Yang Ni – Curriculum Vitae

Associate Professor
Department of Statistics
Texas A&M University
BLOC 458E, 3143 TAMU
College Station, TX 77843-3143
https://nystat.github.io/yni/
yni@stat.tamu.edu

Research Interests

Methods   Causal Discovery, Graphical Models, Bayesian Nonparametrics

Science   Single-Cell Multi-Omics, Microbiome Multi-Omics, Electronic Health Records, Psychometrics

Education

2012-2015   PhD in Statistics - Rice University

Academic Positions

2023-present   Associate Professor - Department of Statistics, Texas A&M University

2018-2023   Assistant Professor - Department of Statistics, Texas A&M University

2023-present   Co-Director - Single Cell Data Science Core, Texas A&M University

2019-present   Research Affiliate - Texas A&M Institute of Data Science (TAMIDS)

2019-present   Co-Director - Center for Statistical Bioinformatics, Texas A&M University

2016-2018   Postdoctoral Fellow - The University of Texas at Austin

Editorial Board

2021-present   Associate Editor - Journal of the American Statistical Association

2021-present   Associate Editor - The American Statistician

2024   Area Chair - The 15th ACM-BCB

2023   Area Chair - The 14th ACM-BCB

Current Grants

2024-2029   **NIH R01MH136979 (Co-I)**
Social Media Use and Mental Health among Racially/Ethnically Minoritized Adolescents
Total Award Amount: $3,741,574
Effort: 5%

2023-2025   **National Academy of Sciences, Engineering, and Medicine (Co-PI)**
Integrating Public Data Systems and Social Determinants of Health in Coastal Texas
At-Risk Neighborhoods
Total Award Amount: $299,978
Effort: 5%

2023-2028   **CPRIT RP230204 (Co-Director of the Single Cell Data Science Core, Co-I)**
Gene-Environment-Lifestyle Interactions in Cancer
Total Award Amount: $5,998,422
Effort: 10%

2022-2026   **NIH 1R01GM148974-01 (PI)**
Bayesian Differential Causal Network and Clustering Methods for Single-Cell Data
Total Award Amount: $1,199,899
Effort: 21%

2022-2027   **NIH 1R01MH128085-01 (Co-I)**
Bayesian Methods for Optimizing Combination Antiretroviral Therapy for Mental
Health in People with HIV
Total Award Amount: $2,013,161
Effort: 15%

2021-2024   **NSF DMS-2112943 (PI)**
Automated Causal Discovery with Observational Data via Directed Graphical
Models — New Theory and Methods
Total Award Amount: $179,960
Effort: 8%

2022-2027   **NIH 1R25LM014219-01 (Co-I)**
The Biomedical Informatics and Behavioral Sciences (BIBS) Summer Research Program
Total Award Amount: $649,830
Effort: 4%

Completed Grants

2023-2024   **NSF DMS-2227849 (PI)**
CBMS Conference: Foundations of Causal Graphical Models and Structure
Discovery – Texas A&M University, May 15-19, 2023

2021-2023   **1R03MH127298-01 (Co-I)**
Body Iron and Mental Health-Related Outcome in Adolescents: A NHANES Data Analysis

2022-2023   **Seed Grant Program for Promoting Research Collaborations (PI)**
Type II: Pursuing Interdisciplinary Research in Liberal Arts and Science — New Statistical
Methods for Addressing Social Inequality

2021-2022   **Texas A&M Triads for Transformation (PI)**
Causal Graphical Models For Microbial Community Coalescence

2019-2022   **NSF DMS-1918851 (PI)**
Collaborative Research: New Bayesian Methods for Modeling the Effect of
Antiretroviral Drugs on Depressive Symptomatology in HIV Patients

2020-2022   **TAMIDS Postdoctoral Project Program (PI)**
Studying Microbial Interactions and Host Heterogeneity via Data Integration

2020-2021   **The College of Science Strategic Transformative Research Program (PI)**
Novel Statistical Models for Microbial Interaction Networks

Refereed Publications

$\star$ = my student/postdoc $\dagger$ = corresponding author $\S$ = single/leading statistician

43. Jin, W.*, **Ni, Y.**, Spence, A., Rubin, L., and Xu, Y. "Directed Cyclic Graph for Time-Series Causal Discovery." *Journal of Machine Learning Research* (accepted subject to minor revision).

42. Chakrabarti, A.*, **Ni, Y.**[†], Morris, E.R.A., Salinas, M.L., Chapkin, R.S., and Mallick, B. (2024) "Graphical Dirichlet Process for Clustering Non-Exchangeable Grouped Data." *Journal of Machine Learning Research* (just accepted).

    [Winner of the Section on Bayesian Statistical Science (SBSS) of the American Statistical Association Student Paper Award]

41. Das, S., Niu, Y., **Ni, Y.**, Mallick, B., and Pati, D. (2024) "Blocked Gibbs Sampler for Hierarchical Dirichlet Processes." *Journal of Computational and Graphical Statistics* (just accepted).

40. Chakrabarti, A.*, **Ni, Y.**, and Mallick, B. (2024) "JOBS: JOint BayeSian Modeling of Cell Dependence and Gene Associations in Spatially Resolved Transcriptomic Data." *Scientific Report*, 14(1), 9516.

39. Whitfield-Cargile, C.M., Chung, H. C.*, Coleman, M.C., Cohen, N.D., Chamoun-Emanuelli, A.M., Ivanov, I., Goldsby, J.R., Davidson, L.A., Gaynanova, I., **Ni, Y.**, and Chapkin, R.S. (2024) "Integrated Analysis of Gut Metabolome, Microbiome, and Exfoliome Data in an Equine Model of Intestinal Injury." *Microbiome*, 12, 74.

