Eric C. Chi

North Carolina State University
Dept. of Statistics
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Research Interests

Numerical optimization, statistical learning, tensor decompositions, robust estimation, data mining, applications to high dimensional data analysis in bioinformatics

Education

2007 - 2011	**Ph.D. & M.A., Statistics**, Rice University, Houston, TX *Thesis Advisor: David W. Scott*
2005 - 2007	Baylor College of Medicine, Houston, TX Completed two years of didactic and clinical training in MD/PhD program
1999 - 2001	**M.S., Electrical Engineering**, University of California, Berkeley *Minor areas: Statistics, Industrial Engineering and Operations Research*
1995 - 1999	**B.A., Physics**, Summa Cum Laude, Rice University, Houston, TX

Professional Experience

Assistant Professor (August 2015 - present), Dept. of Statistics, North Carolina State University

Postdoc (July 2013 - August 2015), Dept. of Electrical and Computer Engineering, Rice University
Mentor: Richard G. Baraniuk

Postdoc (September 2011 - July 2013), Dept. of Human Genetics, UCLA
Mentor: Kenneth L. Lange

CSGF Intern (Summers 2010, 2011), Sandia National Laboratories, Livermore, California
Mentor: Tamara G. Kolda

CSGF Intern (Summer 2009), Lawrence Berkeley National Laboratories, Berkeley, California
Mentors: Paul Spellman & Elizabeth Purdom

Graduate Student Researcher (2007-2011), Dept. of Statistics, Rice University, Houston, TX
Advisor: David W. Scott

Student Intern (Summer 2008), Dept. of Epidemiology, M.D. Anderson Cancer Center, Houston, TX
Mentors: Kim Anh Do & Christopher Amos

Staff (2004-2005), Space Sciences Laboratory, Berkeley, California

Graduate Student Researcher (2000-2004), Dept. of Electrical Engineering and Computer Science, University of California, Berkeley
Advisor: Jean C. Walrand

Student Intern (Summer 1998), Shell Oil E&P Bellaire Technology Center, Houston, TX

Student Intern (Summer 1996), M.D. Anderson Cancer Center, Houston, TX

Selected Awards & Fellowships

Faculty Early Career Development Program (CAREER) Award, National Science Foundation, 2018

Ralph E. Powe Junior Faculty Enhancement Award, 2017

U.S. delegate to 61st Lindau Meeting of Nobel Laureates and Students, 2011

Department of Energy Computational Science Graduate Fellowship, 2008-2011

Larus Award for Best Student Presentation at AAAS Southwestern & Rocky Mountain Meeting, 2010

R25 Cancer Prevention Fellowship, 2008

Jack C. Pollard Graduate Fellowship in Engineering, 2007

National Science Foundation Graduate Research Fellowship, 1999-2002

Outstanding Graduate Student Instructor Award at UC Berkeley, 2001

Inducted into Phi Beta Kappa, 1999

Inducted into Sigma Pi Sigma (National Physics Honors Society), 1998

Bonner Book Award Recipient (Rice Physics Dept.), given to the most outstanding sophomore, junior, senior physics student, 1997, 1998, 1999

Editorial Positions

Associate Editor, *Journal of Computational and Graphical Statistics*, 2016 - present.

Editorial Board of *Statistical Methods in Medical Research* (SAGE Journals), 2011-present

Publications

Journal Articles

29. EJ. Min, **E. C. Chi**, and H. Zhou, Tensor Canonical Correlation Analysis, *Stat*, in press.

28. **E. C. Chi** and S. Steinerberger, Recovering Trees with Convex Clustering, *SIAM Journal on the Mathematics of Data Science*, 1(3):383–407, 2019, DOI:10.1137/18M121099X.

27. **E. C. Chi** and T. Li and, Matrix Completion from a Computational Statistics Perspective, *WIREs Computational Statistics*, e1469, 2019, DOI:10.1002/wics.1469.

26. **E. C. Chi**, L. Hu, A. K. Saibaba, and A. U. K. Rao, Going off the Grid: Iterative Model Selection for Biclustered Matrix Completion, *Journal of Computational and Graphical Statistics*, 28(1):36–47, 2019, DOI:10.1080/10618600.2018.1482763.

