CURRICULUM VITAE

Hao Helen Zhang

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Chronology of Education

1996	B.Sc.	Mathematics	Beijing University, China
2002	Ph.D.	Statistics	University of Wisconsin-Madison

Current Employment

2014–	Professor	Department of Mathematics, University of Arizona
2014–	Professor	Statistics and Data Science Interdisciplinary Program, University of Arizona
2016-	Professor	Applied Mathematics Interdisciplinary Program, University of Arizona
2021-	Chair	Statistics and Data Science Interdisciplinary Program, University of Arizona

Previous & Other Employment

2002-2008	Assistant Professor	Department of Statistics, North Carolina State University
2008-2011	Associate Professor	Department of Statistics, North Carolina State University
2011-2014	Associate Professor	Department of Mathematics, University of Arizona
2011-2014	Associate Professor	Statistics Interdisciplinary Program, University of Arizona
2013-	Adjunct Faculty	Department of Statistics, North Carolina State University
2017-	Associate Research Member	University of Arizona Cancer Center

Honors and Awards

1995	Guanghua Scholarship, Guanghua Foundation, Beijing University, China.
2000	Vilas Professional Development Fellowship, University of Wisconsin-Madison
2003	Laha Travel Award, Institute of Mathematical Statistics (IMS)
2003	Faculty Research and Professional Development Award, North Carolina State University
2007	CAREER Award, National Science Foundation (NSF)
2015	Elected Member, International Statistical Institute (ISI)
2015	Fellow, American Statistical Association (ASA)
2016	Fellow, Institute of Mathematical Statistics (IMS)
2018	Galileo Circle Fellow Award, College of Sciences, University of Arizona
2019	Medallion Lecturer, Institute of Mathematical Statistics (IMS)

Professional Membership

2001-present	American Statistical Association (ASA)
2002-2012	Eastern North American Region, International Biometric Society (ENAR)
2015-	Western North American Region, International Biometric Society (WNAR)
2015-	Elected Member, International Statistical Institute (ISI)
2016-	International Indian Statistical Association (IISA)
Lifetime	Institute of Mathematical Statistics (IMS)
Lifetime	International Chinese Statistical Association (ICSA)

Services & Outreach Activities

- ### Editorial Boards

2008-	Associate Editor, *Journal of the American Statistical Association*
2008-2014	Associate Editor, *Biometrics*
2009-2019	Associate Editor, *Statistical Analysis and Data Mining*
2012-	Associate Editor, *Journal of Computational and Graphical Statistics*
2012-2014	Associate Editor, *Stat*
2010-2017	Editorial Advisory Board, *Journal of Clinical Bioinformatics*
2012	Section Editor, *Encyclopedia of Environmetrics*, 2nd edition, John Wiley.
2015-	Editor, *Stat*
2016-2018	Editorial Board, *Econometrics and Statistics*
2016-2019	Editorial Board, *International Statistical Review*
2018-	Editor-in-Chief, *Stat*
2018-	Associate Editor, *Journal of the Royal Statistical Society, Series B.*

- ### Professional Society Services

2003-2004	Faculty Fellow, Program on Data Mining and Machine Learning, *SAMSI*
2004-2007	Regional Advisory Board, *ENAR*
2008-2010	Kenan Mentor, Kenan Fellow Program (for K-12 math/science teacher retention), Raleigh, NC
2010-2011	Local Department Liaisons Committee, *SAMSI*
2010-2011	Faculty Fellow & Group Leader, Program on Analysis of Object Data, *SAMSI*
2011-	Elected Publication Officer, Section on Nonparametric Statistics, *ASA*
2012-2013	JSM Student Best Paper Award Committee, Section on Nonparametric, Statistics, *ASA*

2013-	Council of Sections Representative, Section on Statistical Learning and Data Sciences, *ASA*
2014	Panel on NSF Career Award, Woman in Statistics Conference, Cary, NC
2014-2017	Gertrude Cox Scholarship Committee, ASA Committee on Women in Statistics and Caucus for Women in Statistics
2015-2017	Governing Council, Caucus for Women in Statistics (CWS)
2015-2016	Program Committee Chair, Caucus for Women in Statistics (CWS)
2017	Program Committee Nomination, Caucus for Women in Statistics (CWS)
2016-2019	Board of Director, International Chinese Statistical Association (ICSA)
2018	Panelist, 2018 Joint PI Meeting: NSF BIGDATA and Big Data Hubs & Spokes
2019-2020	Section Chair (Elected), Section on Statistical Learning and Data Sciences, *ASA*
2021-	Board of Director, International Chinese Statistical Association (ICSA)

- **Conference Organizational Activities**

2003	Session Chair, *Statistical Society of Canada* Joint Meetings, Halifax, Canada
2004	Invited Speaker, *Mathematisches Forschungsinstitut Oberwolfach*, Germany
2004	Session chair, *ENAR Spring Meetings*, Pittsburgh, PA.
2007	Program Committee, 11th *Artificial Intelligence and Statistics* (AISTAT) International Conference, San Juan, Puerto Rico, March 2007
2007	Session Organizer, *ENAR Spring Meetings*, Miami, FL, March 2007
2007	Session Organizer, *Nonparametric Statistics Conference*, Columbia, SC
2007	Session Organizer, *ICSA Applied Statistics Symposium*, Raleigh, NC
2008	Program Committee, *Interface Foundation Annual Meeting*, Durham, NC
2009	Program Committee, *12nd AISTAT International Conference*, Clearwater Beach, FL
2010	Program Committee, *13th AISTAT International Conference*, Sardinia, Italy
2010	Program Committee, *Southern Regional Council on Statistics* (SRCOS), Summer Research Conference, Norfolk, VA
2010	IMS Program Co-Chair, *ENAR Spring Meetings*, New Orleans, LA
2011	Organizing Committee, *International Indian Statistical Association Conference on Probability, Statistics, and Data Analysis*, Raleigh, NC
2011	Area Chair, *15th AISTAT International Conference*, San Diego, CA
2012	Program Committee, *ASA Section on Statistical Learning and Data Mining Meeting*, Ann Arbor, MI
2012	Keynote Speaker, *SRCOS Summer Research Conference*, Jekyll Island, GA

