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Education

- Iran University of Science & Technology, Tehran, Iran, B.Sc in Industrial & Systems Engineering, 09/1993-02/1998
- Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran, M.Sc in Industrial Engineering, 09/1998-02/2001
- Michigan State University, East Lansing, MI, M.S. in Statistics, 01/2003-05/2005
- University of Michigan, Ann Arbor, MI, M.S. in Human Genetics, 09/2006-12/2009
- University of Michigan, Ann Arbor, MI, M.S. in Applied Mathematics, 09/2007-04/2010
- University of Michigan, Ann Arbor, MI, PhD in Statistics, 09/2005- 04/2010

Professional Positions

- Postdoctoral Research Fellow, Dept. of Statistics, University of Michigan, 05/2010-06/2011
- Visiting Scholar, Statistical & Applied Mathematical Sciences Institute (SAMSI), 09/2010-05/2011
- Professor of Biostatistics and Adjunct Professor of Statistics, University of Washington, 07/2020-present
    - Associate Professor of Biostatistics and Adjunct Associate Professor of Statistics, University of Washington, 07/2016-06/2020
    - Assistant Professor of Biostatistics and Adjunct Assistant Professor of Statistics, University of Washington, 07/2011-06/2016
- Associate Chair for Strategic Research Affairs, Department of Biostatistics, University of Washington, 09/2020-present
- Founding Director, Summer Institute for Statistics in Big Data (SISBID), 05/2014-present
- Affiliate Member, Center for Statistics in Social Sciences (CSSS), University of Washington, 03/2012-present
- Affiliate Member, Biostatistics and Biomathematics Program, Fred Hutchinson Cancer Research Center (FHCRC), 09/2012-present
- Affiliate Faculty, eSciences Institute, University of Washington, 03/2014-present
- Affiliate Member, Algorithmic Foundations of Data Science (ADSI) Institute, University of Washington, 2018-present
- Executive Committee Member, UW Institute for Medical Data Science (IMDS)
- Core Lead, UW Alzheimer's Diseases Research Center (ADRC) Data Management and Statistics (DMS) Core, 2022-present

- Co-Principal Investigator, Genomics Research to Elucidate the Genetics of Rare diseases Consortium (GREGoR) Data Coordinating Center (DCC), 2022-present

Honors, Awards, Scholarships

- NIH-NHGRI Genome Science Training Fellowship, Univ. of Michigan, 2005
- *Outstanding First Year PhD Student*, Department of Statistics, Univ. of Michigan, 2006
- NIH-NCI Training Program in Cancer Research Fellowship, Univ. of Michigan, 2007
- *Distinguished Student Paper Award*, International Biometrics Society, Eastern North American Region (ENAR), 2009
- *Student Paper Competition Award*, Statistical Computing and Graphics Sections, ASA, 2010
- Nominated for *Rackham Distinguished Dissertation Award*, Rackham School of Graduate Studies, University of Michigan (<6% of PhD recipients nominated)
- *Genentech Endowed Professorship*, Department of Biostatistics, Univ. of Washington, 2011-2012
- *David Byar Travel Award*, Biometric Section of ASA, awarded to PhD students, Arend Voorman & Sen Zhao (2014, 2016)
- *Best Student Paper Award* from the ASA Business and Economics Section, awarded to the work of PhD student Alex Tank, 2017
- *Best Student Paper Award* from the ASA Biopharmaceutical Section, awarded to the work of PhD student Arjun Sondhi, 2018
- *Best Talk* at the NeurIPS Time Series Workshop, awarded to PhD student Alex Tank, 2018
- *Best Poster Award* from the ASA Business and Economic Statistics Section at the 2018 IMA Conference on "Frontiers in Forecasting"
- *Best Student Paper Award* from the ASA Statistical Learning and Data Science section, awarded to the work of PhD student Xu (Steven) Wang, 2020
- *David Byar Award*, Biometric Section of ASA, awarded to PhD student, Aaron Hudson, 2021
- *Best Paper Award* from the WNAR Student Paper Competition, awarded to the work of PhD student Kun Yue, 2021
- *Elected Fellow*, American Statistical Association (ASA), 2022
- *Leo Breiman Award*, American Statistical Association (ASA) Section on Statistical Learning and Data Science (SLDS), 2022
- *Elected Fellow*, Institute for Mathematical Statistics (IMS), 2023

Professional Activities

- **Leadership**
  - Founding Director, Summer Institute for Statistics in Big Data (SISBID), Department of Biostatistics, University of Washington, 2014-present
  - Founding co-Chair, the IMS ad-hoc committee for Junior Researchers (j-IMS)
  - Member of the Inaugural *Leo Breiman Award* Committee, ASA Section on Statistical Learning and Data Science, 2015-2016

– Educational and Advisory Committee for ENAR, 2018

– Member of the ISI Young Statisticians Committee (ISI-YS), 2018-present

– Program Chair, ASA Section in Statistical Learning and Data Science (SLDS), 2018-2019 (PC Chair Elect) and 2019-2020 (PC Chair)

– Chair, ASA Section in Statistical Learning and Data Science (SLDS), (Chair Elect) 2020-2021, Chair (2021-2022)

- **Editorial Service**

  – Associate Editor, Journal of American Statistical Association (2014-)

  – Associate Editor, Journal of Iranian Statistical Society (2015-2022)

  – Associate Editor, Journal of Multivariate Analysis (2016-2022)

  – Editor, Section on Machine Learning and Data Mining, New England Journal of Statistics in Data Science (2020-)

  – Action Editor, Journal of Machine Learning Research (JMLR) (2021-)

  – Associate Editor, Biometrika (2023-)

- **Grant Review**

  – NSF-DMS Review Panel (2013)

  – NIH-BCHI Study Section (2016)

  – NIH-GCAT Study Section (2017)

  – NSF-DMS Review Panel (2017)

  – NSF-DMS Review Panel (2019)

  – NIH-BCHI Study Section (2020)

  – NIH-MIRA Study Section (2021)

  – NSF-DMS Review Panel (2021)

  – NIH-BMRD Study Section (2021)

  – NIH-ZRG1 Study Section (2018–2022; chair in 2022)

  – NSF-DMS Review Panel (2022)

  – NIH-GCAT Study Section (2023)

- **Conference Organization**

  – Member of the Student Organizing Committee, 1st Michigan Student Symposium in Interdisciplinary Statistical Sciences (MSSISS), 2007

  – Member of the Organizing Committee, Institute for Mathematical Statistics (IMS) Young Scientists Meeting, 2014

  – Member of the Scientific Program Committee, World Statistics Congress (WSC), 2015

  – Organizing Committee co-Chair, Fifth Seattle Symposium in Biostatistics, 2015

  – Organizing Committee co-Chair, Institute for Mathematical Statistics (IMS) Meeting of New Researchers in Probability and Statistics, 2015

  – Co-Organizer, IJCAI Workshop on Knowledge Discovery in Healthcare Data, 2016

  – Scientific Committee Member, Metabolomics Society International Meeting, 2018

  – Member of the Scientific Program Committee, Joint Statistical Meetings (JSM), 2019

– Member of the Scientific Program Committee, Statistical Learning and Data Science (SLDS) Conference, 2020

– Member of the Scientific Program Committee, Eastern North American Region of the Biometrics Society (ENAR) Conference, 2021

– Member of the Organizing Committee, International Chinese Statistical Association (ICSA) Conference, 2022

Bibliography

[* indicates joint first authorship]
[‡ indicates Shojaie's mentees]

(a) **Refereed Research Articles**

1. B. Emamizadeh and **A. Shojaie**. Multi-Facility Location Problem with Probabilistic Demand Weights: A Heuristic Approach. In *Proceedings of Northeast DSI Annual Meeting*, 2002

2. **A. Shojaie** and G. Michailidis. Analysis of gene sets based on the underlying regulatory network. *Journal of Computational Biology*, 16(3):407–426, 2009

   ⋆ Highlighted by the journal as the *Editor's Pick*.

