Wenjing Liao

CONTACT INFORMATION	School of Mathematics Georgia Institute of Technology Atlanta, GA, 30332	(530)219-8617 wliao60@gatech.edu https://people.math.gatech.edu/~wliao60

School of Mathematics
Georgia Institute of Technology
Atlanta, GA, 30332
(530)219-8617
wliao60@gatech.edu
https://people.math.gatech.edu/~wliao60

RESEARCH INTERESTS:

High-dimensional data analysis, manifold learning, deep learning theory, scientific machine learning, signal processing, applied harmonic analysis and computational mathematics.

EMPLOYMENT

School of Mathematics, Georgia Institute of Technology

Associate Professor, 2023 - present
Assistant Professor, 2017 - 2023

Department of Mathematics, Johns Hopkins University

Assistant Research Scientist and Senior Lecturer, 2016 - 2017
Mentor: Mauro Maggioni

Department of Mathematics and Information Initiative at Duke, Duke University

Visiting Assistant Professor, 2013 - 2016
Mentor: Mauro Maggioni

Statistical and Applied Mathematical Sciences Institute

Postdoctoral Fellow, 2013 - 2015
Program: Low-dimensional Structure in High-dimensional Systems

EDUCATION

Department of Mathematics, University of California, Davis

Ph.D. in Applied Mathematics, 2013
Advisor: Albert Fannjiang

School of Mathematical Sciences, Fudan University, Shanghai

B.S. in Mathematics, 2008

HONORS AND AWARDS

Research awards:

- Cullen-Peck Scholar Award, College of Science, Georgia Tech, 2024
- Department of Energy (DOE) CAREER award, 2023 - 2028
- National Science Foundation (NSF) CAREER award, 2022 - 2027
- Charles Chui Young Research Best Paper Award in the journal "Applied and Computational Harmonic Analysis", 2021
- Alice Leung Scholarship in Mathematics, UC Davis, 2012.

Teaching awards:

- Thank a Teacher note and certificate, Georgia Tech, 2022
- Student Recognition of Excellence in Teaching: Spring 2022 and Fall 2020 CIOS Honor Roll, Georgia Tech
- Class of 1969 Teaching Fellow, Georgia Tech, 2019

- Outstanding Graduate Student Teaching Award, UC Davis, 2013.

JOURNAL PAPERS

1. Hao Liu and **Wenjing Liao**, "Learning functions varying along a central subspace", arXiv:2001.07883, 2020, to appear in SIAM Journal on Data Science, 2024.

2. Hao Liu, Haizhao Yang, Minshuo Chen, Tuo Zhao, **Wenjing Liao**, "Deep Nonparametric Estimation of Operators between Infinite Dimensional Spaces", to appear in Journal of Machine Learning Research, 2024.

3. Hao Liu, Alex Havrilla, Rongjie Lai and **Wenjing Liao**, "Deep Nonparametric Estimation of Intrinsic Data Structures by Chart Autoencoders: Generalization Error and Robustness", Applied and Computational Harmonic Analysis, 2024.

4. Jiahui Cheng, Minshuo Chen, Hao Liu, Tuo Zhao and **Wenjing Liao**, "High Dimensional Binary Classification under Label Shift: Phase Transition and Regularization", Sampling Theory, Signal Processing, and Data Analysis, 2023.

5. Yuchen He, Sung Ha Kang, **Wenjing Liao**, Hao Liu and Yingjie Liu, "Group projected subspace pursuit for identification of variable coefficient differential equations (GP-IDENT)", Journal of Computational Physics, 2023.

6. Mengyi Tang, **Wenjing Liao**, Rachel Kuske and Sung Ha Kang, "WeakIdent: Weak Formulation for Identifying Differential Equations Using Narrow-Fit and Trimming", Journal of Computational Physics, 2023.

7. Zhe Wang, Minshuo Chen, Tuo Zhao, **Wenjing Liao** and Yao Xie, Yao, "A Manifold Two-Sample Test Study: Integral Probability Metric with Neural Networks", Information and Inference: A Journal of IMA, 12(3), 2023.

8. **Wenjing Liao**, Mauro Maggioni and Stefano Vigogna, "Multiscale regression on unknown manifolds", Mathematics in Engineering, 2022.

9. Weilin Li, Zengying Zhu, Zengying, Weiguo Gao and **Wenjing Liao**, "Stability and super-resolution of MUSIC and ESPRIT for multi-snapshot spectral estimation", IEEE Transactions on Signal Processing, 70 (pp. 4555-4570), 2022.