25. J. Xu, **E. C. Chi**, M. Yang, and K. Lange, A Majorization-Minimization Algorithm for Split Feasibility Problems, *Computational Optimization and Applications*, 71(3):795-828, 2018, DOI:10.1007/s10589-018-0025-z.

24. **E. C. Chi**, G. I. Allen, and R. G. Baraniuk, Convex Biclustering, *Biometrics*, 73(1):10-19, 2017, DOI:10.1111/biom.12540.

23. J. P. Long, **E. C. Chi**, and R. G. Baraniuk, Estimating a Common Period for a Set of Irregularly Sampled Functions with Applications to Periodic Variable Star Data, *Annals of Applied Statistics*, 10(1):165-197, 2016, DOI:10.1214/15-AOAS885.

22. J. T. Chi, **E. C. Chi**, and R. G. Baraniuk, *k*-POD: A Method for *k*-Means Clustering of Missing Data, *The American Statistician*, 70(1):91-99, 2016, DOI:10.1080/00031305.2015.1086685.

21. **E. C. Chi**, and K. Lange, Splitting Methods for Convex Clustering, *Journal of Computational and Graphical Statistics*, 24(4):994-1013, 2015, DOI:10.1080/10618600.2014.948181.

20. G. K. Chen, **E. C. Chi**, J. M.O. Ranola, and K. Lange, Convex Clustering: An Attractive Alternative to Hierarchical Clustering, *PLoS Computational Biology* 11(5): e1004228, 2015, DOI:10.1371/journal.pcbi.1004228.

19. **E. C. Chi** and K. Lange, Stable Estimation of a Covariance Matrix Guided by Nuclear Norm Penalties, *Computational Statistics and Data Analysis* 80:117-128, 2014, DOI:10.1016/ j.csda.2014.06.018.

18. **E. C. Chi**, H. Zhou, and K. Lange, Distance Majorization and its Applications, *Mathematical Programming Series A* 146(1):409-436, 2014, DOI:10.1007/s10107-013-0697-1.

17. K. Lange, **E. C. Chi**, and H. Zhou, A Brief Survey of Modern Optimization for Statisticians, *International Statistical Review* 82(1):46-70, 2014, DOI: 10.1111/insr.12022.

16. K. Lange, **E. C. Chi**, and H. Zhou, A Brief Survey of Modern Optimization for Statisticians: Rejoinder, *International Statistical Review* 82(1):81-89, 2014, DOI: 10.1111/insr.12030.

15. **E. C. Chi** and D. W. Scott, Robust Parametric Classification and Variable Selection by a Minimum Distance Criterion, *Journal of Computational and Graphical Statistics* 23(1):111-128, 2014, DOI:10.1080/10618600.2012.737296.

14. **E. C. Chi** and K. Lange, A Look at the Generalized Heron Problem Through the Lens of Majorization-Minimization, *The American Mathematical Monthly* 121(2):95-108, 2014, DOI:10.4169/amer.math.monthly.121.02.095.

13. **E. C. Chi**, H. Zhou, G. K. Chen, D. Ortega Del Vecchyo, and K. Lange, Genotype Imputation via Matrix Completion, *Genome Research* 23:509-518, 2013, DOI:10.1101/gr.145821.112.

12. **E. C. Chi** and T. G. Kolda, On Tensors, Sparsity, and Nonnegative Factorizations, *SIAM Journal of Matrix Analysis and Applications* 33(4):1272-1299, 2012, DOI:10.1137/110859063.

11. **E. C. Chi**, S. B. Mende, M.-C. Fok, and G. D. Reeves, Proton Auroral Intensifications and Injections at Synchronous Altitude, *Geophysical Research Letters* 33(6), 2006, DOI:10.1029/2005GL024656.

10. R. Gupta, **E. Chi**, and J. Walrand, Different Algorithms for Normal and Protection Paths, *Journal of Network and Systems Management* 13(1):13-33, 2005, DOI:10.1007/s10922-005-1845-6.

9. **E. Chi**, M. Fu, and J. Walrand, Proactive Resource Provisioning, *Computer Communications* 27(12):1174-1182, 2004, DOI:10.1016/j.comcom.2004.02.019.