3. **A. Shojaie** and G. Michailidis. Network enrichment analysis in complex experiments. *Statistical Applications in Genetics and Molecular Biology*, 9(1), 2010

   ⋆ Received the *Outstanding Student Paper Award* from ENAR 2010.

4. **A. Shojaie** and G. Michailidis. Penalized likelihood methods for estimation of sparse high-dimensional directed acyclic graphs. *Biometrika*, 97(3):519–538, 2010

5. **A. Shojaie** and G. Michailidis. Discovering graphical Granger causality using the truncating lasso penalty. *Bioinformatics*, 26(18):i517–i523, 2010

   ⋆ Received the *Best Student Paper Award* from the ASA Section on Computational and Graphical Statistics at JSM 2010.

6. **A. Shojaie** and G. Michailidis. Penalized principal component regression on graphs for analysis of subnetworks. *Advances in Neural Information Processing Systems (NIPS)*, 23:2155–2163, 2010

7. N. Putluri, **A. Shojaie**, V. Vasu, S. Vareed, S. Nalluri, V. Putluri, G. Thangjam, K. Panzitt, C. Tallman, and C. Butler. Metabolomic profiling reveals potential markers and bioprocesses altered in bladder cancer progression. *Cancer Research*, 71(24):7376–7386, 2011

8. N. Putluri*, **A. Shojaie***, V. Vasu*, S. Nalluri, S. Vareed, V. Putluri, A. Vivekanandan-Giri, J. Byun, S. Pennathur, and T. Sana. Metabolomic profiling reveals a role for androgen in activating amino acid metabolism and methylation in prostate cancer cells. *PloS One*, 6(7):e21417, 2011

9. **A. Shojaie**, S. Basu, and G. Michailidis. Adaptive thresholding for reconstructing regulatory networks from time-course gene expression data. *Statistics in Biosciences*, 4(1):66–83, 2012

10. D. Petrochilos, **A. Shojaie**, J. Gennari, and N. Abernethy. Using random walks to identify cancer-associated modules in expression data. *BioData Mining*, 6(1):17, 2013

11. J. W. Lampe, S. L. Navarro, M. A. Hullar, and **A. Shojaie**. Inter-individual differences in response to dietary intervention: integrating omics platforms towards personalised dietary recommendations. *Proceedings of the Nutrition Society*, 72(2):207–218, 2013

12. A. Zimmerman, T. McCormick, H. Lee, and **A. Shojaie**. Improving attribute prediction through Network-Augmented Attribute Prediction. In *Proceedings of the IEEE GlobalSIP Symposium on Emerging Challenges in Network Sensing, Inference, and Communication*. IEEE, 2013

13. **A. Shojaie**. Link Prediction using Penalized Multi-Mode Exponential Random Graph Models. In *Proceedings of the 13th KDD Workshop on Learning and Mining with Graphs*. ACM, 2013

14. **A. Shojaie***, A. Jauhiainen*, M. Kallitsis*, and G. Michailidis. Inferring Regulatory Networks by Combining Perturbation Screens and Steady State Gene Expression Profiles. *PLoS One*, 9(2):e82393, 2014

15. D. M. Witten, **A. Shojaie**, and F. Zhang. The cluster elastic net for high-dimensional regression with unknown variable grouping. *Technometrics*, 56(1):112–122, 2014

16. A. K. Kaushik, S. K. Vareed, S. Basu, V. Putluri, N. Putluri, K. Panzitt, C. A. Brennan, A. M. Chinnaiyan, I. A. Vergara, N. Erho, N. L. Weigel, N. Mitsiades, **A. Shojaie**, G. Palapattu, G. Michailidis, and A. Sreekumar. Metabolomic profiling identifies biochemical pathways associated with castration-resistant prostate cancer. *Journal of Proteome Research*, 13(2):1088–1100, 2014

17. A. Voorman‡, **A. Shojaie**, and D. Witten. Graph estimation with joint additive models. *Biometrika*, 101(1):85–101, 2014

    ⋆ Received a *David Byar Travel Award* from the ASA Biometric Section at JSM 2013.

18. N. Sedaghat‡, T. Saegusa‡, T. Randolph, and **A. Shojaie**. Comparative study of computational methods for reconstructing genetic networks of cancer-related pathways. *Cancer Informatics*, 13(Suppl 2):55–66, 2014

19. P. Chun, R. McPherson, L. Marney, S. Zangeneh, B. Parsons, **A. Shojaie**, R. Synovec, and S. Juul. Serial plasma metabolites following hypoxic-ischemic encephalopathy in a nonhuman primate model. *Developmental Neuroscience*, 37(2):161–171, 2015

20. S. Chen‡, D. Witten, and **A. Shojaie**. Selection and estimation for mixed graphical models. *Biometrika*, 102(1):47–64, 2015

    ⋆ Recognized as a *Highly Cited Paper* by *Biometrika*.

21. S. Basu, **A. Shojaie**, and G. Michailidis. Network Granger causality with inherent grouping structure. *Journal of Machine Learning Research (JMLR)*, 16:417–453, 2015

22. K. M. Tan, D. Witten, and **A. Shojaie**. The cluster graphical lasso for improved estimation of gaussian graphical models. *Computational Statistics & Data Analysis*, 85:23–36, 2015

23. L. Lin‡, M. Drton, and **A. Shojaie**. Estimation of high-dimensional graphical models using regularized score matching. *Electronic Journal of Statistics*, 10(1):806–854, 2016

24. S. Zhao‡ and **A. Shojaie**. A significance test for graph-constrained estimation. *Biometrics*, 72(2):484–493, 2016

    ⋆ Received a *David Byar Travel Award* from the ASA Biometric Section at JSM 2015.

25. T. Saegusa‡ and **A. Shojaie**. Joint estimation of precision matrices in heterogeneous populations. *Electronic Journal of Statistics*, 10(1):1341–1392, 2016

26. N. Sedaghat‡, M. Fathy, M. H. Modarressi, and **A. Shojaie**. Identifying functional cancer-specific miRNA-mRNA interactions in testicular germ cell tumor. *Journal of Theoretical Biology*, 404(7):82–96, 2016

27. A. K. Kaushik*, **A. Shojaie***, K. Panzitt*, R. Sonavane, H. Venghatakrishnan, M. Manikkam, A. Zaslavsky, V. Putluri, V. T. Vasu, Y. Zhang, and others. Inhibition of the hexosamine biosynthetic pathway promotes castration-resistant prostate cancer. *Nature Communications*, 7, 2016

28. J. Ma, **A. Shojaie**, and G. Michailidis. Network-based pathway enrichment analysis with incomplete network information. *Bioinformatics*, 32(20):3165–3174, 2016

29. L. Wang, S. Chen‡, and **A. Shojaie**. Invited discussion for "causal inference by using invariant prediction: identification and confidence intervals" by J. Peters et al. *Journal of Royal Statistical Society–Series B (JRSSB)*, 78(5):947–1012, 2016

30. S. Chen[‡], D. Witten, and **A. Shojaie**. Nearly assumptionless screening for the mutually-exciting multivariate hawkes process. *Electronic Journal of Statistics*, 11(1):1207–1234, 2017