2013	Management Committee, *INFORMS Annual Meeting*, Minneapolis, MN
2014	Program Committee, *Workshop on Nonparametric Statistics for Big Data*, Madison, WI
2014	Proceeding Reviewer, *Conference on Neural Information Processing Systems (NIPS)*, Montreal, Quebec, Canada
2014	Scientific Program Committee, *International Symposium of Biopharmaceutical Statistics* (ISBS), Beijing, China
2014	Reviewer, *28th Annual Conference on Neural Information Processing Systems (NIPS)*
2015	Reviewer, *29th Annual Conference on Neural Information Processing Systems (NIPS)*
2015	Invited Session Organizer, *12th annual conference on "Frontiers in Applied and Computational Mathematics" (FACM)*, New Jersey Institute of Technology, June, 2015.
2015	Program Committee, *Bioinformatics 2016*.
2016	Program Committee, *ASA Section on Statistical Learning and Data Mining Meeting*, Chapel Hill, NC
2016	Program Committee, *Bioinformatics 2017*.
2016	Program Committee, *International Indian Statistical Association (IISA) Conference on Probability, Statistics, and Data Analysis*, Oregon State University
2016	Program Committee, *CMStatistics 2016*, University of Seville, Spain, December.
2016	Scientific Program Committee, *EcoSta 2017*, Hong Kong, China, June.
2017	Program Committee, *Bioinformatics 2018*.
2017	Organizer, *2017 R Conference*, Taiyuan, China, June.
2017	Chair, JSM Student Best Paper Award Committee, Section on Statistic Computing Graphics, *ASA*

- **Short Courses**

2012	Instructor, "Statistical Machine Learning in Modern Data Analysis", *ICSA Applied Statistics Symposium*, Boston, MA
2019	Co-Instructor, "Introduction to Machine Learning Methods", Professional Society for Health Economics and Outcomes Research (ISPOR)
2020	Co-Instructor, "Introduction to Machine Learning Methods", Professional Society for Health Economics and Outcomes Research (ISPOR)

- **Newspaper Media**

2012	Research featured at *Arizona Daily Star's Science Supplement*

- **Presentation to General Public**

  2011   Faculty Presenter, *Advisory Board meeting for School of Mathematical Sciences*,
          University of Arizona, Tucson, AZ

  2012   Research Exhibitor, *Math and City Expo*, jointly organized by University of Arizona
          and City of Tucson, Tucson, AZ

  2013   Research Exhibitor, *Tech in Tucson Showcase*, City of Tucson, AZ, Feb.

  2015   Public talk on "Conquering Cancer", Mathematical Science Cafe, Tucson, AZ, Dec.

Major Administrative Responsibilities

Department Committees, North Carolina State University (NCSU)

2002-2003	Course and Curriculum Committee
2004	Masters Exam Committee
2004, 2006, 2009	Faculty Search Committee
2004–2007	Seminar Organizing Committee
2005, 2008	PhD Qualifying Exam Committee
2006, 2007, 2011	Ph.D. Preliminary Written Exam Committee
2008	Chair, PhD Qualifying Exam Committee

Department Committees, University of Arizona (UA)

2012-2013	Graduate Student Admission Committee, Statistics GIDP
2012-2013	Peer Review Committee, Department of Mathematics
2012-2014	Graduate Committee, Department of Mathematics
2012-present	Chair, Statistics Colloquium Committee, Statistics GIDP
2012-present	Executive Committee, Statistics GIDP
2012-present	PhD Qualifying Exam Committee, Statistics GIDP
2014-2015	Faculty Search Committee, Department of Computer Science
2015-2017	Promotion and Tenure Committee, Department of Mathematics
2015-2017	Personnel Committee, Department of Mathematics
2015-2017	Planning Committee, Department of Mathematics
2016-2017	Department Head Search Committee, Department of Mathematics
2017-2019	School of Mathematical Sciences Faculty Advisory Board
2017-2020	Personnel Committee, Department of Mathematics
2018-2020	Promotion and Tenure Committee, Department of Mathematics
2021-	Postdoc Fellow Advisory Committee, Department of Mathematics

College/University Committees (NCSU and UA)

2003-2004	College Child Care Task Force Committee Member, College of Physical and Mathematical Sciences (PAMS), NCSU
2010	College Advisory Council Committee, PAMS, NCSU
2007-2011	University Task Force Committee on Faculty Diversity, NCSU
2008-2011	Faculty Senate Committee, PAMS, NCSU
2008-2010	Advisory Committee on the development of women and faculty of color as emerging leaders for the ADVANCE developing diverse departments, NCSU
2012-	Executive Committee, Statistics GIDP, UA
2020-	Galileo Circle Fellow Committee, College of Science, UA

Teaching Activities (NCSU and UA)

2002-2004	STAT 372: Introduction to statistical inference and regression
2004	STAT 790D: Introduction to smoothing methods and nonparametric regression
2005-2007	STAT 522: Statistical theory II (and lab)
2005, 2007, 2010	STAT 790C: Introduction to data mining and machine learning
2006, 2008, 2009	STAT 521: Statistical theory I (and lab)
2007, 2009	STAT 790A: Introduction to smoothing methods and nonparametric and regression
2012-present	MATH 466: Theory of Statistics
2013-present	MATH/STAT 574M: Introduction to Statistical Machine Learning
2012-present	MATH/STAT 566: Theory of Statistics

Student Advisory

Ph.D. Theses Directed (Completed)

1. Lan Lan (Ph.D. 2006): "Variable Selection in Linear Mixed Models for Longitudinal Data". Department of Statistics, NCSU, co-advisor Dr. Daowen Zhang.