38. Jin, W.*, **Ni, Y.**, Spence, A., Rubin, L., and Xu, Y. (2024) "A Bayesian Approach for Investigating the Pharmacogenetics of Combination Antiretroviral Therapy in People with HIV." *Biostatistics* (just accepted).

37. Wang, Z.*, Zhou, F.*, He, K., and **Ni, Y.**[†] (2024) "Multi-Way Overlapping Clustering by Bayesian Tensor Decomposition." *Statistics and Its Interface*, 17, 219–230.

36. Roy, S.*, Wong, R., and **Ni, Y.** (2023) "Directed Cyclic Graph for Causal Discovery from Multivariate Functional Data." In *Advances in Neural Information Processing Systems (NeurIPS) 36*.
    [Recipient of Scholar Award from NeurIPS.]

35. Niu, Y.*, **Ni, Y.**[†], Pati, D., and Mallick, B. (2023) "Covariate-Assisted Bayesian Graph Learning for Heterogeneous Data." *Journal of the American Statistical Association* (just accepted).
    [Recipient of JASA Reproducibility Award.]

34. Zhou, F.*, He, K., Wang, K., Xu, Y., and **Ni, Y.**[†] (2023) "Functional Bayesian Networks for Discovering Causality from Multivariate Functional Data." *Biometrics*, 79, 3279–3293.

33. Chen, S.*, He, K., He, S., **Ni, Y.**, and Wong, R. (2023) "Bayesian Nonlinear Tensor Regression with Functional Fused Elastic Net Prior." *Technometrics*, 65(4), 524–536.

    [Alphabetical Order]

32. Choi, J.*, and **Ni, Y.**[†] (2023) "Model-Based Causal Discovery for Zero-Inflated Count Data." *Journal of Machine Learning Research*, 24(200), 1-32.

31. Zhou, F.*, He, K., and **Ni, Y.**[†] (2023) "Individualized Causal Discovery with Latent Trajectory Embedded Bayesian Networks." *Biometrics*, 79(4), 3191-3202.

30. **Ni, Y.**[†] (2022) "Bivariate Causal Discovery for Categorical Data via Classification with Optimal Label Permutation." In *Advances in Neural Information Processing Systems (NeurIPS) 35*.

29. **Ni, Y.**[†], Stingo, F. C., and Baladandayuthapani, V. (2022) "Bayesian Covariate-Dependent Gaussian Graphical Models with Varying Structure." *Journal of Machine Learning Research*, 23(242), 1-29.

28. Das, P., Peterson, C., **Ni, Y.**, Reuben, A., Zhang, J., Zhang, J., Do, K.A., and Baladandayuthapani, V. (2022) "Bayesian Hierarchical Quantile Regression for Precision Immuno-Oncology." *Biometrics*, 79(3), 2474-2488.

27. Zhou, F.*, He, K., Cai, J., Davidson, L., Chapkin, R., and **Ni, Y.**[†] (2022) "A Unified Bayesian Framework for Biclustering Multi-Omic Data via Sparse Matrix Factorization." *Statistics in Biosciences*, 15(3), 669-691.

26. **Ni, Y.**[†], and Mallick, B. (2022) "Ordinal Causal Discovery." In *Proceedings of the Thirty-Eighth Conference on Uncertainty in Artificial Intelligence (UAI)*, PMLR 180:1530-1540.

25. Zhou, F.*, He, K., and **Ni, Y.**[†] (2022) "Causal Discovery with Heterogeneous Observational Data." In *Proceedings of the Thirty-Eighth Conference on Uncertainty in Artificial Intelligence (UAI)*, PMLR 180:2383-2393.

24. Chung, H. C.⋆, Gaynanova, I., and **Ni, Y.**† (2022) "Phylogenetically Informed Bayesian Truncated Copula Graphical Models for Microbial Association Networks." *Annals of Applied Statistics*, 16(4), 2437-2457.

23. Li, Y., **Ni, Y.**, Rubin, L., Spence, A., and Xu, Y. (2022) "BAGEL: A Bayesian Graphical Model for Inferring Drug Effect Longitudinally on Depression in People with HIV." *Annals of Applied Statistics*, 16(1), 21–39.

22. Jin, W.⋆, **Ni, Y.**, Rubin, L., Spence, A., and Xu, Y. (2022) "A Bayesian Nonparametric Approach for Inferring Drug Combination Effects on Mental Health in People with HIV." *Biometrics*, 78, 988–1000.
[Winner of the Mental Health Statistics Section (MHSS) of the American Statistical Association Student Paper Award]

21. **Ni, Y.**, Baladandayuthapani, V., Vannucci, M., and Stingo, F. C. (2022) "Bayesian Graphical Models for Modern Biological Applications." *Statistical Methods and Applications (with Discussion)*, 31(2), 197–225.

20. Wang, Z., **Ni, Y.**†, Jing, B., Wang, D., Zhang, H., and Xing, E. P. (2022) "DNB: A Joint Learning Framework for Deep Bayesian Nonparametric Clustering." *IEEE Transactions on Neural Networks and Learning Systems*, 1-11.

