# Yang Ni – Curriculum Vitae

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

**2023** Area Chair - The 14th ACM-BCB

## Current Grants

**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%

**05/2023-04/2024** **NSF DMS-2227849 (PI)**
CBMS Conference: Foundations of Causal Graphical Models and Structure Discovery – Texas A&M University, May 15-19, 2023
Total Award Amount: $40,274
Effort: 4%

**09/2022-08/2026** **1R01GM148974-01 (PI)**
Bayesian Differential Causal Network and Clustering Methods for Single-Cell Data
Total Award Amount: $1,199,899
Effort: 21%

**06/2022-04/2027** **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%

**07/2021-06/2024** **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%

**09/2021-07/2023** **1R03MH127298-01 (Co-I)**
Body Iron and Mental Health-Related Outcome in Adolescents: A NHANES Data Analysis
Total Award Amount: $91,243
Effort: 4%

**09/2022-08/2027** **1R25LM014219-01 (Co-I)**
The Biomedical Informatics and Behavioral Sciences (BIBS) Summer Research Program
Total Award Amount: $649,830
Effort: 4%

## Completed Grants

**06/2022-05/2023** **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

**01/2021-12/2022** **Texas A&M Triads for Transformation (PI)**
Causal Graphical Models For Microbial Community Coalescence

**07/2019-06/2022** **NSF DMS-1918851 (PI)**
Collaborative Research: New Bayesian Methods for Modeling the Effect of Antiretroviral Drugs on Depressive Symptomatology in HIV Patients

**06/2020-05/2022** **TAMIDS Postdoctoral Project Program (PI)**
Studying Microbial Interactions and Host Heterogeneity via Data Integration

**04/2020-04/2021** **The College of Science Strategic Transformative Research Program (PI)**
Novel Statistical Models for Microbial Interaction Networks

## Refereed Publications

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

1. Zhou, F.$^\star$, He, K., Wang, K., Xu, Y., and **Ni, Y.**$^\dagger$ "Functional Bayesian Networks for Discovering Causality from Multivariate Functional Data." *Biometrics* (just accepted). [arXiv:2210.12832]
2. Niu, Y.$^\star$, **Ni, Y.**$^\dagger$, Pati, D., and Mallick, B. (2023) "Covariate-Assisted Bayesian Graph Learning for Heterogeneous Data." *Journal of American Statistical Association* (just accepted).
3. Wang, Z.$^\star$, Zhou, F.$^\star$, He, K., and **Ni, Y.**$^\dagger$ (2023) "Multi-Way Overlapping Clustering by Bayesian Tensor Decomposition." *Statistics and Its Interface* (just accepted).

4. Chen, S.$^\star$, He, K., He, S., **Ni, Y.**, and Wong, R. (2023) "Bayesian Nonlinear Tensor Regression with Functional Fused Elastic Net Prior." *Technometrics* (just accepted).

   **[Alphabetical Order]**

5. Jin, W.$^\star$, **Ni, Y.**, O'Halloran, J., Spence, A., Rubin, L., and Xu, Y. (2023) "A Bayesian Decision Framework for Optimizing Sequential Combination Antiretroviral Therapy in People with HIV." *Annals of Applied Statistics* (just accepted).

6. Choi, J.$^\star$, and **Ni, Y.**$^\dagger$ (2023) "Model-Based Causal Discovery for Zero-Inflated Count Data." *Journal of Machine Learning Research* (just accepted).

7. Zhou, F.$^\star$, He, K., and **Ni, Y.**$^\dagger$ (2023) "Individualized Causal Discovery with Latent Trajectory Embedded Bayesian Networks." *Biometrics* (just accepted).

8. Kidd, B.$^\star$, Wang, K., Xu, Y., and **Ni, Y.**$^\dagger$ (2023) "Bayesian Federated Learning for Sparse Models with Applications to Electronic Health Records and Genomics." In *Pacific Symposium on Biocomputing 28* (in press)

9. **Ni, Y.**$^\dagger$ (2022) "Bivariate Causal Discovery for Categorical Data via Classification with Optimal Label Permutation." In *Advances in Neural Information Processing Systems (NeurIPS) 35*.

10. **Ni, Y.**$^\dagger$, 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.

11. 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* (in press).

12. Zhou, F.$^\star$, He, K., Cai, J., Davidson, L., Chapkin, R., and **Ni, Y.**$^\dagger$ (2022) "A Unified Bayesian Framework for Biclustering Multi-Omic Data via Sparse Matrix Factorization." *Statistics in Biosciences* (in press).

13. **Ni, Y.**$^\dagger$, and Mallick, B. (2022) "Ordinal Causal Discovery." In *Proceedings of the Thirty-Eighth Conference on Uncertainty in Artificial Intelligence (UAI)*, PMLR 180:1530-1540.

14. Zhou, F.$^\star$, He, K., and **Ni, Y.**$^\dagger$ (2022) "Causal Discovery with Heterogeneous Observational Data." In *Proceedings of the Thirty-Eighth Conference on Uncertainty in Artificial Intelligence (UAI)*, PMLR 180:2383-2393.