   First Job: Assistant Professor, Department of Biostatistics, Duke University, NC.

2. Xiao Ni (Ph.D. 2007): "Variable Selection in Partial Linear Models and Semiparametric Mixed Models". Department of Statistics, NCSU, co-advisor Dr. Daowen Zhang.

   First Job: Senior Statistician, Eli Lilly and Company, Indianapolis, IN.

3. Hongmei Yang (Ph.D. 2007): "Variable Selection Procedures for Generalized Linear Mixed Models in Longitudinal Data Analysis". Department of Statistics, NCSU, co-advisor Dr. Daowen Zhang.

   First Job: Research Assistant Professor, Department of Biostatistics, University of Rochester, NY.

4. Lingkang Huang (Ph.D. 2008): "Variable Selection in Multi-class Support Vector Machine and Applications in Genomic Data Analysis". Bioinformatics, NCSU, co-advisor Dr. Zhaobang Zeng.

   First Job: Senior Statistician, GlaxoSmithKlein, RTP, NC.

5. Eren Demirhan (Ph.D. 2008): "Variable Selection for Multivariate Smoothing Splines with Correlated Random Errors". Department of Statistics, NCSU.

   First Job: Senior Statistician, Novartis, East Hanover, NJ.

6. Song Liu (Ph.D. 2008): "Variable Selection in Semi-parametric Additive Models with Extensions to High Dimensional Data and Additive Cox Models". Department of Statistics, NCSU.

   First Job: Senior Statistician, Travelers, New York.

7. Justin Shows (Ph.D. 2009): "Sparse Estimation and Inference for Censored Median Regression". Department of Statistics, NCSU, co-advisor Dr. Wenbin Lu.

   First Job: Tenure Track Assistant Professor, Department of Mathematics and Statistics, Mississippi State University.

8. Dhruv Sharma (Ph.D. 2010): "Penalization Methods for Group Identification and Variable Selection in Models with Correlated Predictors". Department of Statistics, NCSU, co-advisor Dr. Howard Bondell.

   First Job: Post-doctoral Fellow, Department of Biostatistics, Harvard University, Boston, MA.

9. Mihye Ahn (Ph.D. 2010): "Random Effect Selection in Linear Mixed Models". Department of Statistics, NCSU, co-advisor Dr. Wenbin Lu.

   First Job: Post-doctoral Fellow, Department of Biostatistics, UNC at Chapel Hill.

10. Na Cai (Ph.D. 2011): "Semiparametric Regression Methods for Longitudinal Data with Informative Observation". Department of Statistics, NCSU, co-advisor Dr. Wenbin Lu. **2011 ASA Student Paper Award finalist**.

    First Job: Senior Statistician, Eli Lilly and Company, Indianapolis, IN.

11. Nan Li (Ph.D. 2011): "Sparse Learning in Multiclass Problems". Department of Statistics, NCSU.

    First Job: Visiting Research Scholar, Department of Biostatistics, Brown University.

12. Shuai Yuan (Ph.D. 2012): "Variable Selection and Inference for Covariate-Adjusted Semiparametric Inference in Randomized Clinical Trials". Department of Statistics, NCSU, co-advisor Dr. Marie Davidian.

    First Job: Senior Statistician, Merck, PA.

13. Qianchuan Chad He (Ph.D. 2012): "Variable Selection, Sparse Meta-Analysis and Genetic Risk Prediction for Genome-Wide Association Studies". Department of Biostatistics, UNC-Chapel Hill, co-advisor Dr. Danyu Lin. **2012 ENAR Distinguished Student Paper Award winner**.

    First Job: Assistant Professor, Fred Hutchinson Cancer Research Center, Seattle, WA.

14. Matthew Avery (Ph.D. 2012): "New Techniques for Functional Data Analysis: Model Selection, Classification, and Nonparametric Regression". Department of Statistics, NCSU, co-advisor Dr. Yichao Wu.

    First Job: Senior Statistician, Institute for Defense Analysis (IDA), Alexandria, VA.

15. Chen-Yen Lin (Ph.D. 2012): "Some Recent Developments in Parametric and Nonparametric Regression Models". Department of Statistics, NCSU, co-advisor Dr. Howard Bondell. **2012 ASA Nonparametric Statistics Section Student Paper Award finalist**.

    First Job: Post-doctoral Fellow, Department of Biostatistics, Duke University, NC.

16. Seung Jun Shin (Ph.D. 2013): "New Techniques for High-Dimensional and Complex Data Bases on Weighted Learning". Department of Statistics, NCSU. co-advisor Dr. Yichao Wu. **2013 IMS Travel Award Recipient**.

    First Job: Post-doctoral Fellow, Department of Biostatistics, MD-Anderson, Houston, TX.

17. Yuan Geng (Ph.D. 2013): "Flexible Data Mining and Statistical Methods for Survival Data: Survival Risk Prediction and Optimal Treatment Decision". Department of Statistics, NCSU, co-advisor Wenbin Lu.

    First Job: Biometrician, Shanghai, China.

18. Wei Xiao (Ph.D. 2014): "Flexible Methods and Computation for Model Selection and Optimal Treatment Learning". Department of Statistics, NCSU, co-advisor Wenbin Lu.

    First Job: Code Developer, SAS Company, Cary, NC.

19. Kurt Michaels. (Ph.D. 2016): "Statistical Methods and Computational Tools for Mining Big Data, with Applications in Plant Sciences". Statistics GIDP, University of Arizona.

    First Job: Statistician, HTG Molecular Diagnostics, Inc., Tucson, AZ.