Refereed Conference Articles

8. B. Lusch, **E. C. Chi**, and J. N. Kutz, Shape Constrained Tensor Decompositions, in *The 6th IEEE International Conference on Data Science and Advanced Analytics*, (Washington, DC, Oct 5-8, 2019), arXiv:1608.04674 [stat.ML].

7. G. Mishne, **E. C. Chi**, R. R. Coifman, Co-manifold learning with missing data, in *International Conference on Machine Learning (ICML) 2019*, (Long Beach, CA, Jun 9-15, 2019), PMLR 97:4605-4614, Proceedings.

6. J. Xu, **E. C. Chi**, K. Lange, Generalized Linear Model Regression under Distance-to-set Penalties, in *Advances in Neural Information Processing Systems (NIPS) 30* (Spotlight Paper), (Long Beach, CA, Dec 4-9, 2017), pp.1385–1395, Proceedings.

5. **E. C. Chi**, G. I. Allen, H. Zhou, O. Kohannim, K. Lange, P. M. Thompson, Imaging Genetics via Sparse Canonical Correlation Analysis, in *ISBI'13 : Proceedings of the Tenth IEEE International Symposium on Biomedical Imaging*, (San Francisco, CA, Apr 7-11, 2013), IEEE, 2013, pp.740–743, DOI:10.1109/ISBI.2013.6556581.

4. R. Gupta, **E. Chi**, and J. Walrand, Sharing Normal Bandwidth During a Failure, in *The Seventh INFORMS Telecommunications Conference*, (Boca Raton, FL, Mar 7-10, 2004), 2004.

3. R. Gupta, **E. Chi**, and J. Walrand, Different Algorithms for Normal and Protection Paths, in *DRCN'04 : Proceedings of the Fourth International Workshop on Design of Reliable Communication Networks*, (Banff, Canada, Oct 19–22, 2004), IEEE, 2004, pp. 189–196, DOI:10.1109/DRCN.2003.1275356.

2. **E. Chi**, M. Fu, and J. Walrand, Proactive Resource Provisioning for Voice Over IP, in *SPECTS'03 : Proceedings of the International Symposium on Performance Evaluation of Computer and Telecommunication Systems* (Montréal, Canada, Jul 20-24, 2003), 2003.

1. S. L. Thomsen, B. Baldwin, **E. Chi**, J. Ellard, J. A. Schwartz, Histopathology of Laser Skin Resurfacing, in *Proceedings of the Seventh Lasers in Surgery: Advanced Characterization, Therapeutics, and Systems* (San Jose, CA, Feb 8, 1997), SPIE, 1997, pp. 287-292, DOI:10.1117/12.275056.

Peer-Reviewed Book Chapters & Other Refereed Articles

2. **E. C. Chi**, "Proximal Methods for Penalized Regression," Wiley StatsRef-Statistics Reference Online, 10.1002/9781118445112.stat08052.

1. Y. Hu, **E. C. Chi**, and G. I. Allen, "ADMM Algorithmic Regularization Paths for Sparse Statistical Machine Learning," in *Splitting Methods in Communication and Imaging, Science and Engineering*, Edited by R. Glowinski, S. Osher, and W. Yin, 2016, DOI:10.1007/978-3-319-41589-5.

Submitted for Publication

4. Y. Feng, L. Xiao, and **E. C. Chi**, Sparse Single Index Models for Multivariate Responses.

3. H. L. Brantley, J. Guinness, and **E. C. Chi**, Baseline Drift Estimation for Air Quality Data using Quantile Trend Filtering. arXiv:1904.10582 [stat.ME]

2. J. Rhyne, **E. C. Chi**, J-Y. Tzeng, and X. Jeng, Fast-LORS: Joint Modeling for eQTL Mapping in R. arXiv:1805.05170 [stat.AP].

1. **E. C. Chi**, B. R. Gaines, W. W. Sun, H. Zhou, and J. Yang, Provable Convex Co-clustering of Tensors. arXiv:1803.06518 [stat.ME].