31. T. H. McCormick, H. Lee, N. Cesare, **A. Shojaie**, and E. S. Spiro. Using twitter for demographic and social science research: Tools for data collection and processing. *Sociological methods & research*, 46(3):390–421, 2017

32. X. Wang, **A. Shojaie**, Y. Zhang, D. Shelley, P. D. Lampe, L. Levy, U. Peters, J. D. Potter, E. White, and J. W. Lampe. Exploratory plasma proteomic analysis in a randomized crossover trial of aspirin among healthy men and women. *PloS One*, 12(5):e0178444, 2017

33. I. B. Stanaway, J. C. Wallace, **A. Shojaie**, W. C. Griffith, S. Hong, C. S. Wilder, F. H. Green, J. Tsai, M. Knight, T. Workman, and others. Human oral buccal microbiomes are associated with farm-worker status and azinphos-methyl agricultural pesticide exposure. *Appl. Environ. Microbiol.*, 83(2):e02149–16, 2017

34. C. Seshadri, N. Sedaghat[‡], M. Campo, G. Peterson, R. D. Wells, G. S. Olson, D. R. Sherman, C. M. Stein, H. Mayanja-Kizza, **A. Shojaie**, W. H. Boom, and T. R. Hawn. Transcriptional networks are associated with resistance to mycobacterium tuberculosis infection. *PLoS One*, 12(4):e0175844, 2017

35. S. Chen[‡], **A. Shojaie**, and D. M. Witten. Network reconstruction from high-dimensional ordinary differential equations. *Journal of the American Statistical Association (JASA T&M)*, 112(520):1697–1707, 2017

36. F. L. Miles, S. L. Navarro, Y. Schwarz, H. Gu, D. Djukovic, T. W. Randolph, **A. Shojaie**, M. Kratz, M. A. Hullar, and P. D. Lampe. Plasma metabolite abundances are associated with urinary enterolactone excretion in healthy participants on controlled diets. *Food & Function*, 8(9):3209–3218, 2017

37. B. N. Ginos, S. L. Navarro, Y. Schwarz, H. Gu, D. Wang, T. W. Randolph, **A. Shojaie**, M. A. Hullar, P. D. Lampe, M. Kratz, and others. Circulating bile acids in healthy adults respond differently to a dietary pattern characterized by whole grains, legumes and fruits and vegetables compared to a diet high in refined grains and added sugars: A randomized, controlled, crossover feeding study. *Metabolism*, 83:197–204, 2018

38. R. Mathur, D. Rotroff, J. Ma, **A. Shojaie**, and A. Motsinger-Reif. Gene set analysis methods: a systematic comparison. *BioData Mining*, 11(1):8, 2018

39. T. W. Randolph, S. Zhao[‡], W. Copeland, M. Hullar, and **A. Shojaie**. Kernel-penalized regression for analysis of microbiome data. *The Annals of Applied Statistics*, 12(1):540–566, 2018

40. A. Haris[‡], **A. Shojaie**, and N. Simon. Wavelet regression and additive models for irregularly spaced data. In *Advances in Neural Information Processing Systems*, pages 8973–8983, 2018

41. Y. Zhang, M. H. Linder, **A. Shojaie**, Z. Ouyang, R. Shen, K. A. Baggerly, V. Baladandayuthapani, and H. Zhao. Dissecting pathway disturbances using network topology and multi-platform genomics data. *Statistics in Biosciences*, 10(1):86–106, 2018

42. S. Yu[‡], M. Drton, and **A. Shojaie**. Graphical models for non-negative data using generalized score matching. In *International Conference on Artificial Intelligence and Statistics (AISTAT)*, pages 1781–1790, 2018

43. N. Sedaghat[‡], M. Fathy, M. H. Modarressi, and **A. Shojaie**. Combining supervised and unsupervised learning for improved miRNA target prediction. *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, 15(5):1594–1604, 2018

44. A. Haris[‡], **A. Shojaie**, and N. Simon. Nonparametric regression with adaptive truncation via a convex hierarchical penalty. *Biometrika*, 106(1):87–107, 2019

45. X. Wang, **A. Shojaie**, and J. Zou. Bayesian hidden Markov model in large-scale multiple testing with correlated hypotheses. *Computational Statistics and Data Analysis (CSDA)*, 136(1):123–136, 2019

46. A. Tank[‡], E. B. Fox, and **A. Shojaie**. Identifiability and estimation of structural vector autoregressive models for subsampled and mixed-frequency time series. *Biometrika*, 106(2):433–452, 2019

   ⋆ An earlier version of this paper was published in the proceedings of SIGKDD Workshop on Causal Discovery, 2016.

47. S. Yu[‡], M. Drton, and **A. Shojaie**. Generalized score matching for nonnegative data. *Journal of Machine Learning Research (JMLR)*, 20(76):1–70, 2019

48. S. Navarro, A. Tarkhan[‡], **A. Shojaie**, T. Randolph, H. Gu, D. Djukovic, K. Osterbauer, M. Hullar, M. Kratz, M. Neuhouser, P. Lampe, D. Raftery, and J. Lampe. Plasma metabolomics profiles suggest beneficial effects of a whole grain dietary pattern compared to a diet high in refined grains and added sugars on inflammation and energy metabolism in healthy adults on controlled diets. *American Journal of Clinical Nutrition*, 110(4):984–992, 2019

49. A. Sondhi[‡] and **A. Shojaie**. The Reduced PC-Algorithm: Improved Causal Structure Learning in Large Random Networks. *Journal of Machine Learning Research (JMLR)*, 20:1–31, 2019

   ⋆ An earlier version of this paper received the *Best Student Paper Award* from the ASA Biopharmaceutical Section at JSM 2018.

50. D. Whitney, **A. Shojaie**, and M. Carone. Models as (deliberate) approximations. *Statistical Science*, 34(4):591–598, 2019

51. J. Ma, **A. Shojaie**, and G. Michailidis. A comparative study of network-based pathway enrichment analysis methods. *BMC Bioinformatics*, 20(546), 2019

52. Y. Wang[‡], T. Randolph, **A. Shojaie**, and J. Ma. The generalized matrix decomposition biplot and its application to microbiome data. *mSystems*, 4(6), 2019

   ⋆ Highlighted by the journal as the *Editor's Pick*.

53. K. Jin, K. Wilson, J. Beck, C. Nelson, G. Brownridge, B. Harrison, D. Djukovic, D. Raftery, R. Brem, S. Yu[‡], M. Drton, **A. Shojaie**, P. Kapahi, and D. Promislow. Genetic and metabolic architecture of variation in diet restoration-mediated lifespan extension in *Drosophila*. *PLoS Genetics*, 16:e1008835, 2020

   ⋆ Highlighted with a *perspective article* in *PLoS Genetics*.

54. L. Lin[‡], M. Drton, and **A. Shojaie**. Statistical significance in high-dimensional linear mixed models. In *Proceedings of the 2020 ACM-IMS on Foundations of Data Science Conference (FODS)*, pages 171–181, 2020

55. X. Li[‡] and **A. Shojaie**. Invited discussion of "A Tuning-Free Robust and Efficient Approach to High-Dimensional Regression" by Wang et al. *Journal of the American Statistical Association (JASA)*, 115:1717–1719, 2020

56. S. Dibay-Moghadam[‡], S. L. Navarro, **A. Shojaie**, T. W. Randolph, L. F. Bettcher, C. B. Le, M. A. Hullar, M. Kratz, M. L. Neuhouser, P. D. Lampe, and others. Plasma lipidomic profiles after a low and high glycemic load dietary pattern in a randomized controlled crossover feeding study. *Metabolomics*, 16(12):1–12, 2020

57. S. Yu[‡], M. Drton, and **A. Shojaie**. Generalized score matching for general domains. *Information and Inference*, 11:739–780, 2021

58. H. Manzour[‡], S. Küçükyavuz, H.-H. Wu, and **A. Shojaie**. Integer programming for learning directed acyclic graphs from continuous data. *Informs Journal on Optimization*, 3(1):46–73, 2021

59. N. Simon and **A. Shojaie**. Convergence rates of nonparametric penalized regression under misspecified smoothness. *Statistica Sinica*, 31:473–489, 2021

60. **A. Shojaie**. Differential network analysis: A statistical perspective. *Wiley Interdisciplinary Reviews: Computational Statistics*, 13(2):e1508, 2021

⋆ Recognized as a *Highly Cited Paper* by *Wiley*.