15. Chung, H. C.$^\star$, Gaynanova, I., and **Ni, Y.**$^\dagger$ (2022) "Phylogenetically Informed Bayesian Truncated Copula Graphical Models for Microbial Association Networks." *Annals of Applied Statistics*, 16(4), 2437-2457.

16. 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.

17. Jin, W.$^\star$, **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]**

18. **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.

19. Wang, Z., **Ni, Y.**$^\dagger$, 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.

20. Zhou, F.$^\star$, He, K., Li, Q., Chapkin, R., and **Ni, Y.**$^\dagger$ (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]**

21. Choi, J.$^\star$, Chapkin, R., and **Ni, Y.**$^\dagger$ (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%)]**

22. **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%]

23. **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.

24. 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*.

25. 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.

26. **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.

27. **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.

28. 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]**

29. **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.*

30. **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.

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

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

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

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

35. 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.

36. **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.

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

38. Guo, W., **Ni, Y.**, and Ji, Y. (2015) "TEAMS: Toxicity- and Efficacy-based Dose Insertion Design with Adaptive Model Selection for Phase I/II Dose-Escalation Trials in Oncology" *Statistics in Biosciences*, 7(2) 432-459.

39. **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

1. **Ni, Y.**† (2023) "Handbook of Bayesian Variable Selection by Mahlet G. Tadesse and Marina Vannucci." *Journal of the American Statistical Association*.

2. **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.

3. **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.

4. **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.

5. **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*.

6. **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

1. 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." Submitted.

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

2. **Ni, Y.**†, and Chen, S. "Casual Structural Modeling of Survey Questionnaires via a Bootstrapped Ordinal Bayesian Network Approach." [10.31234/osf.io/7b6ty]

3. Chung, H. C.⋆, **Ni, Y.**, and Gaynanova, I. "Sparse Semiparametric Discriminant Analysis for High-Dimensional Zero-Inflated Data." Submitted. [arXiv:2208.03734]

4. 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. "Integrated Analysis of Gut Metabolome, Microbiome, and Exfoliome Data in an Equine Model of Intestinal Injury." Submitted.

5. Sagar, K., **Ni, Y.**, Baladandayuthapani, V., and Bhadra, A. "Bayesian Covariate-Dependent Quantile Directed Acyclic Graphical Models for Individualized Inference." Submitted. [arXiv:2210.08096]

6. Chakrabarti, A.⋆, **Ni, Y.**†, Morris, E.R.A., Salinas, M.L., Chapkin, R.S., and Mallick, B. "Graphical Dirichlet Process." Submitted. [arXiv:2302.09111]

7. Jin, W.⋆, **Ni, Y.**, Spence, A., Rubin, L., and Xu, Y. "Long-Short-Term Cyclic Structural Causal Model for Time-Series Causal Discovery." Submitted.

8. Das, S., Niu, Y., **Ni, Y.**, Mallick, B., and Pati, D. "Blocked Gibbs Sampler for Hierarchical Dirichlet Processes." Submitted. [arXiv:2304.09945]

9. Chakrabarti, A.⋆, **Ni, Y.**†, and Mallick, B. "Bayesian Flexible Modelling of Spatially Resolved Transcriptomic Data." Submitted.

10. Roy, S.⋆, Wong, R., and **Ni, Y.** "Directed Cyclic Graph for Causal Discovery of Multivariate Functional Data." Submitted.

11. Jin, W.⋆, **Ni, Y.**, Spence, A., Rubin, L., and Xu, Y. "A Bayesian Approach for Investigating the Pharmacogenetics of Combination Antiretroviral Therapy in People with HIV." Invited Revision from *Biostatistics*.

## Teaching Experience

**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

**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

**2020-present** Rochita Das

## Current Postdocs

**2023-present** Anamitra Chaudhuri

**2023-present** Pritam Dey

**2022-present** Wei Jin

## Past Trainees

**2019-2023** Junsouk Choi (Postdoctoral Fellow, University of Michigan)

**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, Rachael Shudde (Graduated in 2022), Mohammadreza Armandpour (Graduated in 2022), Changwoo Lee, Jianing Dong, Abhisek Chakraborty, Lei Wang, Sungee Hong, Snigdha Das, Gozde Sert, Weiwei Wang, Vixey Fang (Department of Epidemiology and Biostatistics), Lahong Xu (Department of Biochemistry and Biophysics; Graduated in 2022), Samuel Lockhart Priestley (Department of Agricultural Economics), Faith Parum (Department of Agricultural Economics), Yusuf Falola (Department of Petroleum Engineering), A N M Nafiz Abeer (Department of Electrical and Computer Engineering), Destiny McNeece Mullens (Department of Veterinary Physiology and Pharmacology), Fangting Zhou (Chair; Graduated in 2022), Brian Kidd (Chair; Graduated in 2022), Junsouk Choi (Chair), 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

## 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 Service

**2022-present** Bioinformatics Degree Committee

**2022-present** Computing Resources Committee

**2022** Grant Committee

**2021-present** 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 (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

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|---|---|
| **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

**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 (ISBD), 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 (ISBD), 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

**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*