Unrefereed Manuscripts

E. C. Chi and K. Lange, Techniques for Solving Sudoku Puzzles, 2012 (available at arXiv:1203.2295).

E. C. Chi and T. G. Kolda, Making Tensor Factorizations Robust to Non-Gaussian Noise, Technical Report Number SAND2011-1877, Sandia National Laboratories, Albuquerque, NM and Livermore, CA, March 2011 (available at SAND2011-1877).

E. C. Chi and T. G. Kolda, Making Tensor Factorizations Robust to Non-Gaussian Noise in NIPS Workshop on Tensors, Kernels, and Machine Learning, (Whistler, BC, Canada), December 2010 (available at arXiv:1010.3043 [math.NA]).

E. C. Chi, Parametric Classification and Variable Selection by the Minimum Integrated Squared Error Criterion, Ph.D. Thesis, Rice University, 2011.

Tutorial Articles

J. T. Chi and **E. C. Chi**, Getting to the Bottom of Matrix Completion and Nonnegative Least Squares with the MM Algorithm, StatisticsViews, March 2014.

J. T. Chi and **E. C. Chi**, Getting to the Bottom of Regression with Gradient Descent, StatisticsViews, January 2014.

Invited Conference and Workshop Presentations

39. Invited Session Talk, The 4th EcoSta Conference, Seoul, Korea, Jul 20-22, 2020
38. Invited Session Talk, Eastern North American Region International Biometric Society Spring Meeting, Nashville, TN, Mar 22-25, 2020
37. Invited Session Talk, Joint Statistical Meetings, Denver, CO, Jul 27-Aug 1, 2019
36. Invited Session Talk, The 3rd EcoSta Conference, Taichung, Taiwan, Jun 25-27, 2019
35. Invited Session Talk, ICSA Applied Statistics Symposium, Raleigh, NC, Jun 9-12, 2019
34. Invited Talk, 2nd Workshop on Operator Splitting Methods in Data Analysis, New York, NY, Mar 20-22, 2019
33. Minisymposium Talk, SIAM Conference on Computational Science and Engineering, Spokane, WA, Feb 25-Mar 1, 2019
32. Invited Session Talk, 4th International Conference on Big Data and Information Analytics, Houston, TX, Dec 17-19, 2018
31. Invited Session Talk, The 2nd EcoSta Conference, Hong Kong, China, Jun 19-21, 2018
30. Invited Talk, SRCOS Summer Research Conference, Virginia Beach, VA, Jun 3-6, 2018
29. Invited Session Talk, SDSS, Reston, VA, May 16-19, 2018
28. Invited Session Talk, CMStatistics, London, United Kingdom, Dec 16-18, 2017
27. Invited Talk, CMO-BIRS Workshop: Beyond Convexity: Emerging Challenges in Data Science, Oaxaca, Mexico, Oct 22-27, 2017
26. Invited Session Talk, ICSA Applied Statistics Symposium, Chicago, IL, Jun 25-28, 2017
25. Invited Session Talk, The 1st EcoSta Conference, Hong Kong, China, Jun 15-17, 2017
24. Minisymposium Talk, SIAM Conference on Optimization, Vancouver, BC, May 22-25, 2017
23. Plenary Talk, SAMSI Program on Optimization (OPT) Transition Workshop, Research Triangle Park, NC, May 1-3, 2017