10. Minshuo Chen, Haoming Jiang, **Wenjing Liao** and Tuo Zhao, "Nonparametric regression on low-dimensional manifolds using deep ReLU networks", Information and Inference: A Journal of IMA, 11(4), 1203-1253, 2022.

11. Yuchen He, Sung Ha Kang, **Wenjing Liao**, Hao Liu and Yingjie Liu, "Numerical Identification of Nonlocal Potentials in Aggregation", Communications in Computational Physics, 32(3), 2022.

12. Yuchen He, Sung Ha Kang, **Wenjing Liao**, Hao Liu and Yingjie Liu, "Robust identification of differential equations by numerical techniques from a single set of noisy observation", SIAM Journal on Scientific Computing, 44(3), A1145-A1175, 2022.

13. Tianyu Qiu, **Wenjing Liao**, Yihui Huang, Jinyu Wu, Di Guo, Donghao Liu, Xin Wang, Jianfeng Cai, Bingwen Hu, Xiaobo Qu, "An Automatic Denoising Method for NMR Spectroscopy Based on Low-Rank Hankel Model", IEEE Transactions on Instrumentation and Measurement, 70 (pp. 1-12), 2021.

14. Sung Ha Kang, **Wenjing Liao** and Yingjie Liu, "IDENT: Identifying differential equations with numerical time evolution", Journal of Scientific Computing, Vol. 87, No. 1, pp. 1-27, 2021.

15. Weilin Li and **Wenjing Liao**, "Stable super-resolution limit and smallest singular value of restricted Fourier matrices", Applied and Computational Harmonic Analysis, Vol. 51, 2021.

16. Weilin Li, **Wenjing Liao** and A. Fannjiang, "Super-resolution of the ESPRIT algorithm", IEEE Transactions on Information Theory, Vol. 66, No. 7, 2020.

17. **Wenjing Liao** and Mauro Maggioni, "Adaptive geometric multiscale approximations for intrinsically low-dimensional data", Journal of Machine Learning Research, 20(98) (pp.1-63), 2019.

18. Yonina C. Eldar, **Wenjing Liao** and Sui Tang, "Sensor calibration for off-the-grid spectral estimation", Applied and Computational Harmonic Analysis, 48(2) (pp.570-598), 2018.

19. **Wenjing Liao** and Albert Fannjiang, "MUSIC for single-snapshot spectral estimation: stability and super-resolution", Applied and Computational Harmonic Analysis, Vol. 40, No. 1, pp.33-67, 2016.

20. **Wenjing Liao**, "MUSIC for multidimensional spectral estimation: stability and super-resolution", IEEE Transactions on Signal Processing, Vol. 63, No. 23, pp.6395 - 6406, 2015.

21. Albert Fannjiang and **Wenjing Liao**, "Phasing with phase-uncertain mask", Inverse problems, Vol. 29, No. 12, 2013.

22. Albert Fannjiang and **Wenjing Liao**, "Coherence-pattern guided compressive sensing with unresolved grids", SIAM Journal on Imaging Sciences, Vo. 5, No. 1, pp.179-202, 2012.

23. Albert Fannjiang and **Wenjing Liao**, "Phase retrieval with random phase illumination", Journal of the Optical Society of America A, Vo. 29, No. 9, pp.1847-1859, 2012.

CONFERENCE
PAPERS

1. Alex Havrilla, Kevin Rojas, **Wenjing Liao** and Molei Tao, "DFU: scale-robust diffusion model for zero-shot super-resolution image generation", NeurIPS workshop on diffusion models, 2024.

2. Zixuan Zhang, Minshuo Chen, Mengdi Wang, **Wenjing Liao** and Tuo Zhao, "Effective Minkowski Dimension of Deep Nonparametric Regression: Function Approximation and Statistical Theories", International Conference on Machine Learning (ICML), 2023.

3. Biraj Dahal, Alex Havrilla, Minshuo Chen, Tuo Zhao and **Wenjing Liao**, "On Deep Generative Models for Approximation and Estimation of Distributions on Manifolds", Conference on Neural Information and Processing Systems (NeurIPS), 2022.

4. Hao Liu, Minshuo Chen, Siawpeng Er, **Wenjing Liao**, Tong Zhang and Tuo Zhao, "Benefits of Deep and Wide Convolutional Residual Networks: Function Approximation under Smoothness Constraint", International Conference on Machine Learning (ICML), 2022.