19. Zhou, F.⋆, He, K., Li, Q., Chapkin, R., and **Ni, Y.**† (2021) "Bayesian Biclustering for Metagenomic Sequencing Data via Multinomial Matrix Factorization." *Biostatistics*, 23(3), 891–909.
[Winner of the Section on Bayesian Statistical Science (SBSS) of the American Statistical Association Student Paper Award]

18. Choi, J.⋆, Chapkin, R., and **Ni, Y.**† (2020) "Bayesian Causal Structural Learning with Zero-Inflated Poisson Bayesian Networks." In *Advances in Neural Information Processing Systems (NeurIPS) 33*, 5887-5897.
[Spotlight Presentation (385 out of 9454, acceptance rate 4%)]

17. **Ni, Y.**†, Jones, D., and Wang, Z. (2020) "Consensus Variational and Monte Carlo Algorithms for Bayesian Nonparametric Clustering." In *2020 IEEE International Conference on Big Data*, 204-209. [Acceptance rate: 15.7%]

16. **Ni, Y.**†, Ji, Y., Müller, P. (2020) "Consensus Monte Carlo for Random Subsets using Shared Anchors." *Journal of Computational and Graphical Statistics*, 29(4), 703-714.

15. Wang, Z., Jing, B., **Ni, Y.**, Dong, N., Xie, P., and Xing, E. P. (2020) "Relationship-Aware Multi-Class Adversarial Domain Adaptation." *The 24th European Conference on Artificial Intelligence*.

14. Vickman, R.E., Broman, M.M., Lanman, N.A., Franco, O.E., Sudyanti, P.A.G., **Ni, Y.**, Ji, Y., Helfand, B.T., Petkewicz, J., Paterakos, M.C., Crawford, S.E., Ratliff, T, L., and Hayward, S.W. (2020) "Heterogeneity of Human Prostate Carcinoma-Associated Fibroblasts Implicates a Role for Subpopulations in Myeloid Cell Recruitment." *Prostate*, 80(2), 173-185.

13. **Ni, Y.**†, Müller, P., and Ji, Y. (2020) "Bayesian Double Feature Allocation for Phenotyping with Electronic Health Records." *Journal of the American Statistical Association*, 115(532), 1620-1634.

12. **Ni, Y.**†, Müller, P., Diesendruck, M., Williamson, S., Zhu, Y., and Ji, Y. (2020) "Scalable Bayesian Nonparametric Clustering and Classification." *Journal of Computational and Graphical Statistics*, 29(1), 53-65.

11. Ge, T., Chen, C.Y., **Ni, Y.**§, Feng, Y.C.A., Smoller, J.W. (2019) "Polygenic Prediction via Bayesian Regression and Continuous Shrinkage Priors". *Nature Communications*, 10(1) 1776.
[Selected as Editors' Highlights]

10. **Ni, Y.**, Müller, P., Shpak, M., and Ji, Y. (2019) "Parallel-Tempered Feature Allocation for Large-scale Tumor Heterogeneity with Deep Sequencing Data." *In: Liu R., Tsong Y. (eds) Pharmaceutical Statistics. MBSW 2016. Springer Proceedings in Mathematics & Statistics, vol 218. Springer, Cham.*

9. **Ni, Y.**†, Stingo, F. C., Ha, M. J., Akbani, R., and Baladandayuthapani, V. (2019) "Bayesian Hierarchical Varying-sparsity Model with Application to Cancer Proteo-genomics." *Journal of the American Statistical Association*, 114(525) 48-60.

8. **Ni, Y.**, Stingo, F. C., and Baladandayuthapani, V. (2019) "Bayesian Graphical Regression." *Journal of the American Statistical Association*, 114(525) 184-197.

7. **Ni, Y.**[†], Ji, Y., and Müller, P. (2018) "Reciprocal Graphical Models for Integrative Gene Regulatory Network Analysis." *Bayesian Analysis*, 13(4), 1095–1110.

6. **Ni, Y.**[†], Müller, P, Zhu, Y, and Ji, Y. (2018) "Heterogeneous Reciprocal Graphical Models." *Biometrics*, 74(2), 606-615.

5. **Ni, Y.**[†], Müller, P., Lin, W., and Ji, Y. (2018) "Bayesian Graphical Models for Computational Network Biology." *BMC Bioinformatics*, 19(3), 63.

4. Shpak M., **Ni, Y.**[§], Lu, J., Müller, P. (2017) "Variance in Estimated Pairwise Genetic Distance Under High versus Low Coverage Sequencing: the Contribution of Linkage Disequilibrium." *Theoretical Population Biology*, 117, 51-63.

3. **Ni, Y.**, Stingo, F. C., and Baladandayuthapani, V. (2017) "Sparse Multi-Dimensional Graphical Models: A Unified Bayesian Framework." *Journal of the American Statistical Association*, 112(518) 779-793.

2. **Ni, Y.**, Stingo, F. C., and Baladandayuthapani, V. (2015) "Bayesian Nonlinear Model Selection for Gene Regulatory Networks." *Biometrics*, 71(3) 585-595.

1. **Ni, Y.**, Stingo, F. C., and Baladandayuthapani, V. (2014) "Integrative Bayesian Network Analysis of Genomic Data." *Cancer Informatics*, 13(s2) 39-48.

Non-Refereed Publications

7. **Ni, Y.**[†] (2024) "Deep Learning and Scientific Computing with R torch by Sigrid Keydana." *The American Statistician*.

6. **Ni, Y.**[†] (2023) "Handbook of Bayesian Variable Selection by Mahlet G. Tadesse and Marina Vannucci." *Journal of the American Statistical Association*, 118(542), 1449-1450.

5. **Ni, Y.**[†] (2022) "Bayesian Thinking in Biostatistics by Gary L. Rosner, Purushottam W. Laud, and Wesley O. Johnson." *Journal of the American Statistical Association*, 117(538), 1041-1042.