22. Minisymposium Talk, SIAM Conference on Computational Science and Engineering, Atlanta, GA, Feb 27-Mar 3, 2017
21. Invited Session Talk, The 10th ICSA international conference, Shanghai, China, Dec 19-22, 2016
20. Invited Speaker Talk, Innovative Methods Program for Advancing Clinical Trials (IMPACT), Cary, NC, Nov 17-18, 2016
19. Minisymposium Talk, The Mathematics Behind Big Data Analysis, SIAM Conference on Discrete Mathematics, Atlanta, GA, Jun 6-10, 2016
18. Minisymposium Talk, Combinatorial Algorithms: How Do We Cope with Hard Problems?, SIAM Conference on Discrete Mathematics, Atlanta, GA, Jun 6-10, 2016
17. Invited Speaker Talk, Triangle Statistical Genetics Conference, Cary, NC, Nov 3, 2015
16. Invited Session Talk, Interface Symposium, Morgantown, WV, Jun 10-13, 2015
15. Minisymposium Talk, SIAM Conference on Computational Science and Engineering, Salt Lake City, UT, Mar 14-18, 2015
14. Invited Session Talk, Joint Statistical Meetings, Montréal, Canada, Aug 3-8, 2013
13. Presented Refereed Paper, International Symposium on Biomedical Imaging: From Nano to Macro, San Francisco, CA, Apr 7-11, 2013
12. Invited Session Talk, Interface Symposium, Orange, CA, Apr 4-6, 2013
11. Presented Refereed Poster, American Society of Human Genetics Annual Meeting, San Francisco, CA, Nov 6-10, 2012
10. Invited Session Talk, Joint Statistical Meetings, San Diego, CA, Jul 30-Aug 4, 2012
9. Invited Session Talk, Interface Symposium, Houston, TX, May 16-18, 2012
8. Invited Session Talk, Joint Statistical Meetings, Miami, FL, Jul 30-Aug 4, 2011
7. Invited Poster, AAAS Annual Meeting, Washington, DC, Feb 17-21, 2011
6. Invited Talk, Department of Energy Computational Science Graduate Fellowship Annual Conference, Washington, DC, July 21-23, 2011
5. Presented Refereed Paper, NIPS workshop on Tensors, Kernels, and Machine Learning, Vancouver, BC, Dec 10, 2010
4. Invited Session Talk, Interface Symposium, Robust Methods in Regression, Seattle, WA, Jun 16-19, 2010
3. Presented Refereed Poster, Workshop on High-dimensional Inference Complex Data, Groningen, The Netherlands, Nov 23-25, 2009
2. Presented Refereed Paper, International Conference on the Design of Reliable Communication Networks, Banff, Alberta, Canada, Oct 19-22, 2003
1. Presented Refereed Paper, International Symposium on Performance Evaluation of Computer and Telecommunication Systems, Montréal, Canada, Jul 20-24, 2003

Other Conference and Workshop Presentations

9. Topic Contributed Session Talk, Joint Statistical Meetings, Chicago, IL, Jul 30 - Aug 4, 2016
8. Poster, 17th IMS New Researchers Conference, Seattle, WA, Aug 6-8, 2015
7. Contributed Talk, Joint Statistical Meetings, Seattle, WA, Aug 8-13, 2015
6. Topic Contributed Session Talk, Joint Statistical Meetings, Boston, MA, Aug 2-7, 2014
5. Contributed Talk, Joint Statistical Meetings, Vancouver, BC, Jul 21-Aug 5, 2010 (Contributed Session)
4. Poster, Department of Energy Computational Science Graduate Fellowship Annual Conference, Washington, DC, Jun 22-24, 2010
3. Contributed Talk, AAAS Southwestern & Rocky Mountain Meeting, Houston, TX, Apr 8-10, 2010
2. Poster, Baylor College of Medicine Medical Scientist Training Program Symposium, Houston, TX, Mar 26-27, 2010
1. Poster, Department of Energy Computational Science Graduate Fellowship Annual Conference, Washington, DC, Jul 13-16, 2009

Invited Seminar Presentations

30. Dept. of Statistics, University of Virginia, Charlottesville, VA, Apr 10, 2020
29. Dept. of Statistics, North Carolina State University, Raleigh, NC, Sep 27, 2019
28. Dept. of Statistics, Florida State University, Tallahassee, FL, Mar 15, 2019
27. Dept. of Statistical Science, Duke University, Durham, NC, Mar 8, 2019
26. Biolunch Seminar Series, North Carolina State University, Raleigh, NC, Aug 1, 2018
25. SIAM Student Chapter Seminar Series, North Carolina State University, Raleigh, NC, Feb 8, 2018
24. Dept. of Biostatistics, Yale University, New Haven, CT, Oct 3, 2017
23. Interdisciplinary Distinguished Seminar Series in Electrical and Computer Engineering, North Carolina State University, Raleigh, NC, Sep 22, 2017
22. Dept. of Mathematics, North Carolina State University, Raleigh, NC, Sep 5, 2017
21. Dept. of Biostatistics, University of North Carolina, Chapel Hill, NC, Aug 31, 2017
20. Mathematical Sciences, IBM Research, Yorktown Heights, NY, Jul 13, 2017
19. Dept. of Computer Science, Wake Forest University, Winston-Salem, NC, Jan 13, 2017
18. Dept. of Statistics, North Carolina State University, Raleigh, NC, Nov 4, 2016
17. Applied Mathematics, Argonne National Laboratory, Lemont, IL, Aug 3, 2016
16. Genome Sciences Centre, British Columbia Cancer Agency, Vancouver, BC, July 5, 2016
15. Dept. of Applied Mathematics, University of Washington, Seattle, WA, Aug 4, 2015
14. Sandia National Laboratories, Livermore, CA, Feb 12, 2015