61. A. Tank[‡*], X. Li[‡*], E. Fox, and **A. Shojaie**. The convex mixture distribution: Granger causality for categorical time series. *SIAM Journal on Mathematics of Data Science*, 3(1):83–112, 2021

    ⋆ Earlier versions of this paper were presented in *2nd SIGKDD Workshop on Mining and Learning for Time Series* and also received the *Best Student Paper Award* from the ASA Business and Economics Section at JSM 2018.

62. A. Tank[‡], I. Covert, N. Foti, **A. Shojaie**, and E. Fox. Neural Granger Causality. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 44(8):4267–4279, 2022

63. S. Zhao[‡], D. Witten, and **A. Shojaie**. In Defense of the Indefensible: A Very Naive Approach to High-Dimensional Inference. *Statistical Science*, 36(4):562–577, 2021

64. M. Hellstern[‡], K. Yue[‡], J. Ma, and **A. Shojaie**. `netgsa`: Fast Computation and Interactive Visualization for Topology-Based Pathway Enrichment Analysis. *PLoS Comp. Bio.*, 17(6):e1008979, 2021

65. F. Miles, S. Navarro, C. Garrison, T. Randolph, Y. Zhang, **A. Shojaie**, M. Kratz, M. Hullar, D. Raftery, M. Neuhouser, P. Lampe, and J. Lampe. Urinary enterolactone is associated with plasma proteins related to immunity and cancer development in healthy participants on controlled diets. *Human Nutrition & Metabolism*, 25:200128, 2021

66. K. Yue[‡], J. Ma, T. Thornton, and **A. Shojaie**. REHE: Fast Variance Components Estimation for Linear Mixed Models. *Genetic Epidemiology*, 45(8):891–905, 2021

    ⋆ Received a *Best Paper Award* in the 2021 WNAR student paper competition.

67. S. Yu[‡], M. Drton, D. Promislow, and **A. Shojaie**. CorDiffViz: An R Package for Visualizing Multi-Omics Differential Correlation Networks. *BMC Bioinformatics*, 22(1):1–12, 2021

68. X. Wang[‡] and **A. Shojaie**. Causal discovery in high-dimensional point process networks with hidden nodes. *Entropy*, 23(12):1622, 2021

69. **A. Shojaie** and E. B. Fox. Granger Causality: A Review and Recent Advances. *Annual Review of Statistics and Its Application*, 9(1):289–319, 2022

70. A. Hudson[‡] and **A. Shojaie**. Covariate-adjusted inference for differential analysis of high-dimensional networks. *Sankhyā: The Indian Journal of Statistics, Series A*, 84:345–388, 2022

71. A. Safikhani[‡] and **A. Shojaie**. Joint structural break detection and parameter estimation in high-dimensional non-stationary VAR models. *Journal of American Statistical Association (JASA T&M)*, 117(537):251–264, 2022

    ⋆ Received a *Best Poster Award* from the Business and Economic Statistics Section of the American Statistical Association (ASA) at the 2018 IMA Conference on "Frontiers in Forecasting."

72. A. Haris[‡], N. Simon, and **A. Shojaie**. Generalized Sparse Additive Models. *Journal of Machine Learning Research (JMLR)*, 23(70):1–56, 2022

73. B. Brooks-Worrell[*], C. Hampe[*], E. Hattery, B. Palomino, S. Zangeneh, K. Utzschneider, S. Kahn, M. Larkin, M. Johnson, K. Mather, N. Younes, N. Rasouli, C. Desouza, R. Cohen, J. Park, H. Florez, M. Valencia, GRADE Beta Cell Ancillary Study Network, **A. Shojaie**, J. Palmer, A. Balasubramanyam, and GRADE Research Group. Islet autoimmunity is highly prevalent and associated with diminished β-cell function in patients with type 2 diabetes in the GRADE study. *Diabetes*, 71:1261–1271, 2022

    ⋆ Highlighted by an *editorial article* in *Diabetes*.

74. K. Zhang[‡], A. Safikhani, A. Tank[‡], and **A. Shojaie**. Penalized Estimation of Threshold Auto-Regressive Models with Many Thresholds and Components. *Electronic Journal of Statistics (EJS)*, 16(1):1891–1951, 2022

75. S. Chakraborty[‡] and **A. Shojaie**. Nonparametric causal structure learning in high dimensions. *Entropy; arxiv preprint: arXiv:2106.11415*, 24(3):351, 2022

76. J. Bloch, A. Greaves-Tunnell, E. Shea-Brown, Z. Harchaoui, **A. Shojaie**, and A. Yazdan-Shahmorad. Network structure mediates functional reorganization induced by optogenetic stimulation of non-human primate sensorimotor cortex. *iScience*, 25(5):104285, 2022

    ⋆ Received the *CNT Best Paper Award for Neurotechnology Advancement* following presentation at the 2022 GRC Neuroelectronic Interfaces Conference.

77. T. Austin, C. McHugh, J. Brody, J. Bis, C. Sitlani, T. Bartz, M. Biggs, N. Bansal, P. Buzkova, S. Carr, C. deFilippi, M. Elkind, H. Fink, J. Floyd, A. Fohner, R. Gerszten, S. Heckbert, D. Katz, J. Kizer, R. Lemaitre, W. Longstreth, B. McKnight, H. Mei, K. Mukamal, A. Newman, D. Ngo, M. Odden, R. Vasan, **A. Shojaie**, N. Simon, G. Smith, N. Davies, D. Siscovick, N. Sotoodehnia, R. Tracy, K. Wiggins, J. Zheng, and B. Psaty. Proteomics and population biology in the cardiovascular health study (CHS): Design of a study with mentored access and active data sharing. *European Journal of Epidemiology*, 37:755–765, 2022

78. S. Zhao‡ and **A. Shojaie**. Network differential connectivity analysis. *Annals of Applied Statistics (AoAS)*, (4):2166–2182, 2022

79. I. B. Stanaway, J. C. Wallace, S. Hong, C. S. Wilder, F. H. Green, J. Tsai, M. Knight, T. Workman, E. M. Vigoren, M. N. Smith, W. C. Griffith, B. Thompson, **A. Shojaie**, and E. M. Faustman. Alteration of oral microbiome composition in children living with pesticide-exposed farm workers. *International Journal of Hygiene and Environmental Health*, 248:114090, 2023

80. R. Kalani, T. M. Bartz, B. M. Psaty, M. S. Elkind, J. S. Floyd, R. E. Gerszten, **A. Shojaie**, S. R. Heckbert, J. C. Bis, T. R. Austin, and others. Plasma proteomic associations with incident ischemic stroke in older adults: The cardiovascular health study. *Neurology*, 100(21):e2182–e2190, 2023

81. H. Pi*, L. Xia‡,*, D. D. Ralph, S. G. Rayner, **A. Shojaie**, P. J. Leary, and S. A. Gharib. Distinct metabolomic signatures are associated with right ventricular vulnerability and outcomes in pulmonary arterial hypertension. *Circulation Research*, 132:254–266, 2023