5. Hao Liu, Minshuo Chen, Tuo Zhao and **Wenjing Liao**, "Besov function approximation and binary classification on low-dimensional manifolds using convolutional residual networks", International Conference on Machine Learning (ICML), 2021.

6. Minshuo Chen, Haoming Jiang, **Wenjing Liao** and Tuo Zhao, "Efficient approximation of deep ReLU networks for functions on low dimensional manifolds", Conference on Neural Information and Processing Systems (NeurIPS), 2019.

7. Weilin Li and **Wenjing Liao**, "Conditioning of restricted Fourier matrices and super-resolution of MUSIC", Proceedings of the Sampling Theory and Applications (SampTA), 2019.

8. Myung Cho, **Wenjing Liao** and Yuejie Chi, "A non-convex approach to joint sensor calibration and spectrum estimation", 2018 IEEE Statistical Signal Processing Workshop.

9. **Wenjing Liao**, Mauro Maggioni and Stefano Vigogna, "Learning adaptive multiscale approximations to data and functions near low-dimensional sets", Proceedings of the IEEE Information Theory Workshop (ITW), 2016.

10. Yin Xian, Xiaobai Sun, **Wenjing Liao**, Yuan Zhang, Douglas Nowacek and Loren Nolte, "Intrinsic structure study of whale vocalizations", IEEE Oceans Conference, 2016.

11. **Wenjing Liao**, "MUSIC for joint frequency estimation: stability with compressive measurements", IEEE Global Conference on Signal and Information Processing, 2014.

12. Albert Fannjiang and **Wenjing Liao**, "Compressed sensing phase retrieval", IEEE Asilomar Conference on Signals, Systems and Computers, 2011.

13. Albert Fannjiang and **Wenjing Liao**, "Mismatch and resolution in compressive imaging", Proceedings of SPIE on Wavelets and Sparsity XIV, Vol 8138, 2011.

14. Albert Fannjiang and **Wenjing Liao**, "Superresolution by compressive sensing algorithms", IEEE Asilomar Conference on Signals, Systems and Computers, 2012.

PREPRINTS

1. Hao Liu, Biraj Dahal, Rongjie Lai and **Wenjing Liao**, "Generalization Error Guaranteed Auto-Encoder-Based Nonlinear Model Reduction for Operator Learning", arXiv: 2401.10490, 2024.

2. Mengyi Tang, Hao Liu, **Wenjing Liao** and Sung Ha Kang, "Fourier Features for Identifying Differential Equations (FourierIdent)", arXiv:2311.16608, 2023.

3. Minshuo Chen, **Wenjing Liao**, Hongyuan Zha and Tuo Zhao "Statistical guarantees of generative adversarial networks for distribution estimation", arXiv preprint arXiv:2002.03938, 2020.

4. Minshuo Chen, Hao Liu, **Wenjing Liao** and Tuo Zhao, "Doubly robust off-policy learning on low-dimensional manifolds by deep neural networks", submitted to Mathematics of Operation Research, arXiv:2011.01797, 2020.

GRANTS

- PI, DOE Early Career Research Program, Model Reduction by Deep Learning: Interpretability and Mathematical Advances, $875,000, 2023 - 2028.

- PI, NSF DMS 2145167, Exploiting Low-Dimensional Structures in Data Science: Manifold Learning, Partial Differential Equation Identification, and Neural Networks, $481,394, 2022 - 2027.

- PI, NSF DMS 2012652, Deep Neural Networks for Structured Data: Regression, Distribution Estimation, and Optimal Transport, $342,394, 2020 - 2024.

- PI, NSF DMS 1818751, Analysis and Recovery of high-dimensional data with low-dimensional structures, $215,384, 2017 - 2020.

- Co-PI, NSF TRIPODS+X:EDU: Collaborative Education: Data-driven Discovery and Alliance, $200,000, 2019 - 2021.

- AMS-Simons Travel Grants, $4000, 2016 - 2018.