13. Dept. of Statistics, Yale University, New Haven, CT, Feb 9, 2015
12. Dept. of Statistics, Purdue University, West Lafayette, IN, Jan 28, 2015
11. Dept. of Statistics, North Carolina State University, Raleigh, NC, Jan 26, 2015
10. Applied Mathematics Program, Yale University, New Haven, CT, Nov 11, 2014
9. Center for Imaging Science, Johns Hopkins University, Baltimore, MD, Oct 14, 2014
8. Sandia National Laboratories, Livermore, CA, Jul 2, 2014
7. Dept. of Statistics, Rice University, Houston, TX, Nov 4, 2013
6. Dept. of Statistics, Texas A&M, College Station, TX, Oct 18, 2013
5. Dept. of Biostatistics, University of Southern California, Los Angeles, CA, Oct 25, 2012
4. Dept. of Human Genetics, University of California, Los Angeles, Oct 8, 2012
3. Sandia National Laboratories, Livermore, CA, Aug 8, 2012
2. Dept. of Statistics, Rice University, Houston, TX, Mar 7, 2011
1. Sandia National Laboratories, Livermore, CA, Dec 17, 2009

Funding

2019-2022, National Institute of General Medical Sciences R01GM135928, "Imputing single cell RNA sequencing data: Mathematical, statistical, and computational challenges" PI: E. C. Chi, $696,299.

2018-2023, National Science Foundation DMS-1752692, "CAREER: Stable and Scalable Estimation of the Intrinsic Geometry of Multiway Data," PI: E. C. Chi, $400,000.

2017-2018, ORAU Ralph E. Power Junior Faculty Enhancement Award, "Discovering the Intrinsic Geometry of Retinal Images," PI: E. C. Chi, $5,000

2016-2017, NCSU Faculty Research and Professional Development Program, "Getting Data Cubes in Order Stably and Scalably," PI: E. C. Chi, $4,000

Software

R package `fasta` for accelerating first order optimization methods (on CRAN)

R package `splitFeas` for MM algorithms for multi-set split feasibility problems (on CRAN)

R package `cvxbiclustr` for convex biclustering (on CRAN)

R package `multiband` for period estimation of a collection of irregularly sampled signals (on CRAN)

R package `kpodclustr` for clustering partially observed data (on CRAN)

R package `cvxclustr` for convex clustering (on CRAN)

Contributed code for CP-Alternating Poisson Regression algorithm to the Tensor Toolbox (MATLAB)

Mendel-Impute algorithm for genotype imputation (MATLAB)

Teaching

Instructor, Computing for Statistical Research (NCSU - ST 758), Fall 2019

Instructor, Statistical Programming (NCSU - ST 114), Fall 2019

Instructor, Introduction to Statistical Learning (NCSU - ST 563), Summer 2019

Instructor, Advanced Statistical Computing (NCSU - ST 790), Spring 2019

Instructor, Computing for Statistical Research (NCSU - ST 758), Fall 2018

Instructor, Statistical Programming (NCSU - ST 114), Fall 2018

Instructor, Advanced Statistical Computing (NCSU - ST 790), Spring 2018

Instructor, Computing for Statistical Research (NCSU - ST 758), Fall 2017

Instructor, Statistical Programming (NCSU - ST 114), Fall 2017

Instructor, Advanced Statistical Computing (NCSU - ST 790), Spring 2017

Instructor, Statistical Programming (NCSU - ST 114), Fall 2016

Lecturer, SAMSI Optimization Program Summer School, Aug 8-12, 2016

One and half day tutorial on "Optimization for Statistics and Machine Learning"

Instructor, Advanced Statistical Computing (NCSU - ST 790), Spring 2016

Instructor, Experimental Statistics for Biological Sciences I (NCSU - ST 511), Fall 2015

Guest Lecturer, Optimization Methods in Biology (UCLA - BIOMATH 210), 2011

Graduate survey course on theory and numerical methods for discrete and continuous optimization, with applications from genetics, medical imaging, pharmacokinetics, and statistics. Three lectures.