82. W. Chen‡, M. Drton, and **A. Shojaie**. Causal Structure Learning via Local Graphs. *SIAM Journal on Mathematics of Data Science* (SIMODS), 5(2):280–305, 2023

83. S. Yu‡, M. Drton, and **A. Shojaie**. Directed graphical models and causal discovery for zero-inflated data. In *Conference on Causal Learning and Reasoning*, pages 27–67. PMLR, 2023

    ⋆ Selected for *oral presentation* (9% selection rate)

84. Y. Wang‡, **A. Shojaie**, T. Randolph, P. Knight, and J. Ma. Generalized matrix decomposition regression: Estimation and inference for two-way structured data. *Ann. Appl. Statist.*, 17(4):2944–2969, 2023

85. K. E. Prater, K. J. Green, S. Mamde, W. Sun, A. Cochoit, C. L. Smith, K. L. Chiou, L. Heath, S. E. Rose, J. Wiley, C. D. Keene, R. Y. Kwon, N. Snyder-Mackler, E. E. Blue, B. Logsdon, J. E. Young, **A. Shojaie**, G. A. Garden, and S. Jayadev. Human microglia show unique transcriptional changes in alzheimer's disease. *Nature Aging*, 2023

86. T. Zhang, Y. Xiang, X. Wang‡, **A. Shojaie**, and N. Simon. On the Optimality of Nuclear-norm-based Matrix Completion for Problems with Smooth Non-linear Structure. *Journal of Machine Learning Research (JMLR)*, 24:1–38, 2023

87. S. Küçükyavuz*, **A. Shojaie***, H. Manzour‡, L. Wei, and H.-H. Wu. Consistent Second-Order Conic Integer Programming for Learning Bayesian Networks. *Journal of Machine Learning Research (JMLR)*, 24:1–38, 2023

88. A. Hudson‡ and **A. Shojaie**. Statistical inference for qualitative interactions with applications to precision medicine and differential network analysis. *Stat. in Medicine* (accepted); *arXiv preprint arXiv:2010.08703*, 2023

89. A. Tin, A. E. Fohner, Q. Yang, J. A. Brody, G. Davies, J. Yao, D. Liu, I. Caro, J. V. Lindbohm, M. R. Duggan, O. Meirelles, S. E. Harris, V. Gudmundsdottir, A. M. Taylor, A. Henry, A. S. Beiser, **A. Shojaie**, A. Coors, A. L. Fitzpatrick, C. Langenberg, C. L. Satizabal, C. M. Sitlani, E. Wheeler, E. M. Tucker-Drob, J. Bressler, J. Coresh, J. C. Bis, J. Candia, L. L. Jennings, M. Pietzner, M. Lathrop, O. L. Lopez, P. Redmond, R. E. Gerszten, S. S. Rich, S. R. Heckbert, T. R. Austin, T. M. Hughes, T. Tanaka, V. Emilsson, R. S. Vasan, X. Guo, Y. Zhu, C. Tzourio, J. I. Rotter, K. A. Walker, L. Ferrucci, M. Kivimäki, M. M. B. Breteler, S. R. Cox, S. Debette, T. H. Mosley, V. G. Gudnason, L. J. Launer, B. M. Psaty, S. Seshadri, and M. Fornage. Identification of circulating proteins associated with general cognitive function among middle-aged and older adults. *Communications Biology*, 6(1):1117, 2023

90. L. Xia[‡], V. Hantrakun, P. Teparrukkul, W. G, T. Kaewarpai, A. Dulsuk, N. Day, R. Lemaitre, N. Chantratita, D. Limmathurotsakul, **A. Shojaie**[*], S. Gharib[*], and T. West[*]. Plasma metabolomics reveals distinct biological and diagnostic signatures for melioidosis. *American Journal of Respiratory and Critical Care Medicine* (in press), 2023

    ⋆ Highlighted by an *editorial article* in *AJRCCM*.

91. S. Yu[‡], M. Drton, and **A. Shojaie**. Interaction models and generalized score matching for compositional data. In *The Second Learning on Graphs Conference*, 2023

(b) **Other Refereed Scholarly Publications**

92. **A. Shojaie** and P.-N. Tan. Outlier Detection Based on Projection Based Ordering. In *Proceedings of 6th International Conference in Data Mining, Text Mining and Business Applications*, 2005

93. S. Basu, **A. Shojaie**, and M. G. Estimating regulatory networks from time course gene expression data via adaptive penalization. *Proceedings of 26th NIPS Workshop on Machine Learning in Computational Biology*, 2011

94. **A. Shojaie** and N. Sedaghat[‡]. How different are estimated genetic networks of cancer subtypes? In *Big and Complex Data Analysis*, pages 159–192. Springer, 2017

95. N. Sedaghat[‡*], I. Stanway[*], S. Zangeneh, T. Bammler, and **A. Shojaie**. Bioinformatics in toxicology: Statistical methods for supervised learning with high-dimensional omics data. In *Comprehensive Toxicology III*, pages 447–473. Elsevier, 2018

96. J. Ma, K. Yue[‡], and **A. Shojaie**. Networks for compositional data. In *Statistical Analysis of Microbiome Data; to appear*. Springer, 2020

97. W. Chen[‡], M. Drton, and **A. Shojaie**. Definite non-ancestral relations and structure learning. *Causal Inference Workshop, UAI 2021; arXiv preprint arXiv:2105.10350*, 2021

Patents and Other Intellectual Property

a) **Publicly Available Software**

1. `netgsa`: R package for Network Enrichment Analysis

2. `ngc`: R package for inferring Network Granger Causality from high-dimensional longitudinal time series data

3. `spacejam`: R package for flexible estimation of graphical models with joint additive models

4. `lassoscore`: R package for inference in high dimensional penalized regression and M-estimation

5. `Grace`: R package for inference for graph-constrained and kernel penalized regression in high dimensions

6. `HierBasis`: R package for estimating flexible nonparametric additive functions

7. `genscore`: R package for estimation of high-dimensional graphical models using regularized score matching

8. `CorDiffViz`: R package for estimation and visualization of differential correlation networks

9. `NeuroNetLearn`: Python package for learning brain connectivity networks from spike train data

b) **Provisional Patents**

1. US20230080414A1: Cortical network structure mediates response to brain stimulation (*pending*)

2. 49923.01US1: Diagnostic and prognostic plasma metabolite biomarkers for meliondosis (*pending*)

Funding History

a) **Current Funding (as PI)**

1. Novel Statistical Inference for Biomedical Big Data; *NIH-R01*, 2020-2024, **role: PI**

2. GREGoR (Mendelian Genomics) Data Coordinating Center; *NIH-U24*, 2021-2026, **role: PI** (MPI joint with S May, UW)

3. Statistical Methods for Inferring Gene-Phenotype Associations Using Omic Data from Gene Knock-out and Human Phenotype Studies; *NIH-U01*, 2023-2028, **role: PI** (MPI joint with W Sun, L Hsu, FHCC)

b) **Selected Current Funding (as investigator)**

1. UW ADRC, DMS CORE *NIH-P30* 2021-2026, **role: DMS Core Lead** (PI: Grabowski, UW)

2. Seattle Dietary Biomarker Development Center, 2021-2025 **role: co-lead of Data Analysis Core** (PIs: Lampe, Neuhouser)

3. Explainable Machine Learning to Guide Prefrontal Brain Stimulation, *NIH-R01*, 2022-2027, **role: co-I** (MPIs: Harchaoui, Yazdan-Shahmorad, UW)