GaTech	Numerical Analysis I, Math 4640, Spring 2020
	Numerical Linear Algebra, Math 6643, Fall 2022
	Mathematical Foundations of Data Science, Math 4210, Fall 2023, Spring 2022,Fall 2019
	Math Methods of Applied Sciences II, Math 6702, Spring 2022
	Probability and Statistics, Math 3670, Fall 2021
	Numerical Approximation Theory, Math 6645, Spring 2021, Spring 2019
	Differential Equations, Math 2552, Fall 2020, Fall 2018, Fall 2017
	Topics in Linear Algebra, Math 4305, Fall 2019, Spring 2018
JHU	Linear Algebra, MATH 201, Fall 2016
Duke	Multivariate Calculus for Economics, Math 202, Fall 2015, Fall 2014
UC Davis	Differential Equations, Math 22B, Summer 2012
	Linear Algebra, Math 22A, Summer 2011

Postdoc:

- Hao Liu, Fall 2018 – 2021, now Assistant Professor at Hong Kong Baptist University

Graduate students:

- Minshuo Chen, Fall 2017 – 2022, co-advised with Prof. Tuo Zhao in ISyE, now postdoc at Princeton University

- Jiahui Cheng, Fall 2020 – present

- Biraj Dahal, Fall 2020 – present

- Alex Havrilla, Fall 2021 – present

Undergraduate research:

- Joshua Gammage and Jincheol Jeong, Summer REU, 2021

- Di Hou and Qiansheng Liu, exchange undergraduate students from China, Spring 2021.

- Shengduo Zhang, exchange undergraduate students from China, Fall 2019.

- Sabrina Fuller, Julia Balukonis, Haley Rosso, Annika Cleveland, Maati O. Mckinney, and Hrishikesh Bodas, Summer REU, 2019.

- Chris Kwan, GT math undergraduate, Spring 2018.

- Yuyao Wang, Zhaoyang Cheng and Yan Zhang, exchange undergraduate students from China, Spring 2018. Yuyao is currently a PhD student in Mathematics at UCSD, and Zhaoyang is currently a PhD student in Mathematics and System Science at the Chinese Academy of Science in China.

- Andrew Suh, Georgia Tech math and CS undergraduate, summer 2018. Andrew is currently a PhD student in Computer Science at Boston University.

- Area Chair, Conference on Parsimony and Learning (CPAL), 2024
- Guest editor for A special issue in Sampling Theory, Signal Processing, and Data Analysis, 2022.
- Technical Program Committee member, SPARS conference, 2019.
- NSF Panel, 2020 and 2023
- Review for Applied and Computational Harmonic Analysis, Information and Inference: A Journal of the IMA, Conference on Learning Theory (COLT), SIAM Journal on Scientific Computing, SIAM Journal on Imaging Science, Foundation of Computational Math, Physica D: Nonlinear Phenomena, IEEE Transactions on Signal Processing, Signal Processing Letters, Journal of Signal Processing, IEEE Transactions on Computational Imaging, etc.

Workshop:

- Co-organizer, Workshop on Sampling, Inference, and Data-Driven Physical Modeling in Scientific Machine Learning, IPAM, January 13 - 17, 2025.
- Co-organizer, Southeast Applied and Computational Math Student Workshop, Georgia Institute of Technology, Atlanta, April 5 - 6, 2024.
- Co-organizer, Workshop on the Foundation of Deep Learning, Georgia Tech, October 8-11, 2018.

Minisymposium:

- Co-organizer, mini-symposium "Deep Learning for Imaging Science", SIAM Conference on Imaging Science, Atlanta, May 28-31, 2024.
- Co-organizer, mini-symposium "Exploiting Low-Dimensional Structures in Data Science", SIAM Conference on Applied Linear Algebra, Paris, May 13-17, 2024.
- Co-organizer, mini-symposium "Machine Learning on Data with Low Dimensional Structures", SIAM Conference on Mathematics of Data Science, Cincinnati, May 5-7, 2020, cancelled due to Pandemic.
- Co-organizer, mini-symposium "Harmonic Analysis in Imaging and Signal Processing", SIAM Annual Meeting, 2018.
- Co-organizer, mini-symposium "Low Dimensional Structures in Imaging Science", SIAM Conference on Imaging Science, 2018.
- Organizer, mini-symposium "Topics in the Mathematics of Data Analysis", SIAM Southeastern Atlantic Sectional Conference, 2018.

Seminar:

- Applied and Computational Math Seminar organizer, Georgia Tech, 2017 – present.
- Data Seminar organizer, Johns Hopkins University, 2016-2017.