Teaching Assistant, Applied Stochastic Processes (Rice - STAT 552), 2008

Graduate course on the theory of some of the most frequently used stochastic processes in application; discrete and continuous time, Markov chains, Poisson and renewal processes, and Brownian motion. Responsibilities included planning and giving discussion sessions; writing solutions and grading homework.

Teaching Assistant, Probability and Statistics (Rice - STAT 310), 2007

Undergraduate course on probability and statistics. Responsibilities included assisting with discussion sessions and grading homeworks and exams.

Volunteer Instructor, Pre-Algebra (San Quentin State Prison), 2003

Responsibilities included lesson planning, giving biweekly lectures, and assisting with homework.

Teaching Assistant, Probability and Random Processes (UC Berkeley - EECS 126), 2001

Undergraduate course on probability and random processes. Responsibilities included planning and giving discussion sessions, writing homework solutions, and giving two guest lectures.

Current Ph.D. Students

Jianing Chu

Xu Han

Xiaoqian Liu

Min Zhang

Weilian Zhou, co-advised with Soumendra Lahiri

Former Ph.D. Students

Brian Gaines, 2017 PhD, Statistics, co-advised with Hua Zhou; Now at SAS.

Meng Yang, 2019 PhD Statistics, co-advised with Jung-Ying Tzeng; Now at SAS.

Yuan Feng, 2019, PhD Statistics, co-advised with Luo Xiao; Now at Walmart eCommerce.

Student Committees

Jeremy Ash, Department of Genomic Sciences, Advisors Denis Fourches and Jacqueline Hughes-Oliver.

Luming Chen, Department of Statistics, NCSU, Advisor Sujit Ghosh.

Nathan Corder, Department of Statistics, NCSU, Advisor Shu Yang.

Rahul Ghosal, Department of Statistics, NCSU, Advisor Arnab Maity.

Joonho Gong, Department of Statistics, NCSU, Advisor Arnab Maity.

Shuhan Liang, Department of Statistics, NCSU, Advisors Wenbin Lu and Rui Song.

Qi Ma, Department of Statistics, NCSU, Advisor Sujit Ghosh.

Rachel Minster, Department of Mathematics, NCSU, Advisor Arvind Saibaba.

Sheng Zhang, Department of Statistics, NCSU, Advisor Rui Song.

Ph.D. Student Advising

David Elsheimer

Undergraduate Students

Jianing Chu (GEAR), Zhejiang University, Summer 2018

Shuheng Huang (GEAR), Zhejiang University, Summer 2018

Jinshen Luo (GEAR), Zhejiang University, Summer 2018

Han Wang (GEAR), Zhejiang University, Summer 2017

Ruan Yingying (GEAR), Zhejiang University, Summer 2017

Chandni Malhotra, North Carolina State University, Summer 2017

David Elsheimer, North Carolina State University, Spring 2017

College and University Service

IT advisory committee member (2017-present)

Professional Service

Reviewing

Referee: Annals of Applied Statistics, Biometrics, Electronic Journal of Statistics, IEEE Transactions on Signal Processing, Journal of the American Statistical Association, Journal of Computational and Graphical Statistics, Journal of Machine Learning Research, Journal of Multivariate Analysis, Journal of Nonparametric Statistics, Journal of Selected Topics in Signal Processing, Linear Algebra and Its Applications, Pattern Recognition Letters, PLOS One, SIAM Journal on Matrix Analysis and Applications, SIAM Journal on Optimization, Statistical Analysis and Data Mining, Statistics & Probability Letters, Statistical Methods in Medical Research, Statistica Sinica, Technometrics, The American Statistician, Wiley Interdisciplinary Reviews: Computational Statistics