4. **Ni, Y.**[†] (2022) "Exploratory Data Analysis with MATLAB (Third Edition) by Wendy L. Martinez, Angel R. Martinez, and Jeffrey L. Solka." *The American Statistician*, 76(1), 85-86.

3. **Ni, Y.**, Baladandayuthapani, V., Vannucci, M., and Stingo, F. C. (2022) Rejoinder to the Discussion of "Bayesian Graphical Models for Modern Biological Applications." *Statistical Methods and Applications*, 31(2), 287–294.

2. **Ni, Y.**, and Müller, P. (2017) Discussion of "Sparse Graphs Using Exchangeable Random Measures." by Caron, F., and Fox, E. *Journal of the Royal Statistical Society: Series B*.

1. **Ni, Y.**, Marchetti, G. M., Baladandayuthapani, V, and Stingo, F. C. (2015) "Bayesian Approaches for Large Biological Networks." in Nonparametric Bayesian Methods in Biostatistics and Bioinformatics, Mitra, R. and Müller, P. (eds), Springer-Verlag.

Pending Papers

17. Sarkar, B.[⋆], and **Ni, Y.**[†] "MR.RGM: An R Package for Fitting Bayesian Multivariate Bidirectional Mendelian Randomization Networks." Minor Revision Submitted to *Bioinformatics*.

16. Choi, J.[⋆], Chapkin, R., and **Ni, Y.**[†] "Bayesian Differential Causal Directed Acyclic Graphs for Observational Zero-Inflated Counts with An Application to Two-Sample Single-Cell Data." Revision Submitted to *Annals of Applied Statistics*.

    [Winner of the Section on Bayesian Statistical Science (SBSS) of the American Statistical Association Student Paper Award]

15. **Ni, Y.**[†], Chen, S., and Wang, Z. "Casual Structural Modeling of Survey Questionnaires via a Bootstrapped Ordinal Bayesian Network Approach." Revision Submitted to *Psychometrika*.

    [https://doi.org/10.31234/osf.io/fkqzm]

14. Chung, H. C.*, **Ni, Y.**, and Gaynanova, I. "Sparse Semiparametric Discriminant Analysis for High-Dimensional Zero-Inflated Data." Revision Submitted to *Journal of Machine Learning Research*. [arXiv:2208.03734]

13. Sagar, K., **Ni, Y.**, Baladandayuthapani, V., and Bhadra, A. "Bayesian Covariate-Dependent Quantile Directed Acyclic Graphical Models for Individualized Inference." Revision Submitted to *Journal of the American Statistical Association*. [arXiv:2210.08096]

12. Chen, L., Acharyya, S., Luo, C., **Ni, Y.**, and Baladandayuthapani, V. "Probabilistic Graphical Modeling under Heterogeneity." Submitted to *Cell Reports*. [bioRxiv 2023.10.13.562136]

11. Yao, T., **Ni, Y.**, Bhadra, A., Kang, J., and Baladandayuthapani, V. "Robust Bayesian Graphical Regression Models for Assessing Tumor Heterogeneity in Proteomic Networks." Submitted to *Biometrics*. [arXiv: 2310.18474]

10. Wang, Z.*, Zhou, F.*, He, K., Galloway-Peña, J., Mallick, B., and **Ni, Y.**[†] "Modeling Microbial Community Coalescence via Compositional Directed Acyclic Graphical Models." Submitted to *Journal of the American Statistical Association*.

9. Dallakyan, A., and **Ni, Y.** "Generalized Criterion for Identifiability of Additive Noise Models Using Majorization." Submitted.

8. Chakrabarti, A.*, **Ni, Y.**[†], Pati, D., and Mallick, B. "Global-Local Dirichlet Processes for Identifying Pan-Cancer Subpopulations Using Both Shared and Cancer-Specific Data." Revision Submitted to *Annals of Applied Statistics*.

7. Choi, J.*, Chung, H. C., Gaynanova, I., and **Ni, Y.** "Bayesian Segmented Gaussian Copula Factor Model for Single-Cell Sequencing Data." Submitted.

6. Zhou, F.*, He, K., and **Ni, Y.**[†] "Tree-Based Additive Noise Models for Nonlinear Causal Discovery with Interactions." Submitted to *Biometrics*.

5. Wang, Z.*, He, K., and **Ni, Y.**[†] "Maximum a Posteriori Estimation of Directed Acyclic Graphs with Spike-and-Slab Priors."

4. Wang, Z.*, He, K., and **Ni, Y.**[†] "Variantional Inference for Directed Cyclic Graphs."

3. Arthur, K., Smallman, R., Engler, S., Lowe, J., **Ni, Y.**[§], and Fields, S. "Utility of the Theory of Planned Behavior to Predict Mask Wearing Pre- and Post-Mask Mandate." Submitted.

2. Dey, P.*, Guhaniyogi, R., **Ni, Y.**, and Mallick, B. "JASPER: Bayesian Detection of Spatially Varying Genes for Spatial Transcriptomic Data." Submitted.

1. Rogovchenko, V.*, **Ni, Y.**[†], and Mallick, B. "Clustering Spatial Transcriptomics Data with Dirichlet Process Mixture of Random Spanning Trees." Submitted.