4. Systems and methods for molecular dissection of socio-environmental effects on aging, *NIH-R61/R33*, 2022-2027, **role: co-I** (PI: Pletcher, U Michigan)

5. Statistical Methods for Network-Based Analysis of Microbiome Data, *NIH-R01*, 2022-2027, **role: sub-PI** (PI: Ma, FHCRC)

c) **Completed Projects (as PI)**

1. Collaborative Research: Statistical Methodology for Network based Integrative Analysis of Omics Data, *DMS/NIGMS*, 2012-2016; **role: PI of UW project** (Lead PI: Michailidis)

2. Bridging Social Media and Public Health: Using Twitter to Explore Social Determinants of Obesity, *UW-SPH Emerging Strategic Challenges Grant* 2012-2013; **role: PI**

3. Using Social Media Networks to Identify Deviant Behavior, *Army Research Office*, 2012-2015; **role: contact PI** (MPI joint with T McCormick, H Lee, Washington U)

4. 17th IMS New Researchers Conference, *NSF*; **role: PI**

5. 17th IMS New Researchers Conference, *NSA*; **role: PI**

6. 17th IMS New Researchers Conference, *NIH*; **role: contact PI** (MPI joint with N Simon, UW)

7. Reconstructing Gene Regulatory Networks through Integration of Perturbation Screen and Steady State Expression Data Profiles, *NIH-R21*, 2013-2015; **role: PI of UW subcontract** (main PI: G Michailidis)

8. Summer Institute for Statistics of Big Data, *NIH-R25*, 2014-2017; **role: contact PI** (MPI, joint with D Witten, UW)

9. Statistical Methods for Network-Based Integrative Analysis of CVD Epigenetic Data; *NIH-K01*, 2015-2020, **role: PI**

10. Statistical Methods for Differential Network Biology with Applications to Aging; *NSF-DMS*, 2016-2021, **role: contact PI** (MPI, joint with M Drton, D Promislow, UW)

11. Statistical Methods for Discrete-Valued High-Dimensional Time Series with Applications to Neuroscience; *NSF-DMS* (CDS&E-MSS Program), 2017-2021, **role: PI**

12. Machine Learning Tools for Discovery and Analysis of Active Metabolic Pathways; *NIH-R01*, 2016-2022, **role: PI**

13. Systems Biology Analysis of Cardiac Electrical Activity and Arrhythmias; *NIH-R01*, 2019-2023, **role: PI** (MPI, joint with N Sotoodehnia, UW & D Arking, JHU)

14. A Unifying Framework for High-Dimensional Additive Modeling; *NSF-DMS*, 2019-2023, **role: co-PI** (Lead PI: N Simon)

Conferences and Symposia

a) **Invited Seminars ($^\nu$: delivered virtually)**

1. Department of Statistics, University of Michigan, Jan 2010
2. Department of Biostatistics, University of Texas, Jan 2010
3. Department of Biostatistics, University of Washington, Feb 2010
4. Department of Statistics, University of Washington, Oct 2011
5. Fred Hutchinson Cancer Research Center, Oct 2011
6. Institute for Research in Fundamental Sciences (IPM), Iran, Dec 2011
7. Department of Mathematical Sciences, Sharif University of Technology, Dec 2011
8. Machine Learning Seminar, Carnegie Mellon University, Jan 2012
9. Computational Biology & Bioinformatics Dept., Duke University, Feb 2012 (*student invited seminar*)
10. Department of Statistics and Actuarial Sciences, University of Waterloo, Sep 2012
11. Department of Statistics, Stanford University, Nov 2012
12. Department of Biostatistics, Univ. of Washington, Feb 2013
13. Department of Statistics, University of Pennsylvania, Oct 2013
14. Department of Statistics, West Virginia University, Oct 2013
15. Department of Statistics, Purdue University, Nov 2013
16. Department of Biomedical Informatics, University of Washington, Dec 2013
17. Department of Statistics, University of Wisconsin-Madison, Jan 2014
18. Department of Statistics, North Carolina State University, Jan 2014
19. Department of Statistics, Purdue University, Feb 2014
20. Department of Genome Sciences, University of Washington, Mar 2014
21. Computational Biology Program, Fred Hutchinson Cancer Research Center, Aug 2014
22. Division of Biostatistics, UC Berkeley, Oct 2014
23. Department of Mathematical Sciences, Sharif Univ. of Technology, Tehran, Iran, Dec 2014

24. Department of Statistics, University of Chicago, Jan 2015

25. Department of Biostatistics, Indiana University, Jan 2015

26. Division of Biostatistics, University of Minnesota, Feb 2015

27. PHeNOM Seminar Series, University of Washington, Feb 2015

28. Department of Biostatistics, University of North Carolina, Chapel Hill, Sep 2015

29. Department of Statistics, University of California at Los Angeles (UCLA), Oct 2015

30. Department of Biomedical Informatics, University of California at San Diego (USCD), Feb 2016

31. Yahoo Machine Learning Seminar, University of Washington, Apr 2016

32. Biomathematics & Biostatistics Seminar, Fred Hutchinson Cancer Research Center, Apr 2016

33. Data Science Seminar, Fred Hutchinson Cancer Research Center, Jul 2016

34. Division of Biostatistics, Ohio State University, Oct 2016

35. Department of Biostatistics, Vanderbilt University, Nov 2016

36. Department of Statistics, Monash University, Australia, Feb 2017

37. Institute For Molecular Bioscience, University of Queensland, Feb 2017

38. NIH BD2K Program Webinar, Feb 2017

39. Department of Biostatistics, University of Pittsburgh, Apr 2017

40. UW-ML Seminar, University of Washington, May 2017

41. Department of Statistics, Rice University, Jan 2018

42. Centre for Quantitative Medicine Duke-NUS Medical School, Singapore, Feb 2018

43. Department of Statistics and Industrial Engineering, Georgia Tech University, Mar 2018

44. Department of Biostatistics, Columbia University, Apr 2018

45. Bank of New York (BNY) Mellon, Apr 2018

46. Econometrics and Statistics Colloquium, University of Chicago Booth School of Business, Oct 2018

47. Department of Statistics, North Carolina State University, Nov 2018

48. Department of Genome Sciences COMBI Seminar, University of Washington, Feb 2019

49. Department of Biostatistics, University of Washington, Mar 2019

50. Department of Biostatistics, University of Michigan, Sep 2019

51. Department of Statistics & Probability, Michigan State University, Oct 2019

52. Department of Mathematics & Statistics, McGill University, Oct 2019

53. Computational Neuroscience Program, University of Washington, Jan 2020

54. Department of Mathematical Sciences, University of Nevada, Las Vegas, Feb 2020

55. Department of Biostatistics, University of Washington, Feb 2020

56. Department of Statistics, Oregon State University, Nov 2020[V]

57. Emory University Data Science for Scientists Club, Jan 2021[V]

58. Selective Inference Seminar, Jan 2021[V]

59. Genentech, Feb 2021[V]

60. Department of Biostatistics, University of Florida, Feb 2021[V]

61. Institute for Research in Fundamental Sciences, Tehran, Iran, Apr 2021[V]

62. Mahani Mathematical Research Center, Kerman, Iran, May 2021[V]

63. Department of Statistics and Data Science, Carnegie Mellon University, Sep 2021^{v}

64. Department of Biostatistics, Emory University, Nov 2021^{v}

65. Medical Data Science Seminar, University of Washington, Nov 2021^{v}

66. Department of Genome Sciences COMBI Seminar, University of Washington, Jan 2022^{v}

67. Department of Mathematics & Statistics, Boston University, Apr 2022^{v}

68. Department of Biostatistics, Columbia University, Apr 2022^{v}

69. Department of Statistics, University of Virginia, May 2022^{v}

70. Machine Learning in Medicine Seminar, Jointly held by University of Pittsburgh, University of Toronto, Carnegie Mellon University & University of Pittsburgh Medical Center, June 2022^{v}

