2019.1705308`

5. Simona Buetti, **Fei Xue**, Qiawen Liu, Juyoen Hur, Gavin Jun Peng Ng, Wendy Heller (2020). Perceived control in the lab and in daily life impact emotion-induced temporal distortions. ***Timing & Time Perception***, 9(1): 88-122. `https://doi.org/10.1163/22134468-bja10018`

6. Grace S Kim, Alicia Smith, **Fei Xue**, Vasiliki Michopoulos, Adriana Lori, Don L. Armstrong, Allison E. Aiello, Karestan C. Koenen, Sandro Galea, Derek E. Wildman, Monica Uddin (2019). Methylomic profiles reveal sex-specific shifts in leukocyte composition associated with post-traumatic stress disorder. ***Brain, Behavior, and Immunity***, 81: 280–291. `https://doi.org/10.1016/j.bbi.2019.06.025`

7. Agaz Wani, Allison Aiello, Grace S Kim, **Fei Xue**, Andrew Ratanatharathorn, Annie Qu, Karestan Koenen, Sandro Galea, Derek Wildman, Monica Uddin (2021). The impact of psychopathology, social adversity and stress-relevant DNAm on prospective risk for post-traumatic stress: A machine learning approach. ***Journal of Affective Disorders***, 282: 894-905. `https://www.biorxiv.org/content/10.1101/2020.09.25.313635v1`

8. **Fei Xue**, Annie Qu. Semi-standard partial covariance variable selection when irrepresentable conditions fail. ***Statistica Sinica***, accepted.

9. **Fei Xue**, Rong Ma, Hongzhe Li. Semi-supervised statistical inference for high-dimensional linear regression with blockwise missing. Under Revision. `https://arxiv.org/abs/2106.03344`

10. **Fei Xue**, Hongzhe Li. An empirical Bayes regression for multi-tissue eQTL data analysis. Submitted.

Selected Awards

2022 **IMS New Researchers Travel Award**, *Institute of Mathematical Statistics*, USA.

2019 **ICSA New Researcher Award**, *International Chinese Statistical Association*, USA.

2019 **IMS Hannan Graduate Student Travel Award**, *Institute of Mathematical Statistics*, USA.

2018 **ASA Student Paper Award**, *Statistical Learning and Data Science Section of the American Statistical Association*, USA.

2018 **Horace W. Norton Prize for Outstanding Thesis Research Finalist**, *Department of Statistics, UIUC*, USA.

2018 **The Third Place in Student Poster Competition**, *The Fourth International Workshop on the Statistical Analyses of Multi-Outcome Data*, USA.

2013 **Meritorious Winner**, *Mathematical Contest in Modeling*, USA.

2010 **Bronze medal**, *Chinese Mathematical Olympiad*, China.

Teaching Experience

Instructor at Purdue

Spring 2022 Stat 517: **Statistical Inference**

Fall 2021 Stat 517: **Statistical Inference**

Instructor at UIUC

Fall 2016 Stat 200: **Statistical Analysis**
Independently led a class of 40 undergraduate students, gave lectures, held office hours and designed exams and homework assignments

Graduate Teaching Assistant at UIUC

Spring 2017	Stat 427: **Statistical Consulting**
Summer 2016	Stat 448: **Advanced Data Analysis**
Spring 2016	Stat 511: **Mathematical Statistics II**
Fall 2015	Stat 510: **Mathematical Statistics I**
Summer 2015	Stat 410: **Statistics and Probability II**
Spring 2015	Stat 510: **Mathematical Statistics I**
Fall 2014	Stat 410: **Statistics and Probability II**

Consulting Experience

2016–2019 **Statistical Consultant**, *Illinois Statistics Office*, UIUC.

Provided statistical consultation to $40+$ clients

- Clients from Eli Lilly and Company, Pace Suburban Bus, Accel Entertainment, BioFortis Inc, Carle Foundation Hospital, and University of Illinois
- In the fields of biology, business, ecology, engineering, finance, marketing, medicine, psychology, sociology, etc.