20. Yue Zeng (Ph.D. 2017): "Variable Screening in Multi-Category Classification for Ultra-High Dimensional Data". Statistics GIDP, University of Arizona.

21. Qike Li (Ph.D. 2017): "New Statistical Methods of Single-subject Transcriptome Analysis for Precision Medicine". Statistics GIDP, Univ. of Arizona. **2017 WNAR Student Paper Award finalist**.

    First Job: Post-doctoral Research Fellow, Bio5, University of Arizona.

22. Ammon Washburn (Ph.D. 2018): "High-Confidence Learning from Uncertain Data with High Dimensionality", Applied Mathematics GIDP, University of Arizona, co-advisor Neng Fan.

    First Job: Goldman Sachs, Salt Lake City, Utah.

23. Samir Rachid Zaim (Ph.D. 2021): "Interpretable and Robust Machine Learning for Precision Medicine". Statistics GIDP, University of Arizona.

    First Job: Allen Institute, Seattle, Washington.

24. Kyung Mi Chung (Ph.D. 2021): "Enhanced Recommender Systems by Biclustering". Statistics GIDP, University of Arizona.

    First Job: University of Arizona (Postdoc Fellow)

Ph.D. Theses Directed (In-Progress)

1. An Young Kim (Ph.D): Statistics GIDP, UArizona, 2018-

2. Liyun Zeng (Ph.D): Statistics GIDP, UArizona, 2019-

3. Zhaoying Lu (Ph.D.): Statistics GIDP, UArizona. 2021-

4. Wenbo Ouyang (Ph.D): Statistics GIDP, UArizona, 2021-

Master Students (Chair)

1. Baqun Zhang, Department of Statistics, NCSU, December 2008.

2. Steven Thomas, Department of Statistics, NCSU, February 2010.

3. Mingzhu Hu, Department of Statistics, NCSU, February 2011.

4. Dusti Nisbet, Department of Statistics, NCSU, March 2011.

5. Mingyang Li, Statistics GIDP, UArizona, 2013.

6. Buck Fisk, Statistics GIDP, UArizona, 2014.

7. Justin Perkins-Ollila, Department of Mathematics, UArizona, 2021.

8. Abolhassan Fathabad, Department of Systems and Industrial Engineering, UArizona, 2021.

Major Grants

Research Grants

1. Faculty Research and Professional Development Award, NCSU 350609.   2003 - 2004
   Nonparametric Variable Selection and Model Building. $4,000
   Role: PI

2. National Science Foundation DMS-0405913.   2004 - 2007
   Nonparametric Variable Selection in Smoothing Spline ANOVA Models.
   Total Amount $124,936, Effort: 2 summer months
   Role: PI

3. National Science Foundation CAREER Award, DMS-0645293.   2007-2013
   Nonparametric Models Building, Estimation, and Selection with Applications to High Dimensional
   Data Mining.
   Total Amount: $400,000, Effort: 2 summer months
   Role: PI

4. National Institute of Health R01 CA085848-08.   2007- 2011
   Flexible Statistical Methods for Biomedical Data.
   Total Amount $1,155,376, Effort: 20%, PI Marie Davidian.
   Role: Co-I

5. National Institute of Health P01 CA 142538-01.   2010 - 2015
   Statistical Methods for Cancer Clinical Trials.
   Total $4,526,516. 25% effort, PIs: Marie Davidian, Michael Kosorok, Steve George
   Role: Co-I

6. National Institute of Health 2R01 CA085848-12.   2011- 2015
   Flexible Statistical Methods for Biomedical Data.
   Total Amount: $873,274. Effort: 20%, PI Marie Davidian.
   Role: Co-I

7. National Security Agency H98230-12-1-0219.   2012-2013
   Computational Approaches to Feature Selection For Massive Data.
   Total Amount: $117,665, Effort: 1 summer month, co-PI Subhashis Ghosal.
   Role: PI

8. National Science Foundation DMS-1309507.   2013-2016
   Flexible Modeling for High-dimensional Complex Data: Theory, Methodology, and Computation.
   Total Amount: $150,000. Effort: 2 summer months, co-I Ning Hao.
   Role: PI

9. National Science Foundation DBI-1261830.   2013-2016
   ABI Innovation: Gini-based methodologies to enhance network-scale transcriptome analysis in plants.
   Total Amount: $399,168. Effort: 1 summer months/year.
   Role: PI

10. National Science Foundation DMS-1418172.   2014-2017
    Collaborative Research: Semiparametric ODE Models for Complex Gene Regulatory Networks.
    Total: $334,000. Effort: 2 summer months. PIs Guang Cheng, Hao Liang, Guang Yao.
    Role: Co-I

11. National Science Foundation 1740858.   2017-2020
    TRIPODS: UA-TRIPODS - Building Theoretical Foundations for Data Sciences.
    Total: $1,368,498. Co-PIs: Steven Kobourov, David Glickenstein, Joe Watkins.
    Role: PI

12. National Institute of Health R01 DA044985.   2017-2020
    Using machine learning to predict problematic prescription opioid use and opioid overdose.
    Total: $601,139. Effort: 1 summer month. PI: Walid Gellad.
    Role: Co-I

13. National Institute of Health R21 CA229707.   2018-2020
    Molecular and Imaging Assessment of Fallopian Tube Health.
    Total: $391,239. Effort: 1.2 summer month. PI: Jennifer Barton.
    Role: Co-I

Training Grants

14. NSF DMS-0703392. 2007-2014.
    CSUMS: NC State University Computation for Undergraduates in Statistics Program.
    $1,169,221
    co-PIs: Sujit Ghosh, Marcia Gumpertz
    Role: Co-PI

15. Western Alliance to Expand Student Opportunities (WAESO) May-August, 2013.
    Partly supported by NSF (Faculty-directed Undergraduates).
    High Dimensional Statistical Data Analysis - Phase I.
    $5,256.
    Role: PI.