71. Interdisciplinary Seminar, Isfahan University of Technology, Iran, Jul 2022^{v} (*public lecture*)

72. Department of Statistics, University of Pretoria, South Africa, Sep 2022^{v}

73. Department of Biostatistics, Yale University, Oct 2022

74. Department of Biostatistics, University of Pittsburgh, Nov 2022

75. Department of Biostatistics, Johns Hopkins University, Dec 2022

76. Department of Biostatistics and Epidemiology, University of Texas at Dallas, Jan 2023^{v}

77. Data Science Initiative for (High-School) Students, Feb 2023^{v}

78. University of Chicago Booth School of Business, Apr 2023

79. Brown University School of Public Health, June 2023

80. Department of Statistics, Texas A&M University, Oct 2023

b) **Invited Talks in Conferences (^{v}: delivered virtually)**

1. Interdisciplinary Workshop on Statistical Topics, Univ. of Michigan, March 2009

2. First IMS-Asia-Pacific Rim Meeting, Seoul, South Korea, July 2009

3. Michigan Student Symposium in Interdisciplinary Statistical Sciences (MSSISS), April 2010

4. Inter-Group Seminar (IGS), University of Michigan, Oct 2010

5. Complex Network Transition Workshop, SAMSI, June 2011

6. Machine Learning Seminar, University of Washington, Oct 2011

7. Eastern North American Region of the International Biometrics Society (ENAR), March 2012

8. Perspectives on High-dimensional Data Analysis, CRM, Universite de Montreal, May 2012

9. Fields Institute Symposium Frontiers in Network Science (Guelph University), July 2012

10. Statistical Society of Canada (SSC) 2012, July 2012

11. International Chinese Statistical Association (ICSA) Meeting, July 2012

12. Joint Statistical Meetings (JSM), August 2012

13. Northwest Metabolomics Research Center Symposium, University of Washington, Sep 2012

14. INFORMS, Oct 2012

15. Perspectives on High-dimensional Data Analysis-III, University of British Columbia, Aug 2013

16. 59th World Statistics Congress, Sep 2013

17. Eastern North American Region of the International Biometrics Society (ENAR), Mar 2014

18. Conference of the ASA Section on Statistical Learning and Data Mining, Jun 2014

19. 2014 ICSA and KISS Joint Applied Statistics Symposium, Jun 2014

20. Conference of the International Society of Non-Parametric Statistics (ISNPS), Jun 2014

21. International Indian Statistical Association, July 2014

22. Perspectives on High-Dimensional Data Analysis-IV, BANF, Aug 2014

23. INFORMS Annual Meeting, Oct 2014

24. ERCIM Computational & Methodological Statistics (CMStatistics), Italy, Dec 2014

25. Fred Hutchinson Cancer Research Center, From Data Science to Data Sense, May 2015

26. World Statistics Congress (WSC), July 2015

27. Joint Statistical Meetings (JSM), Aug 2015

28. Perspectives on High-dimensional Data Analysis-V, Victoria BC, Aug 2015

29. iBRIGHT: Integrative Biostatistics Research for Imaging, Genomics, & High-throughput Technologies in Precision Medicine, Houston, TX, Oct 2015

30. Eastern North American Region of the International Biometrics Society (ENAR), March 2016

31. Perspectives on High-dimensional Data Analysis-VI, Fields Institute, May 2016

32. ASA Statistical Learning and Data Science Conference, UNC Chapel Hill, May 2016

33. Fourth IMS Asia-Pacific Rim Meeting (APRM), Hong Kong, June 2016

34. Joint Statistical Meetings (JSM), Aug 2016

35. 2016 International Indian Statistical Association Conference, Aug 2016

36. Ann Arbor Nonparametric Statistics Workshop, University of Michigan, Oct 2016

37. INFORMS Annual Meeting, Nov 2016

38. ERCIM Computational & Methodological Statistics (CMStatistics), Italy, Dec 2016

39. 10th ICSA Conference, Shanghai, China, Dec 2016

40. Eastern North American Region of the International Biometrics Society (ENAR), March 2017

41. SIAM Annual Meeting, July 2017

42. World Statistics Congress (WSC), July 2017

43. Joint Statistical Meetings (JSM), Aug 2017

44. IMS workshop on High Dimensional Data and Complex Networks, Feb 2018

45. Institute for Mathematics and its Applications (IMA) workshop on Frontiers in Forecasting, Feb 2018

46. Eastern North American Region of the International Biometrics Society (ENAR), March 2018

47. Workshop on Discovery of Causal Structure in High Dimensions, Centre de Recherches Mathématiques (CRM), May 2018

48. Statistical Learning and Data Science (SLDS) Conference, June 2018

49. 14th Iranian Statistics Conference, Aug 2018

50. 47th Annual Iranian Mathematics Conference, Aug 2018

51. Workshop on Point Process Models, Texas A&M University, Sep 2018

52. Workshop on Network Data Analysis, Northeast Normal University, China, Oct 2018

53. Peter Hall Conference, University of California-Davis, May 2019

54. Statistics & Data Science Symposium (SDSS), Bellevue WA, May 2019

55. Machine Learning & Data Science Workshop, Department of Statistics, Columbia Univ., June 2019

56. WNAR, Portland, OR, June 2019

57. ICSA Conference, Tianjin, China, July 2019

58. MIFODS Symposium on Graphical Models, MIT, Aug 2019
59. Michigan Statistics 50th Anniversary, Ann Arbor, MI, Sep 2019
60. UW Computational Molecular Biology (CMB) Program, Oct 2019
61. Statistics and the Life Sciences: Creating a Healthier World (Boston Univ.), Nov 2019
62. ICSA Conference, Hangzhou, China, Dec 2019
63. ENAR, Mar 2020^V
64. Joint Statistical Meetings (JSM), Aug 2020^V
65. Iranian Statistics Conference (ISC), Sep 2020^V (*special/general invited session*)
66. Tenth International Conference on High-Dimensional Data Analysis, Oct 2020^V
67. ACM-IMS Foundations of Data Science (FODS) Conference, Oct 2020^V
68. INFORMS Annual Meeting, Nov 2020^V
69. ERCIM Computational & Methodological Statistics (CMStatistics), Dec 2020^V
70. UW Neural Computation and Engineering Connection, Jan 2021^V
71. ENAR, Mar 2021^V
72. IISA Conference: Statistics in the Era of Evidence Based Inference, May 2021^V
73. Joint Statistical Meetings (JSM), Aug 2021^V
74. Iranian Conference on System Biology and Bioinformatics in Life Sciences, Nov 2021^V (*keynote address*)
75. ERCIM Computational & Methodological Statistics (CMStatistics), Dec 2021^V
76. 1st International Iranian Conference on Bioinformatics, Feb 2022^V (*keynote address*)
77. ENAR, Mar 2022^V
78. Statistical Methods in Imaging (SMI), May 2022^V
79. EcoSta Conference, Jun 2022^V
80. Conference of the International Society of Non-Parametric Statistics (ISNPS), Jun 2022
81. Workshop on Statistical Network Analysis & Beyond (SNAB), Aug 2022
82. Joint Statistical Meetings (JSM), Aug 2022
83. Iranian Statistics Conference (ISC), Aug 2022^V (*special invited lecture*)
84. 63rd Iranian Mathematics Conference, Sep 2022^V (*plenary talk*)
85. UW Neuro-Retreat, Oct 2022 (*keynote address*)
86. IMS International Conference on Statistics and Data Science (ICSDS), Dec 2022
87. ERCIM Computational & Methodological Statistics (CMStatistics), Dec 2022
88. SIAM Optimization Conference, June 2023
89. ICSA Applied Statistics Symposium, June 2023
90. Joint Statistical Meetings (JSM), Aug 2023
91. Fifth Conference of the Central European Network (CEN), Sep 2023