Covered a wide range of services

- Grant proposal and medical protocol review
- Experimental design (survey design, clinical trial design)
- Data analysis (ANOVA, regression, factor analysis, mixed models, etc.),
- Prediction (market prediction, yield prediction)
- Software tutorial and technical report writing

Talks

Invited

Apr. 2022 **CCBB Seminar, Indiana University School of Medicine, Indianapolis, IN**.
Statistical inference for high-dimensional block-wise missing data

Apr. 2022 **New Challenges and Novel Solutions in Statistics and Data Science, Irvine, CA**.
An Empirical Bayes Regression for Multi-tissue eQTL Data Analysis

March 2022 **ENAR Spring Meeting, Houston, TX**.
Heterogeneous Mediation Analysis on Epigenomic PTSD and Traumatic Stress in a Predominantly African American Cohort

March 2022 **Seminar, Rutgers University, New Brunswick, NJ**.
Statistical inference for high-dimensional block-wise missing data

Feb. 2022 **Biostatistics Seminar, University of Louisville, Louisville, KY**.
Statistical inference for high-dimensional block-wise missing data

Feb. 2022 **Statistics Seminar, Indiana University-Purdue University Indianapolis, Indianapolis, IN**.
Heterogeneous Mediation Analysis on Epigenomic PTSD and Traumatic Stress in a Predominantly African American Cohort

Jan. 2022	**Bioinformatics Seminar, Purdue University, West Lafayette, IN**.
	Heterogeneous Mediation Analysis on Epigenomic PTSD and Traumatic Stress in a Predominantly African American Cohort
Nov. 2021	**EAC-ISBA (Hybrid), Atlantic City, New Jersey, USA and Kunming, Yunnan, China**.
	An empirical Bayes regression for multi-tissue eQTL data analysis
Oct. 2021	**NESS (Hybrid), Kingston, RI, USA**.
	Statistical inference for high-dimensional linear regression with blockwise missing data
Sep. 2021	**The ICSA Applied Statistics Symposium, Online**.
	Statistical inference for high-dimensional linear regression with blockwise missing data
Aug. 2021	**JSM, Online**.
	Integrating multi-source block-wise missing data in model selection
March 2021	**ENAR Spring Meeting, Online**.
	Heterogeneous mediation analysis for causal inference
Dec. 2020	**The ICSA Applied Statistics Symposium, Online**.
	Multicategory angle-based learning for estimating optimal dynamic treatment regimes with censored data
Nov. 2020	**Queen's University, Ontario, Canada**.
	Multicategory angle-based learning for estimating optimal dynamic treatment regimes with censored data
Dec. 2019	**Fudan University, Shanghai, China**.
	Integrating multi-source block-wise missing data in model selection
Dec. 2019	**East China Normal University, Shanghai, China**.
	Integrating multi-source block-wise missing data in model selection
Dec. 2019	**The 11th ICSA International Conference, Hangzhou, China**.
	Integrating multi-source block-wise missing data in model selection
Nov. 2019	**Workshop on LEADERS, New Haven, CT, USA**.
	Heterogeneous mediator selection for high-dimensional data
June 2019	**The ICSA Applied Statistics Symposium, Raleigh, NC, USA**.
	Integrating multi-source block-wise missing data in model selection
Oct. 2017	**Yunnan University, Kunming, China**.
	Variable selection for highly correlated predictors

Contributed

Aug. 2020	**JSM, Online**.
	Multicategory angle-based learning for estimating optimal dynamic treatment regimes with censored data
Aug. 2018	**JSM, Vancouver, Canada**.
	Variable selection for highly correlated predictors
Nov. 2018	**Bohrer Workshop, Champaign, IL, USA**.
	Integrating multi-source block-wise missing data in model selection
Nov. 2017	**Bohrer Workshop, Champaign, IL, USA**.
	Variable selection for highly correlated predictors

Referee Experience

Journal of the American Statistical Association (4)

Journal of the Royal Statistical Society: Series B (1)

Journal of Machine Learning Research (2)

Electronic Journal of Statistics (2)

Journal of Nonparametric Statistics (1)

Journal of Computational and Graphical Statistics (1)

Biometrics (3)

Bioinformatics (1)

The Canadian Journal of Statistics (2)

Statistics in Medicine (1)

Statistica Sinica (2)

Lifetime Data Analysis (1)

Science China Mathematics (1)

Service

2021–current **Chief Executive Officer of Purdue Statistics Alumni Association**.
Purdue University

2022–current **Member of Academic Program Committee for International Purdue Statistics Symposium (IPSS)**.
Purdue University

2022–current **Member of Local Organizing Committee for International Purdue Statistics Symposium (IPSS)**.
Purdue University

2022–2022 **Member of External Review Committee**.
Purdue University

2021–2022 **Member of Data Science Search Committee**.
Purdue University

2021–2022 **Member of SLDS Student Paper Award Committee**.
American Statistical Association

2017–2019 **Committee Member of Graduate Student Invited Seminar**.
The University of Illinois at Urbana–Champaign

July 2017 **Session Chair of Machine Learning Applications**.
JSM, Baltimore, MD, USA

June 2017 **Session Chair of Prediction and inference for high-dimensional data and non-parametric models**.
The ICSA Applied Statistics Symposium, Chicago, IL, USA

Professional Memberships

American Statistical Association

Institute of Mathematical Statistics

International Chinese Statistical Association