Invited Conference Talks:

1. Spring 2024 AMS Southeastern Sectional Meeting, Florida State University, March 23 - 24, 2024

2. Canadian Mathematical Society Winter Meeting, Montreal, December 1-4, 2023

3. The 41st Southeastern-Atlantic Regional Conference on Differential Equations, Florida A&M University, Tallahassee, FL, November 18-19, 2023

4. Annual Meeting of SIAM Central States Section, University of Nebraska, Lincoln (UNL), October 7-8, 2023

5. AWM Research Symposium, Clark Atlanta University, September 30 - October 2, 2023

6. ICIAM, International Congress on Industrial and Applied Mathematics, Japan, August 21 - 25, 2023

7. Banff Research program on New Ideas in Computational Inverse Problems, Banff International Research Station, Canada, October 23-28, 2022

8. Fall Fourier Talks, University of Maryland, College Park, October 6-7, 2022

9. SIAM Conference on Data Science, San Diego, USA, September 26-30, 2022

10. SIAM Annual Meeting, Pittsburgh, USA, July 11-15, 2022

11. Focus Program on Data Science, Approximation Theory and Harmonic Analysis, Fields Institute, Toronto, Canada, May 16-20 2022

12. CFE - CMStatistics, virtual conference, December 18-20, 2021

13. Online workshop on "Seeking Low Dimensionality in Deep Neural Networks", Virtual, November 22-23, 2021

14. Georgia Statistics Day, Emory University, Georgia, USA October 11, 2021

15. Joint Math Meeting, Special session "Mathematical Analysis in Data Science" associated with the AMS Colloquium lectures delivered by Ingrid Daubechies, Denver, USA, January 16-17, 2020

16. International Conference on Sampling Theory and Applications, Bordeaux, July 8-12, 2019

17. AWM Research Symposium, Rice University, April 6-7, 2019.

18. SIAM Conference on Computational Science and Engineering (CSE19), Spokane, Washington, February 24 - March 1, 2019.

19. AMS Fall Western Sectional Meeting, San Francisco, October 27-28, 2018.

20. The 56th Annual Allerton Conference, Allerton Park in Monticello, Illinois, October 2-5, 2018.

21. SIAM Annual Meeting, Portland, Oregon, July 9-13, 2018.

22. International Conference on Computational Harmonic Analysis (ICCHA7), Vanderbilt University, May 14-18, 2018.

23. Georgia Scientific Computing Symposium (GSCS-2018), Georgia State University, February 24, 2018.

24. Workshop on Harmonic Analysis and Sampling Theory, University of Central Florida, February 2, 2018

25. International Conference on Data Science, Shanghai, December 18-19, 2017.

26. Data Institute Conference, University of San Francisco, October 15-17, 2017.

27. Waves and Imaging in Random Media, ICERM, September 25-29, 2017.

28. Phaseless Imaging in Theory and Practice: Realistic Models, Fast Algorithms, and Recovery Guarantees, IMA, August 14-18, 2017.

29. SIAM Annual Meeting, Pittsburgh, July 10-14, 2017.

30. SIAM Parameter Space Dimension Reduction, Pittsburgh, July 9-10, 2017.

31. Applied Inverse Problems Conference, Hangzhou, China, May 29 - June 2, 2017.

32. SIAM Conference on Imaging Sciences, Albuquerque, May 23-26, 2016.

33. Second Workshop on Optimization for Image and Signal Processing, Institut Henri Pointcaré, Paris, December 2015.

34. Mini-symposium on "Regularization of Inverse Problems in Imaging Sciences: Theoretical and Numerical Aspects", International Congress on Industrial and Applied Mathematics, Beijing, August 2015.

35. Groups and Interactions in Data, Networks and Biology, Department of Mathematical Sciences, Carnegie Mellon University, May 2015.

36. AMS Sectional Meeting, Michigan State University, March 2015.

37. The Second IEEE Global Conference on Signal and Information Processing, Atlanta, December 2014.

38. Mini-symposium on "Advances in Phase Retrieval for Diffractive Imaging", SIAM Conference on Imaging Science, Hong Kong, May 2014.

39. Mini-symposium on "Super-Resolution: Theoretical and Numerical Aspects", SIAM Conference on Imaging Science, Hong Kong, May 2014.