Teaching History

a) **Formal Courses, including Distance Learning**

- *Discrete Mathematics* (CSE 260), Department of Computer Science and Engineering, Michigan State University (Summer 2003, 2005)
- *Statistical Methods* (STT 200) (two sessions), Department of Statistics and Probability, Michigan State University (Spring 2008)
- *Statistical Methods in Business* (STT 315), Department of Statistics and Probability, Michigan State University (Spring 2009)
- *Computing Extras for Biostatistics* (BIOST 561), Department of Biostatistics, University of Washington (Autumn 2011, Autumn 2012)
- *Computing Extras for Biostatistics* (BIOST 562), Department of Biostatistics, University of Washington (Winter 2012, Winter 2013)
- *Tools for Biostatistics Research* (BIOST 563), Department of Biostatistics, University of Washington (Summer 2012 (co-taught with Ken Rice), Summer 2015, Summer 2016)
- *Special Topics in Advanced Biostatistics* (BIOST 578), Department of Biostatistics, University of Washington (Spring 2014, Spring 2015)
- *Machine Learning for Biomedical Big Data* (BIOST 546), Department of Biostatistics, University of Washington (Sprint 2016, Spring 2017)
- *Lectures in Applied Statistics* (BIOST/STAT 111), Department of Biostatistics, University of Washington (Spring 2015, Spring 2016)
- *Nonparametric Regression* (BIOST/STAT 527), Department of Biostatistics, Univ. of Washington (Spring 2018)
- *Biostatistics Consulting* (BIOST 592), Department of Biostatistics, University of Washington (Spring 2019)
- *Advanced Regression Methods: Project* (BIOST 572), Department of Biostatistics, University of Washington (Spring 2020)
- *Introduction to Biomedical Data Science* (BIOST 544), Department of Biostatistics, University of Washington (Fall 2020, Fall 2021, Fall 2023)

b) **Other Teaching: Short Courses and Workshops**

- *Introduction to SAS*, Financial Engineering Summer Program, University of Michigan, (Summer 2010, 2011)
- Summer School in Statistical Genetics (SISG) module on *High-Dimensional Omics Data* (co-taught with Daniela Witten, 2012-2014)
- Summer School in Statistical Genetics (SISG) module on *Network and Pathway Analysis of Omics Data* (co-taught with Alison Motsinger-Reif, 2013-present)
- Joint Statistical Meeting (JSM) short course on *Statistical Methods for Unsupervised Learning* (2015, 2016)
- Summer School in Statistics of Big Data (SISBID) module on *Statistical Methods for Supervised Learning* (co-taught with Noah Simon, 2016-present)
- Brisbane Summer Institute in Statistical Genetics module on *Network and Pathway Analysis of Omics Data* (co-taught with Mike Inouye, 2016)
- Joint Statistical Meeting (JSM) short course on *Statistical Analysis of Biological Networks* (2019)
- *Introduction to Statistical Learning*, Seattle Symposium in Biostatistics (2015, 2020)
- ENAR short course on *Statistical Analysis of Biological Networks* (2020)

Advising and Formal Mentoring

a) **PhD Dissertations, Chair**

1. Arend Voorman, Biostatistics PhD, University of Washington, 2011-2014 (co-chair: D Witten)
2. Shizhe Chen, Biostatistics PhD, University of Washington, 2013-2016 (co-chair: D Witten)
3. Sen Zhao, Biostatistics PhD, University of Washington, 2014-2017
4. Lina Lin, Statistics PhD, University of Washington, 2015-2017 (co-chair: M Drton)
5. Asad Haris, Biostatistics PhD, University of Washington, 2015-2018
6. Arjun Sondhi, Biostatistics PhD, University of Washington, 2016-2019
7. Hasan Manzour, ISE PhD, University of Washington, 2018-2019 (co-chair: S Küçükyavuz)
8. Shiqing Yu, Statistics PhD, University of Washington, 2017-2020 (co-chair: M Drton)
9. Aaron Hudson, Biostatistics PhD, University of Washington, 2018-2021
10. Xu (Steven) Wang, Biostatistics PhD, University of Washington, 2019-2021
11. Wenyu Chen, Statistics PhD, University of Washington, 2018-2022 (co-chair: M Drton)
12. Kunhui Zhang, Statistics PhD, University of Washington, 2019-2022
13. Xiudi Li, Biostatistics PhD, University of Washington, 2019-2022 (co-chair: A Luedtke)
14. Si Cheng, Biostatistics PhD, University of Washington, 2020-2023
15. Kun Yue, Biostatistics PhD, University of Washington, 2019-present
16. Michael Hellstern, Biostatistics PhD, University of Washington, 2021-present
17. Gabriela Vasconcelos, Biostatistics PhD, University of Washington, 2022-present
18. Carla Pinkney, Statistics PhD, Lancaster University (via the STORi program), 2022-present (co-chairs: Alex Gibberd & Carolina Euan)

b) **Masters Theses, Chair**

1. Kevin Rubenstein, University of Washington, 2012-2014 (co-chair: K Rice)
2. Afshin Mashadi-Hossein, University of Washington, 2013-2015

c) **Postdoctoral and Visiting Fellows**

1. Takumi Seagusa, Postdoctoral Fellow, 2012-2014. Current position: Assistant Professor of Statistics, University of Maryland, College Park
2. Nafiseh Sedaghat, Visiting Student, 2015-2016. Current position: PhD Student in Bioinformatics, Simon Fraser University
3. Abolfazl Safikhani, Visiting Scholar, 2017. Current position: Assistant Professor of Statistics, George Mason University
4. Yue Wang, Postdoctoral Fellow (joint with J Ma, FHCRC), 2018-2020. Current position: Assistant Professor of Biostatistics, University of Colorado
5. Sepideh Dibai, Postdoctoral Fellow (joint with J Lampe, FHCRC), 2018-2021. Current position: Research Scientist at Amazon
6. Shubhadeep Chakraborty, Postdoctoral Fellow, 2020-2022. Current position: Senior Manager in the Statistical Methodology group, Bristol Myers Squibb (BMS)
7. Lu Xia, Postdoctoral Fellow (joint with S Gharib, UW), 2020-2023. Current position: Assistant Professor of Statistics & Biostatistics, Michigan State University (MSU)

8. Byol Kim, Postdoctoral Fellow, 2021-present

d) **Mentored Scientists**

1. Steve Mooney, UW Epidemiology (member of K99/R00 scientific advisory committee), 2018-2020
2. Amy Willis, UW Biostatistics (peer mentor), 2018-2019
3. Hesam Jahanian, UW Radiology (K01 co-mentor), 2020-present
4. Eardi Lila, UW Biostatistics (peer mentor), 2021-present
5. Monica Sanchez-Contreras, UW Pathology (K01 co-mentor), 2023-present
6. Rizwan Kalani, UW Neurology (K08 co-mentor), 2023-present
7. Ting Ye, UW Biostatistics (peer mentor), 2023-present
8. Guanghao Qi, UW Biostatistics (peer mentor), 2023-present

Last updated: February 12, 2024