Teaching Experience

Spring 2024	STAT 689 - Special Topics in Probabilistic and Causal Graphical Models Department of Statistics, Texas A&M University
Spring 2023	STAT 639 - Data Mining and Analysis Department of Statistics, Texas A&M University
Fall 2022	STAT 636 - Applied Multivariate Analysis and Statistical Learning Department of Statistics, Texas A&M University
Spring 2022	STAT 639 - Data Mining and Analysis Department of Statistics, Texas A&M University
Spring 2022	STAT 211 - Principles of Statistics I Department of Statistics, Texas A&M University
Fall 2021	STAT 689 - Special Topics in Probabilistic Graphical Models Department of Statistics, Texas A&M University

Spring 2021	STAT 639 - Data Mining and Analysis Department of Statistics, Texas A&M University
Fall 2020	STAT 211 - Principles of Statistics I Department of Statistics, Texas A&M University
Fall 2020	STAT 681 - Seminar Department of Statistics, Texas A&M University
Spring 2020	STAT 639 - Data Mining and Analysis Department of Statistics, Texas A&M University
Spring 2020	STAT 681 - Seminar Department of Statistics, Texas A&M University
Fall 2019	STAT 211 - Principles of Statistics I Department of Statistics, Texas A&M University
Spring 2019	STAT 639 - Data Mining and Analysis Department of Statistics, Texas A&M University
Fall 2018	STAT 211 - Principles of Statistics I Department of Statistics, Texas A&M University

Current PhD Students

2024-present Seoyeon Ok

2024-present Laura Huang

2024-present Alex Coulter

2024-present Robert Lee

2022-present Lei Wang

2022-present Bitan Sarkar

2022-present Valeriya Rogovchenko

2022-present Arhit Chakrabarti

2022-present Saptarshi Roy

2022-present Donald Turner

2021-present Trisha Dawn

Current Postdocs

2024-present Shuangjie Zhang

2023-present Selim Sabag Romero Gonzalez

2023-present Anamitra Chaudhuri

2023-present Pritam Dey

2022-present Wei Jin

Past Trainees

2019-2023	Junsouk Choi (Postdoctoral Fellow, University of Michigan)
2022-2023	Austin Sibu (MS in Statistics)
2019-2022	Wei Jin (Postdoctoral Fellow, Johns Hopkins University)
2020-2022	Hee Cheol Chung (Assistant Professor, UNC Charlotte)
2019-2022	Yabo Niu (Assistant Professor, University of Houston)
2019-2022	Sandipan Pramanik (Postdoctoral Fellow, Johns Hopkins University)
2019-2022	Fangting Zhou (Postdoctoral Fellow, Yale University)
2019-2022	Brian Kidd (Statistician, Sciome)
2021 Summer	Michael Lee (BS in Statistics)
2020 Summer	Lei Li (MS in Biostatistics)
2019-2020	Sahil Patel (BS in Computer Science)

PhD Student Committee

Yabo Niu (Graduated in 2019), Huiya Zhou (Graduated in 2022), Eric Chuu (Graduated in 2022), Patrick Ding (Graduated in 2022), Honggang Wang (Graduated in 2024), Rachael Shudde (Graduated in 2022), Mohammadreza Armandpour (Graduated in 2022), Changwoo Lee (Graduated in 2024), Jianing Dong (Graduated in 2024), Abhisek Chakraborty (Graduated in 2024), Lei Wang, Sungee Hong, Snigdha Das, Gozde Sert, Weiwei Wang, Eric Gao, Srijato Bhattacharyya, Vixey Fang (Department of Epidemiology and Biostatistics), Lahong Xu (Department of Biochemistry and Biophysics; Graduated in 2022), Faith Parum (Department of Agricultural Economics; Graduated in 2023), Yusuf Falola (Department of Petroleum Engineering; Graduated in 2024), A N M Nafiz Abeer (Department of Electrical and Computer Engineering), Destiny McNeece Mullens (Department of Veterinary Physiology and Pharmacology), Shreyan Gupta (Department of Veterinary Integrative Biosciences), Shuying Zhu (Department of Electrical and Computer Engineering), Doyoung Kwak (Electrical and Computer Engineering), Fangting Zhou (Chair; Graduated in 2022), Brian Kidd (Chair; Graduated in 2022), Junsouk Choi (Chair, Graduated in 2023), Sandipan Pramanik (Co-Chair; Graduated in 2022)

Master Student Committee

Ya Zhou (Graduated in 2019), Xin Jin, Ruomeng Zhang, Licheng Fan (Department of Chemistry; Graduated in 2020); Corina Ramont (Graduated in 2024)

Grant Review Service

2023	National Institutes of Health (U.S.)
2023	Research Grants Council of Hong Kong (Hong Kong)
2022	National Institutes of Health (U.S.)
2021	National Science Foundation (U.S.)
2021	Graduate Women In Science (U.S.)
2021	Research Grants Council of Hong Kong (Hong Kong)
2020	Biotechnology and Biological Sciences Research Council (U.K.)
2020	Engineering and Physical Sciences Research Council (U.K.)
2020	Canadian Statistical Sciences Institute, Collaborative Research Team Projects (Canada)

Journal/Conference/Book Review Service

Journal of the Royal Statistical Society (Series B); Journal of the American Statistical Association; Biometrika; Journal of Machine Learning Research; Neural Information Processing Systems; International Conference on Machine Learning; International Conference on Learning Representations; International Conference on Artificial Intelligence and Statistics (selected as a top 10% reviewer in 2022); Annals of Applied Statistics; Biometrics; Bayesian Analysis; Bioinformatics; Journal of the Royal Statistical Society (Series C); Journal of Multivariate Analysis; Statistics and Its Interface; Statistics in Medicine; Statistical Analysis and Data Mining; Sankhya (Series A); Journal of Statistical Distributions and Applications; Stat; Genetics; PLOS One; Biometrical Journal; Cancer Informatics; Epidemiology; American Statistician; Neurocomputing; BMC Medical Research Methodology; Computers in Biology and Medicine; CRC Press; Springer; PhD Dissertation (University of Bologna, Bocconi University);