16. NSF DMS-1937229. 2020-2025.
    RTG: Applied Mathematics and Statistics for Data-Driven Discovery
    $1,999,997.
    Role: Co-PI (PI: Lin)

Conference Grants

17. NSF DMS-1419219. 2014-2015.
    Conference on Nonparametric Statistics for Big Data. UW-Madison.
    $10,000
    co-PIs: Brian Yandell, Xiaotong Shen
    Role: Co-PI

Publications (*First-authored by Ph.D. students or post-docs.)

Books (Refereed)

- Clarke, B., Fokoue, E., and **Zhang, H. H.** (2009) *Principles and Theory for Data Mining and Machine Learning*. Springer-Verlag.

Book Chapters (Refereed)

1. **Zhang, H. H.** (2008) Support Vector Machine Classification for High Dimensional Microarray Data Analysis, with Applications in Cancer Research. In *High-Dimensional Data Analysis in Cancer Research*, Li and Xu (eds), Springer-Verlag.

2. **Zhang, H. H.** (2012) Splines in nonparametric regression. In *Encyclopedia of Environmetrics*, El-Shaarawi and Piegorsch (eds), John Wiley & Sons Ltd: Chichester, UK.

3. **Zhang, H. H.** (2017) Bernoulli Distribution. In *The SAGE Encyclopedia of Educational Research, Measurement and Evaluation*.

4. **Zhang, H. H.** (2018) Nonparametric methods for big data analytics. In *Handbook of Big Data*, Hardle, Lu, and Shen (eds), Springer-Verlag.

5. **Zhang, H. H.** (2018) Supervised learning. In *Wiley StatsRef (WSR)-Statistics Reference Online*, Wiley.

Journal Articles (Refereed)

6. Wahba, G., Lin, Y. and **Zhang, H. H.** (2000) Generalized approximate cross validation for support vector machines. *Advances in Large Margin Classifiers*, MIT Press, 297-310.

7. Lin, Y., Wahba, G., **Zhang, H. H.**, and Lee, Y. (2002) Statistical properties and adaptive tuning of support vector machines. *Machine Learning*, **48**, 115-136.

8. Wahba, G., Lin, Y., Lee, Y. and **Zhang, H. H.**. (2003) Optimal properties and adaptive tuning of standard and nonstandard support vector machines. *Nonlinear Estimation and Classification*, Springer, 125-143.

9. Ferris, M., Voelker, M. and **Zhang, H. H.** (2004) Model building with likelihood basis pursuit. *Journal of Optimization Methods and Software*, **19**, 1-18.

10. **Zhang, H. H.**, Wahba, G., Lin, Y., Voelker, M., Ferris, Klein, R. and Klein, B. (2004) Variable selection and model building via likelihood basis pursuit. *Journal of American Statistical Association*, **99**, 659-672.

11. Tang, Y. and **Zhang, H. H.** (2005) Multiclass proximal support vector machines. *Journal of Computational and Graphical Statistics*, **15**, 339-355.

12. Lin, Y. and **Zhang, H. H.** (2006) Component selection and smoothing in multivariate nonparametric regression. *Annals of Statistics*, **34**, 2272-2297.

13. **Zhang, H. H.** and Lin, Y (2006) Component selection and smoothing for nonparametric regression in exponential families. *Statistica Sinica*, **16**, 1021-1042.

14. **Zhang, H. H.**, Ahn, J., Lin, X., and Park, C. (2006) Gene selection using support vector machines with nonconvex penalty. *Bioinformatics*, **22**, 88-95.

15. **Zhang, H. H.** (2006) Variable selection for Support vector machines via smoothing spline ANOVA. *Statistica Sinica*, **16**, 659-674.

16. **Zhang, H. H.** and Lu, W. (2007) Adaptive-LASSO for Cox's proportional hazard model. *Biometrika*, **93**, 1-13 .

17. Liu, Y., **Zhang, H. H.**, Park, C. and Ahn, J. (2007) The L_q support vector machines. *Contemporary Mathematics*, **443**, 35-48.

18. Leng, C. and **Zhang, H. H.** (2007) Nonparametric model selection in hazard regression. *Journal of Nonparametric Statistics*, **18**, 417-429.

19. Lu, W. and **Zhang, H. H.** (2007) Variable selection for proportional odds models. *Statistics in Medicine*, **26**, 3771-3781.

20. Liu, Y., **Zhang, H. H.**, Park, C. and Ahn, J. (2007) Support vector machines with adaptive L_q penalty. *Computational Statistics and Data Analysis*, **51**, 6380-6394.

21. **Zhang, H. H.**, Liu, Y., Wu, Y. and Zhu, J. (2008) Variable selection for multicategory SVM via sup-norm regularization. *Electronic Journal of Statistics* **2**, 149-167.

22. **Zhang, H. H.** (2008) Discussion of "Sure independence screening for ultra-high dimensional feature space", *Journal of the Royal Statistical Society, Series B*, **70**, 903-904.

23. Zou, H. and **Zhang, H. H.** (2009) On the adaptive elastic-net with a diverging number of parameters. *Annals of Statistics*, **37**, 1733-1751.

24. Liu, H., Tang, Y. and **Zhang, H. H.** (2009) A new chi-square approximation to the distribution of non-negative definite quadratic forms in non-central normal variables. *Computational Statistics and Data Analysis*, **53**, 853-856.

25. Hwang, W. Y., **Zhang, H. H.**, and Ghosal, S. (2009) FIRST: Combining forward iterative selection and shrinkage in high dimensional sparse linear regression. *Statistics and Its Interface*, **2**, 341-348.

26. *Ni, X., **Zhang, H. H.**, and Zhang D. (2009) Automatic model selection for partially linear models, *Journal of Multivariate Analysis*, **100**, 2100-2111.