40. Bay Area Scientific Computing Day, Stanford, December 2012.

41. Davis Math Conference, UC Davis, 2012.

Invited Seminar Talks:

42. Computational and Applied Math (CAM) Seminar, North Carolina State University, March 29, 2024

43. Computational and Applied Math Seminar, Purdue University, March 4, 2024

44. School of Math Colloquium, Georgia Tech, November 2, 2023

45. PDE Seminar, Georgia Tech, September 19, 2023

46. Data Science Seminar, UC Davis, online, April 14, 2023

47. Applied and Computational Math Seminar, Clemson University, USA, September 16, 2022

48. Applied and Computational Math Seminar, University of Georgia, USA, March 1, 2022

49. Applied and Computational Math Seminar, Auburn University, USA, Feb 25, 2022

50. Computational and Applied Math (CAM) colloquium at Penn State University, online, October 20, 2021

51. College of Science Data Science Seminar, Georgia Tech, USA, September 2021

52. One World Mathematics of Information, Data, and Signal Seminar, Virtual, June 17, 2021

53. CMSE Seminar, Michigan State University, Feb 19, 2021.

54. Data Science Seminar, University of Minnesota, Feb 2, 2021.

55. Analysis Seminar, University of Oklahoma, November 23, 2020.

56. Applied Math Seminar, University of Massachusetts Amherst, October 13, 2020.

57. Colloquium, Rensselaer Polytechnic Institute, September 16, 2020.

58. Purdue Online Data Science Seminar, September 14, 2020.

59. Colloquium, Department of Statistics, University of Georgia, March 5, 2020.

60. Seminar, Fudan University, December 18, 2019.

61. Colloquium, Shanghai Jiaotong University, December 17, 2019.

62. University of Maryland, College Park, Center for Scientific Computation and Mathematical Modeling, December 4, 2019.

63. Mathematics seminar, Chinese Academy of Science, Beijing, August 12, 2019.

64. Applied Math Seminar, University of Notre Dame, April 25, 2019.

65. Scientific Computing Seminar, Emory University, December 7, 2018.

66. Applied and Computational Math Seminar, Georgia State University, November 8, 2018.

67. High-dimensional seminar, School of Mathematics, Georgia Tech, November 7, 2018.

68. Research Seminar, Oak Ridge National Lab, November 17, 2017.

69. ISYE Statistics Seminar, Georgia Tech, October 5, 2017.

70. Applied Math and Analysis Seminar, Department of Mathematics, Duke University, September 13, 2017.

71. Norbert Wiener Seminar, University of Maryland, College Park, April 17, 2017.

72. Seminar, School of Mathematics, Georgia Tech, January 19, 2017.

73. Applied Mathematics Seminar, University of Utah, January 18, 2017.

74. Colloquium, Department of Mathematics, University of Utah, January 17, 2017.

75. Seminar, Department of Mathematics, University of Massachusetts, Amherst, December 16, 2016.

76. Seminar, Hausdorff Research Institute for Mathematics, Bonn, March 22, 2016.

77. Colloquium, Department of Mathematics, University of Central Florida, September 2015.

78. Data Seminar, Information and Initiative at Duke, October 15, 2015.

79. Applied Analysis Seminar, Department of Mathematics, Vanderbilt University, April 2015.

80. Applied Math and Analysis Seminar, Department of Mathematics, Duke University, November 2014.

81. Norbert Wiener Seminar, University of Maryland, College Park, April 2014.

82. Graduate and Faculty Seminar, Department of Mathematics, Duke University, April 2014.

83. Student-Run Applied Math Seminar, Department of Mathematics, UC Davis, 2011.

Outreach presentations:

84. Undergraduate Seminar, School of Mathematics, Georgia Tech, USA, November 7 in 2022, October 5 in 2020, October 22 in 2018

85. EXPLORE minisymposium for high school seniors who received an offer from Georgia Tech, Feb 22, 2020

86. Research Horizons Seminar, School of Mathematics, Georgia Tech, USA, March 28, 2018

Poster presentations:

87. Georgia Scientific Computing Day, Emory University, February 29, 2020.

88. Conference on Neural Information Processing Systems, Vancouver, December 8-14, 2019.

89. IMA workshop on Transdisciplinary Foundations of Data Science, Minnesota, September, 2016.

90. 2016 North-American School of Information Theory, Duke University, June 2016.

91. Workshop on Harmonic Analysis, Graphs and Learning, Hausdorff Research Institute for Mathematics, Bonn, Germany, March 14-18, 2016.

92. February Fourier Talks, University of Maryland, College Park, February, 2016.

93. February Fourier Talks, University of Maryland, College Park, February, 2015.

94. UCL-Duke Workshop on Sensing and Analysis of High-Dimensional Data, University College London, September 2014.

95. February Fourier Talks, University of Maryland, College Park, February 2013.

96. IEEE Asilomar Conference on Signals, Systems and Computers, Pacific Grove, 2012.

97. SIAM Conference on Imaging Science, Philadelphia, 2012.