Departmental/College/University Service

2024	College Faculty Development Leave Review Committee
2022-2024	Bioinformatics Degree Committee
2022-2024	Computing Resources Committee
2022	Grant Committee
2021-2024	Faculty Hiring Committee
2021	SOAR Faculty Subcommittee (Chair)
2021	SOAR Causal Research Subcommittee (Chair)
2020	Seminar Coordinator
2019-2022	Faculty Advisory Committee
2018-2019	Library Committee
2018-2019	Computing Committee

Professional Service

2021-2022	President, The Southeastern Texas Chapter of the American Statistical Association (SETCASA)
2020-2021	Vice President, The Southeastern Texas Chapter of the American Statistical Association (SETCASA)
2019-2020	Secretary, The Southeastern Texas Chapter of the American Statistical Association (SETCASA)

Organizing Experience

Organizing Committee - 7th TAMU Symposium on Bioinformatics, 2024

Invited Session - The ICSA 2024 China Conference (Wuhan), 2024

Invited Session - EAC-ISBA, 2024

Student Paper Competition Committee - ASA Section on Bayesian Statistical Science (SBSS), 2024

Organizing Committee - 6th TAMU Symposium on Bioinformatics, 2023

Invited Session - EcoSta, 2023

Organizing Committee (Chair) - CBMS Conference: Foundations of Causal Graphical Models and Structure Discovery, Texas A&M University, 2023

Student Paper Competition Committee - ASA Section on Statistical Learning and Data Science (SLDS), 2023

Invited Session - The IISA International Conference on Statistics, 2022

Organizing Committee - 5th TAMU Symposium on Bioinformatics, 2022

Invited Session - ISBA International Conference, 2021

Organizing Committee - Workshop on Data Science and Machine Learning in Agriculture and Applied Economics at TAMU, 2022

Invited Session - ENAR 2022 Spring Meeting, 2022

Savage Award Committee - International Society for Bayesian Analysis, 2021-2022

Organizing Committee - 4th TAMU Symposium on Bioinformatics (Cancer), 2021

Invited Session - ISBA International Conference, 2021

Student Paper Competition Committee - ASA Section on Statistical Learning and Data Science (SLDS), 2021

Student Paper Competition Committee - ASA Section on Bayesian Statistical Science (SBSS), 2021

Savage Award Committee - International Society for Bayesian Analysis, 2020-2021

Invited Session - 13th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics 2020), 2020

Organizing Committee - 3rd TAMU Symposium on Bioinformatics, 2020

Invited Session - ICSA Applied Statistics Symposium, 2020

Student Paper Competition Committee - ICSA Applied Statistics Symposium, 2020

Student Paper Competition Committee - ASA Section on Statistical Learning and Data Science (SLDS), 2020

Invited Sessions (6) - The IISA International Conference on Statistics, 2019

Faculty Advisory Committee - Texas A&M University Datathon, 2019

Organizing Committee - 2nd TAMU Symposium on Bioinformatics: Research and Application, 2019

Technical Program Committee - CNB-MAC Workshop, 2019

Organizing Committee - SETCASA Student Poster Competition, 2019

Technical Program Committee - CNB-MAC Workshop, 2018

Invited Session - 4th International Conference on Big Data and Information Analytics, 2018

Awards

2024	Research Impact Award - College of Arts and Sciences, Texas A&M University
2023	Faculty Excellence Award - College of Arts and Sciences, Texas A&M University
2019	ICSA New Researcher Awards - 11th ICSA International Conference, Hangzhou, China
2018	Junior Travel Support - 20th Meeting of New Researchers in Statistics and Probability
2018	NSF Junior Travel Support - ISBA World Meeting, Edinburgh, UK
2017	Travel Support - Rising Stars Symposium in Data Science, The University of Chicago
2017	Savage Award (honorable mention) - Best Bayesian Dissertations
2017	Travel Support - The Third Annual Kliakhandler Conference on Bayesian Inference in Statistics and Statistical Genetics
2017	Junior Travel Support - 19th Meeting of New Researchers in Statistics and Probability
2017	Junior Travel Support - CBMS Regional Conference on Spatial Statistics
2016	Young Researcher Award - 10th ICSA International Conference, Shanghai, China

2016   NSF Junior Travel Support - ISBA World Meeting, Sardinia, Italy

2016   Student Paper Award - The Section on Statistical Learning and Data Mining (SLDM) of the American Statistical Association (ASA), the Joint Statistical Meetings

2015   Jiann-Ping Hsu Pharmaceutical and Regulatory Sciences Award - Joint 24th ICSA Applied Statistics Symposium and 13th Graybill Conference

2015   Young Investigator Travel Award - G70 Conference, Durham, North Carolina

2014   Laplace Award (co-winner) - awarded to top papers among the student travel award winners from the Section on Bayesian Statistical Science (SBSS) of the American Statistical Association (ASA), the Joint Statistical Meetings

2012   Fellowship - Rice University, Department of Statistics

Invited Presentations/Lectures

2024   Department of Statistics, University of Wisconsin–Madison
Causal Discovery from Multivariate Functional Data

2024   Frontiers of Bayesian Inference and Data Science at the CMO Oaxaca (BIRS), Oaxaca, Mexico
Global-Local Dirichlet Processes for Identifying Pan-Cancer Subpopulations Using Both Shared and Cancer-Specific Data