27. **Zhang, H. H.**, Lu, W., and Wang, H. (2010) On sparse estimation for semiparametric linear transformation models. *Journal of Multivariate Analysis*, **101**, 1594-1606.

28. Lu, W. and **Zhang, H. H.** (2010) On estimation of partially linear transformation models. *Journal of American Statistical Association*, **105**, 683-691.

29. *Shows, J., Lu, W. and **Zhang, H. H.** (2010) Sparse estimation and inference for censored median regression. *Journal of Statistical Planning and Inference*, **140**, 1903-1917.

30. Wu, Y., **Zhang, H. H.**, and Liu, Y. (2010) Robust model-free multiclass probability estimation. *Journal of American Statistical Association*, **105**, 424-436.

31. Qiao, X., **Zhang, H. H.**, Liu, Y., Todd, M. and Marron, S. (2010) Weighted distance weighted discrimination and its asymptotic properties. *Journal of American Statistical Association*, **105**, 401-414.

32. *Ni, X., Zhang, D., and **Zhang, H. H.** (2010) Variable selection for semiparametric mixed models in longitudinal studies, *Biometrics*, **66**, 79-88.

33. **Zhang, H. H.**, Cheng, G. and Liu, Y. (2011) Linear or nonlinear? Automatic structure discovery for partially linear models. *Journal of American Statistical Association*, **106**, 1099-1112.

34. Storlie, C., Bondell, H., Reich, B. and **Zhang, H. H.** (2011) The adaptive COSSO for nonparametric surface estimation and model selection. *Statistica Sinica*, **21**, 679-705.

35. Liu, Y., **Zhang, H. H.** and Wu, Y. (2011) Soft or hard classification? Large margin unified machines. *Journal of the American Statistical Association*, **106**, 166-177.

36. *Ahn, M., **Zhang, H. H.**, and Lu, W. (2012) Moment-based method for random effects selection in linear mixed models. *Statistica Sinica*, **22**, 1539-1562.

37. *Shuai, Y., **Zhang, H. H.**, and Davidian, M. (2012) Variable selection for covariate-adjusted semiparametric inference in randomized clinical trials. *Statistics In Medicine*, **31**, 3789-804.

38. *Cai, N., Lu, W., and **Zhang, H. H.** (2012) Time-varying latent effect model for longitudinal data with informative observation times. *Biometrics*, **68**, 1093-1102.

39. *Sharma, D., Bondell, H., and **Zhang, H. H.** (2013) Consistent group identification and variable selection in regression with correlated predictors. *Journal of Computational and Graphical Statistics*. **22**, 319-340.

40. Lu, W., **Zhang, H. H.** ,and Zeng. D. (2013) Variable selection for optimal treatment decision. *Statistical Methods in Medical Research*, **22**(5), 492-503.

41. *Huang, L., **Zhang, H. H.**, Zeng, Z. and Bushel, P. (2013) Improved sparse multi-category SVM and its application for gene selection in cancer classification. *Cancer Bioinformatics*. **12**, 143-153.

42. *Lin, C., **Zhang, H. H.**, Bondell, H., and Zou, H. (2013) Variable selection and smoothing for quantile regression using smoothing spline ANOVA. *Stat*, **2**, 255-268.

43. Turnbull, B., Ghosal, S., and **Zhang, H. H.** (2013) Iterative selection using orthogonal regression techniques. *Statistical Analysis and Data Mining*, **6**, 557-564.

44. Zhu, H., Yao, F., and **Zhang, H. H.** (2014) Structured functional additive regression in reproducing kernel Hilbert spaces. *Journal of the Royal Statistical Society, Series B*, **76**, 581-603.

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51. Cheng, G., **Zhang, H. H.**, and Shang, Z. (2015) Sparse and efficient estimation for partial spline models with increasing dimension. *Annals of the Institute of Statistical Mathematics*, **67**, 93-127, Feb.

52. *Geng, Y., **Zhang, H. H.**, and Lu, W. (2015) On optimal treatment regimes selection for mean survival time. *Statistics in Medicine*, **34**, 1169-1184, March.

53. **Zhang, H. H.** (2016) Comments on: Probability Enhanced Effective Dimension Reduction for Classifying Sparse Functional Data. *Test*, **25**, 47-51, March.

54. *He, C., **Zhang, H. H.**, and Lin, D. Y. (2016) Sparse meta-analysis with high-dimensional data. *Biostatistics*, **17**, 205-220, April.

55. *Xiao, W., Lu, W., and **Zhang, H. H.** (2016) Joint structure selection and estimation in the time-varying coefficient Cox model. *Statistica Sinica*, **26**, 547-567, April.

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57. Kong, D., Xue, K., Yao, F., and **Zhang, H. H.** (2016) Partially functional linear regression in high dimensions. *Biometrika*, **103**, 147-159, Jan.

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59. Hao, N. and **Zhang, H. H.*** (2017) A note on high dimensional linear regression with interactions. *The American Statisticians*, **71(4)**, 291-297.

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65. **Zhang, H. H.** (2018) Discussion on "Doubly sparsity kernel learning with automatic variable selection and data extraction". *Statistics and Its Interface*, **11**, 425-428.

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67. Wang, X., Zhang, H. H.* and Wu, Y. (2019) Multiclass Probability Estimation with Support Vector Machines. *Journal of Computational and Graphical Statistics*, **28**, 586-595.

68. Zaim, S. R., Kenost, C., Berghout, J., Chiu, W., Wilson, L., Zhang, H. H.*, and Lussier, Y.* (2020) binomialRF: interpretable combinatoric efficiency of random forests to identify biomarker interactions. *BMC Bioinformatics* **21(1)** 374.

69. Li, N. and Zhang, H. H.* (2021) Sparse Learning with Non-convex Penalty in Multi-classification. *Journal of Data Science* **19**, 56-74.