Conference Organization and Reviewing

Organizer of Invited Session, "Recent Advances in Computation for Statistical Learning," 4th International Conference on Econometrics and Statistics, Seoul, Korea, Jul 20-22, 2020

Organizer of Invited Session, "Recent Advances in Computation for Statistical Learning," 3rd International Conference on Econometrics and Statistics, Taichung, Taiwan, Jun 25-27, 2019

Technical Program Committee, 28th International Joint Conference on Artificial Intelligence, Macao, China, Aug 10-16, 2019

Technical Program Committee, IEEE Data Science Workshop, Minneapolis, MN, Jun 2-5, 2019

Program Committee: Co-organizer of Machine Learning Track, Symposium on Data Science & Statistics, Bellevue, WA, May 29-Jun 1, 2019

Organizer of Invited Session, "Recent Advances in Computation for Statistical Machine Learning," 11th International Conference of the ERCIM WG on Computational and Methodological Statistics, Pisa, Italy, Dec 14-16, 2018

Co-organizer of Invited Session, "Recent Advances in Statistical Machine Learning," Symposium on Data Science & Statistics, Reston, VA, May 16-19, 2018

Co-organizer of SAMSI Research Workshop, Operator Splitting Methods in Data Analysis, Mar 21-23, 2018

Technical Program Committee, IEEE Data Science Workshop, Lausanne, Switzerland, Jun 4-6, 2018

Session Chair, "New methods in high dimensional data analysis," 1st International Conference on Econometrics and Statistics, Hong Kong, Jun 15-17, 2017

Co-organizer of Minisymposium, "Majorization/Minimization Algorithms in Statistics and Optimization," SIAM Conference on Optimization, Vancouver, Canada, May 22-25, 2017

Session Chair, "Resampling Methods for High-Dimensional Inference," Joint Statistical Meetings, Chicago, IL, Jul 30-Aug 4, 2016

Organizer of Invited Session, "High-dimensional Data Analysis," 45th Symposium on the Interface, Morgantown, WV, Jun 10-13, 2015

Program Committee, SIAM International Conference on Data Mining (SDM14), Philadelphia, PA, Apr. 24-26, 2014

Organizer of Invited Session, "Optimization Problems and Algorithms in Statistics and Machine Learning ," INFORMS Optimization Society Conference, Houston, TX, Mar 6-8, 2014

Organizer of Invited Session, "New developments and applications in MM and EM algorithms," INFORMS Optimization Society Conference, Houston, TX, Mar 6-8, 2014

Co-organizer of Allocated (IMS) Invited Session, "The Intersection of Tensor Analysis and Statistics," Joint Statistical Meetings, Montréal, Canada, Aug 3-8, 2013

Co-organizer of Invited Session, "Random Solutions to Big Problems," 44th Symposium on the Interface, Orange, CA, Apr 4-6, 2013

Co-organizer of Invited Session, "Multiway World: Modern Data Analysis with Tensor Decompositions," Joint Statistical Meetings, San Diego, CA, Jul 28-Aug 2, 2012

Organizer of Invited Session, "Tensor Decompositions and their Applications," 43rd Symposium on the Interface, Houston, TX, May 16-18, 2012

Other Service

Co-leader of Data Scientists in Training (DST) Program at NCSU, 2019-2020

Co-ran a year-long outreach/research experience program for high school students in the Triangle area. The goal of the program is to introduce students and teachers to careers in data science through hands on experience with projects as well as mentoring and career guidance.

SLDS Student Paper Award Committee, 2019

Panelist for Building Future Faculty Program, March 16, 2018

Program committee for Broader Participation in Data Mining (at KDD 2017), reviewed student travel scholarship applications

Broader Engagement Mentor to undergraduate and postdoc at SIAM CSE 2017

VIP Consultant at ASA DataFest™ at Duke, Apr 1-3, 2016

Wiley Science Advisor, John Wiley & Sons, 2010-2018
Responsibilities included providing opinions on publishing decisions, market feedback, and technology usage.

Student advisor to journal editor, Wiley-Blackwell: Stat. and Math., 2009-2011
Responsibilities included providing opinions on new devices and technologies, the "Generation Y" scientific community, and literature research preferences.