2024   IMS-NUS Interpretable Inference via Principled BNP Approaches in Biomedical Research and Beyond, Singapore
Applications of Bayesian Nonparametrics in Multi-Omics and Electronic Health Records

2024   ICSA, Wuhan, China
Identify Causal Gene Regulation Using Observational Single-Cell Data

2024   EAC-ISBA, Hong Kong
Spatial Clustering for Spatial Transcriptomics Data

2024   Institute of Statistics and Big Data, Renmin University of China
Causal Discovery from Multivariate Functional Data

2024   The Institute for Mathematical Statistics - Asia-Pacific Rim Meeting, Melbourne, Australia
Graphical Dirichlet Process

2023   16th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics), Berlin, Germany
Causal Discovery from Multivariate Functional Data

2023   IMS-NUS Young Mathematical Scientist Forum - Statistics and Data Science, Singapore
Causal Discovery from Multivariate Functional Data

2023   Department of Statistics, University of Kentucky
Causal Discovery from Multivariate Functional Data

2023   Department of Mathematical and Statistical Sciences, Clemson University
Causal Discovery from Multivariate Functional Data

2023   Center for Genomic and Precision Medicine, Texas A&M Institute of Biosciences & Technology
Causal Graphical Models for Discovering Gene Regulations

2023   Department of Statistics, Rice University
Causal Discovery from Multivariate Functional Data

2023   Pacific Causal Inference Conference, Virtual
Causal Discovery from Multivariate Functional Data

2023 EcoSta, Virtual
Causal Discovery for Categorical Data via Classification with Optimal Label Permutation

2023 WNAR, Anchorage, AK
Causal Discovery for Categorical Data via Classification with Optimal Label Permutation

2023 Department of Mathematics, University of Houston
Causal Graphical Models for Discovering Gene Regulations

2023 Department of Statistics and Data Sciences, The University of Texas at Austin
Causal Graphical Models for Discovering Gene Regulations

2023 Alamo Symposium in Statistics, San Antonio, TX
Bivariate Causal Discovery for Categorical Data via Classification with Optimal Label Permutation

2023 Department of Statistics, North Carolina State University
Causal Graphical Models for Discovering Gene Regulations

2023 Department of Biostatistics, Yale University
Causal Graphical Models for Discovering Gene Regulations

2023 Pacific Symposium on Biocomputing, Big Island, HI
Bayesian Federated Learning for Sparse Models with Applications to Electronic Health Records and Genomics

2022 15th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics), London, UK
Ordinal Causal Discovery

2022 Thirty-sixth Conference on Neural Information Processing Systems, New Orleans, LA (Poster)
Bivariate Causal Discovery for Categorical Data via Classification with Optimal Label Permutation

2022 Department of Biostatistics, MD Anderson Cancer Center, Virtual
Causal Graphical Models for Discovering Gene Regulations

2022 Department of Biostatistics, University of Michigan
Causal Graphical Models for Discovering Gene Regulations

2022 School of Statistics and Data Science, Nankai University, Virtual
Causal Graphical Models for Discovering Gene Regulations

2022 Department of Mathematical Sciences, The University of Texas at Dallas
Causal Graphical Models for Discovering Gene Regulations

2022 Joint Statistical Meetings, Washington, D.C.
Bayesian Causal Discovery for Purely Observational Genomic Data

2022 The Conference on Uncertainty in Artificial Intelligence, Virtual (Poster)
Ordinal Causal Discovery

2022 ICSA 2022 Applied Statistics Symposium, Gainesville, Florida
Ordinal Causal Discovery

2022 EcoSta, Virtual
Ordinal Causal Discovery

2022 Workshop on Data Science and Machine Learning in Agriculture and Applied Economics, TAMU
Ordinal Causal Discovery

2022 ENAR, Houston, TX
Ordinal Causal Discovery

2022   IMS Statistical Methods in Genetic/Genomic Studies Workshop, Virtual
Ordinal Causal Discovery for Reverse-Engineering Gene Regulatory Networks

2021   14th International Conference of the ERCIM WG on Computational and Methodological
Statistics (CMStatistics), Virtual
Bayesian Causal Graphical Models with Purely Observational Data

2021   Foundations of Objective Bayesian Methodology Workshop, Virtual
Individualized Causal Discovery with Latent Trajectory Embedded Bayesian Networks

2021   The Fifth EAC-ISBA Conference, Atlantic City, NJ
Bayesian Causal Discovery for Purely Observational Genomic Data

2021   Department of Statistical Science, Baylor University
Bayesian Causal Discovery for Reverse-Engineering Gene Regulatory Networks

2021   Joint Statistical Meetings, Virtual
BN-LTE: Bayesian Networks with Latent Trajectory Embedding

2021   ISBA, Virtual
Bayesian Nonparametric Bi-Clustering of Microbiome Data

2021   The 4th International Conference on Econometrics and Statistics (EcoSta), Virtual
Bayesian Causal Discovery for Reverse-Engineering Single-Cell Gene Regulatory Networks

2021   Bayesian Research Group
Department of Statistics, University of Auckland, Virtual
Consensus Monte Carlo and Variational Algorithms for Bayesian Nonparametric Models

2021   Survival, Longitudinal And Multivariate (SLAM) Data Working Group
Department of Biostatistics, Johns Hopkins University, Virtual
Causal Discovery for Longitudinal Data with Functional Bayesian Networks

2021   Department of Statistical Science, Duke University, Virtual
Bayesian Causal Discovery for Reverse-Engineering Gene Regulatory Networks

2020   13th International Conference of the ERCIM WG on Computational and Methodological
Statistics (CMStatistics), Virtual
Bayesian Causal Structural Learning with Zero-Inflated Poisson Bayesian Networks