Collaborative Publications

70. Ma, C., **Zhang, H. H.**, and Wang, X. (2014) Machine learning for big data analytics in plants. *Trends in Plant Science*, **19**, 798-808, December.

71. *Li, H., Pouladi, N., Achour, I., Gardeux, V., Li, J., Li, Q., **Zhang, H. H.**, Martinez, F., Garcia, J. and Lussier Y.A. (2015) eQTL networks unveil enriched mRNA master integrators downstream of complex disease-associated SNPs. *Journal of Biomedical Informatics*, **58**, 226-34, December.

72. Vincent, B., Buntzman, A., Hopson, B., McEwan, C., Cowell, L., Akoglu, A., **Zhang, H. H.**, and Frelinger, J. (2016) iWAS- A Novel Approach to Analyzing Next Generation Sequence Data for Immunology. *Cellular Immunology*, **299**, 6-13, Jan.

73. Glazer, E., **Zhang, H. H.**, Hill, K., Patel, C., Kha, S., Yozwiak, M., Bartels, H., Watkins, J., Alberts, D., and Krouse, R. (2016) Evaluating IPMN and pancreatic carcinoma utilizing quantitative histopathology. *Cancer Medicine*, **5**, 2841-2847.

74. *Li, Q., Schissler, G., Gardeux, V., Berghout, J., Achour, I., Kenost, C., Li, H., **Zhang, H. H.** and Lussier, Y. A. (2017) kMEn: analyzing noisy and bidirectional transcriptional pathway responses in single subjects. *Journal of Biomedical Informatics*, **66**, 32-41. February.

75. Li, Q., Schissler, G., Gardeux, V., Berghout, J., Achour, I., Kenost, C., Li, H., **Zhang, H. H.** and Lussier, Y. A. (2017) N-of-1-pathways MixEnrich: advancing precision medicine via single-subject analysis in discovering dynamic changes of transcriptomes. *BMC Medical Genomics*. **10**,1-27.

76. Wang, X., Fujimaki, K., Mitchell, G., Kwon J. Croce, K., Langsdorf, C., **Zhang, H. H**., and Yao, G. (2017) Exit from quiescence displays a memory of cell growth and division. *Nature Communications*. **8**(1), 321.

77. Berger, M., Nagesh, A., Levine, J., Surdeanu, M., and **Zhang, H. H.** (2018) Visual supervision in bootstrapped information extraction. Conference on Empirical Methods in Natural Language Processing (EMNLP), Oct31-Nov 4, Brussels, Belgium.

78. *Li, Q., Zaim, S., Aberasturi, D., Berghout, J., Li, H., Vitali, F., Kenost, C., **Zhang, H. H.**, and Lussier, Y. (2018+) iDEG: a single-subject method utilizing local estimates of dispersion to impute differential expression between two transcriptomes. TBC/Bioinformatics 2018. *under revision*.

79. Li, Q., Zaim, S., Aberasturi, D., Berghout, J., Li, H., Kenost, C., Zhang, H. H., and Lussier, Y. (2019) Interpretation of Omics dynamics in a single subject using local estimates of dispersion between two transcriptomes. Accepted. *AMIA Annual Symposium Proceedings*.

80. Rodriguez G.C., Kauderer, J., Hunn, J., Thaete, L.G., Watkin, W.G., Russell, S., Yozwiak, M., Basil, J., Hurteau, J., Lele, S., Modesitt, S. C., Zivanovic, O., Zhang, H, H., Bartels, P.H, and Alberts, D.S. (2019) Phase II Trial of Chemopreventive Effects of Levonorgestrel on Ovarian and Fallopian Tube Epithelium in Women at High Risk for Ovarian Cancer: An NRG Oncology Group/GOG Study. *Cancer Prevention Research* **12**, 401-412.

81. Lo-Ciganic, W. H.; Huang, J. L., Zhang, H. H., Weiss, J. C., Wu, Y. H, Kwoh, C. K., Donohue, J. M., Cochran, G., Gordon, A. J., Malone, D. C., Kuza, C. C., and Gellad, W. F. (2019) Evaluation of Machine-Learning Algorithms for Predicting Opioid Overdose Risk Among Medicare Beneficiaries With Opioid Prescriptions. *JAMA New Open 2019* **2(3)**:e190968.

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83. Baldwin, E., Han, J., Luo, W., Zhou, J., An, L., Liu, J., Zhang, H. H., and Li, H. (2020). On fusion methods for knowledge discovery from multi-omics datasets. *Computational and Structural Biotechnology Journal* **18**, 509-517.

84. Russell, S., Rodriguez, G., Yozwiak, M., Patel, C., Maarouf, M., Bartels, H., Barton, J., Kim, A., Atluri, S., Bartels, P., Zhang, H. H.* and Alberts, D. (2021) Karyometry Identifies a Distinguishing Fallopian Tube Epithelium Phenotype in Subjects at High Risk for Ovarian Cancer. *Analytical and Quantitative Cytopathology and Histopathology*, accepted.

85. Sharma, Y., Zhang, H. H., and Xin, H. (2020) Machine Learning Techniques for Optimizing Design of Double T-Shaped Monopole Antenna. *IEEE Transactions on Antennas and Propagation* , 68, 5658-5663, July. Digital Object Identifier: 10.1109/TAP.2020.2966051

86. Zaim, S., Kenost, C., Zhang, H. H.* and Lussier, Y. (2021) Personalized beyond precision: designing unbiased gold standards to improve single-subject studies of personal genome dynamics from gene products. *Journal of Personalized Medicine*. Accepted.