2020   ICSA 2020 Applied Statistics Symposium, Virtual
Bayesian Causal Structural Learning with Zero-Inflated Poisson Bayesian Networks

2020   Joint Statistical Meetings, Virtual
Bayesian Nonparametric Bi-Clustering of Microbiome Data

2020   Department of Biostatistics, LSU Health Sciences Center New Orleans, LA
Bayesian Nonparametric Bi-Clustering of Microbiome Data

2019   The 2019 IISA Conference, Mumbai, India
Covariate-Dependent Graphs with Application in Cancer Genomics

2019   The 11th ICSA International Conference, Hangzhou, Zhejiang, China
Covariate-Dependent Graphs with Application in Cancer Genomics

2019   12th International Conference of the ERCIM WG on Computational and Methodological
Statistics (CMStatistics), London, UK
Covariate-Dependent Graphical Models

2019   12th International Conference on Bayesian Nonparametrics, Oxford, UK
Double Feature Allocation for Phenotyping with Electronic Health Records Data

2019   Department of Statistics, Chinese University of Hong Kong, Hong Kong
Double Feature Allocation for Phenotyping with Electronic Health Records Data

2019   Institute of Statistics and Big Data, Renmin University of China
Introduction to Bayesian Parametric and Nonparametric Modeling

2019   Big Data Seminar, College of Veterinary Medicine, TAMU
Scalable Bayesian Clustering and Classification with Application to EHR

2018   4th International Conference on Big Data and Information Analytics, Houston
Scalable Bayesian Clustering and Classification with Application to EHR

2018   Electrical & Computer Engineering Bio-Seminar, TAMU
Applications of Network Models in Biostatistics and Bioinformatics

2018   Joint Statistical Meetings, Vancouver, Canada
Heterogeneous Reciprocal Graphical Models

2018   ISBA, Edinburgh, UK
Heterogeneous Reciprocal Graphical Models

2018   EcoSta, Hong Kong, China
Scalable Bayesian Nonparametric Clustering and Classification

2018   Institute of Statistics and Big Data, Renmin University of China
Introduction to Bayesian Modeling and Inference

2018   IISA International Conference on Statistics, Gainesville, FL
Scalable Bayesian Nonparametric Clustering and Classification with Application to Medical Records Data

2017   Department of Statistics at Federal University of São Carlos, Brazil (via Teleconference)
Integrative Directed Cyclic Graphical Models with Heterogeneous Samples

2017   Rising Stars Symposium in Data Science, The University of Chicago
Heterogeneous Directed Cyclic Graphs

2017   Third Annual Kliakhandler Conference on Bayesian Inference in Statistics and Statistical Genetics, Houghton, MI
Heterogeneous Directed Cyclic Graphs

2016   10th ICSA International Conference, Shanghai, China
Bayesian Graphical Regression

2015   Joint 24th ICSA Applied Statistics Symposium and 13th Graybill Conference, Fort Collins, CO
Bayesian Nonlinear Model Selection for Gene Regulatory Networks

2014   University of Texas M.D. Anderson Cancer Center
Multi-Dimensional Graphical Models

2014   Hackathon: DREAM 9 Acute Myeloid Leukemia Outcome Prediction Challenge, Houston, TX
Bayesian Nonlinear Model Selection for Gene Regulatory Networks

2013   University of Texas M.D. Anderson Cancer Center
Introduction to Graphical Models (jointly with Dr. Francesco C. Stingo)

Contributed Presentations

2024   COTS-2024, Houston, TX
Spatial Clustering for Spatial Transcriptomics Data

2023   The 2023 American Causal Inference Conference (ACIC), Austin, TX (Poster)
Causal Discovery for Observational Categorical Data

2019   Joint Statistical Meetings, Denver, CO
Double Feature Allocation for Phenotyping with Electronic Health Records Data

2018   ENAR, Atlanta, GA
Scalable Bayesian Nonparametric Clustering and Classification

2017   8th ACM Conference on Bioinformatics, Computational Biology, and Health Informatics, Boston, MA
Heterogeneous Directed Cyclic Graphs

2017   Joint Statistical Meetings, Baltimore, MD (Savage Award SPEED Section)
Heterogeneous Directed Cyclic Graphs

2017   19th Meeting of New Researchers in Statistics and Probability, Baltimore, MD (Poster)
Heterogeneous Directed Cyclic Graphs

2017   WNAR, Santa Fe, NM
Heterogeneous Reciprocal Graphical Models

2016   Joint Statistical Meetings, Chicago, IL
Sparse Multi-Dimensional Graphical Models: A Unified Bayesian Framework

2016   ISBA, Sardinia, Italy (Poster)
Sparse Multi-Dimensional Graphical Models: A Unified Bayesian Framework

2015   iBRIGHT, Houston, TX (Poster)
Sparse Multi-Dimensional Graphical Models: A Unified Bayesian Framework

2015   Joint Statistical Meetings, Seattle, WA
Sparse Multi-Dimensional Graphical Models: A Unified Framework

2015   G70 Conference, Duke University (Poster)
Bayesian Nonlinear Model Selection for Gene Regulatory Networks

2014   Department of Statistics, Rice University
Multi-Dimensional Graphical Models

2014   Joint Statistical Meetings, Boston, MA
Bayesian Nonlinear Model Selection for Gene Regulatory Networks

2014   7th Annual Bayesian Biostatistics and Bioinformatics Conference, Houston, TX (Poster)
Bayesian Nonlinear Model Selection for Gene Regulatory Networks