Conferences/Scholarly Presentations

Symposium (at Conferences/Workshops)

1. "Variable Selection for Support Vector Machines via Basis Pursuit", Invited Talk, AMS/IMS/SIAM Joint Summer Research Conferences – Machine Learning, Statistics and Discovery, June 26, 2003, Snowbird, Utah. (National Invited)

2. "Nonparametric Regression Variable Selection – Component Selection and Smoothing Operator (COSSO)", Statistical and Applied Mathematical Sciences Institute (SAMSI), Stochastic Computation Final Workshop, June 27, Research Triangle Park, NC. (National Invited)

3. "Variable Selection for Support Vector Machines", Joint Statistical Meetings, Aug 4, 2003, San Francisco, CA. (IMS Invited)

4. "Variable Selection in Spline ANOVA Models", Discussant for Wald Lecture (II) given by Professor Grace Wahba, Joint Statistical Meetings, Aug 6, 2003, San Francisco, CA. (National Invited)

5. "Compactly Supported RBF Kernels." Statistical and Applied Mathematical Sciences Institute (SAMSI), Data Mining and Machine Learning Intermediate Workshop, Research Triangle Park, NC. Feb 2004. (National Invited)

6. "Unified Multi-class Proximal Support Vector Machines." Interface: computational biology and bioinformatics, 36th Symposium on the interface, Baltimore, MA. May 2004. (National Invited)

7. "Variable Selection in Nonparametric Statistical Models," International Federation of Classification Societies meeting, Chicago, IL, July 2004. (National Invited)

8. "Variable Selection in Nonparametric Statistical Models," IMS Invited Talk, Joint Statistical Meetings, Toronto, Canada, August, 2004. (National Invited)

9. "Variable Selection via COSSO in Nonparametric Regression Models," Mathematisches Forschungsinstitut Oberwolfach workshop, Germany, Nov., 2004. (International Invited)

10. "Variable Selection for SVM via Spline ANOVA," The Joint Meeting of CSPS/IMS, Beijing, China, July 2005. (International Invited)

11. "Variable Selection for Support Vector Machines via COSSO," ISI Invited Talk, Joint Statistical Meetings, Minneapolis, MN, August, 2005. (National Invited)

12. "Support Vector Machine Classification with Informative Features", INFORMS International Conference, June 2006, Hong Kong, China. (International Invited)

13. "Support Vector Machine Classification with Informative Features", AMS/IMS/SIAM Joint Summer Research Conferences – Machine Learning, Statistics and Discovery, June 2006, Snowbird, Utah. (National Invited)

14. "Sparse Learning for Support Vector Machines", Joint Statistical Meetings, Seattle, August, 2006. (National Invited)

15. "Nonparametric Variable Selection with COSSO and Its Recent Development", Invited Talk at Southern Regional Council on Statistics (SRCOS), Richmond, VA, June 2007. (National Invited)

16. "Nonparametric Variable Selection with COSSO and Its Recent Development", International Conference on Advances in Interdisciplinary Statistics and Combinatorics, Greensboro, NC, October 2007. (National Invited)

17. "Variable Selection for Multicategory SVM via Sup-Norm Regularization", INFORMS Annual Meeting, Washington DC, May 2008. (National Invited)

18. "Model Selection for Partial Smoothing Splines", Southern Regional Council on Statistics (SRCOS) Summer Research Conference, Charleston, SC, June 2008. (National, Invited)

19. "Variable Selection for Multicategory SVM via Sup-Norm Regularization", INFORMS Annual Meeting, Washington DC, May 2008.

20. "Model Selection for Partial Smoothing Splines", Southern Regional Council on Statistics (SR-COS) Summer Research Conference, Charleston, SC, June 2008.

21. "Robust Model-free Methods for Multiclass Probability Estimation", The 16th Spring Reseach Conference On Statistics in Industry and Technology, Vancouver, Canada, May 2009.

22. "Automatic Model Structure Selection for Partially Linear Models", IMS-China Meeting, Weihai, China, June 2009. (International)

23. "Automatic Model Structure Selection for Partially Linear Models", 1st Institute of Mathematical Statistics Asia Pacific Rim Meeting, Seoul, Korea, June 2009. (International)

24. "Automatic Model Structure Selection for Partially Linear Models", International Conference on Financial Statistics and Financial Econometrics (ICFSFE), Southwestern, Chengdu, China, July, 2009. (International)

25. "Model Selection for Partial Smoothing Splines", Joint Statistical Meetings (JSM), Washington, DC, August 2009.

26. "Variance Component Selection in Linear Mixed Models", SAMSI Analysis of Object Data Workshop, Interface Functional and Longitudinal Data Analysis, November, 2010.

27. "Robust Model-free Methods for Multiclass Probability Estimation", ENAR, Miami, FL, March, 2011.

28. "SVM with Probability Estimation for Multiclass Problems", ICSA Applied Statistics Symposium, New York, June 2011..

29. "Model-free Methods for Multiclass Probability Estimation", IMS-China Meeting, Xian, China, July 2011. (International)

30. "Variable Selection for Optimal Treatment Decision", International Workshop on Perspectives on High-dimensional Data Analysis, Fields Institute of Mathematical Sciences, Toronto, Ontario, Canada, June 2011. (International)

31. "Incomplete Data Analysis in Statistics and Machine Learning", SRCOS (Southern Regional Council on Statistics) Summer Research Conference, Jekyll Island, Georgia, June 2012. (Keynote Speaker)

32. "Selection of Interaction Effects for Ultra High-Dimensional Data", 8th International Purdue Symposium on Statistics, Purdue University, West Lafayette, IN, June 2012.

33. "Identify Interactions for Ultra-high Dimensional Data", ENAR, Orlando, FL, March 2013.

34. "Identify Interactions for Ultra-high Dimensional Data", ICSA/ISBS Joint Statistical Conferences, Bethesda, MD, June 2013.

35. "Identify Interactions for Ultra-high Dimensional Data", IMS-China International Conference on Statistics and Probability, Chengdu, China, July 2013. (International, Invited)

36. "Detection of Gene-Gene Interactions", The Second Taihu International Statistics Forum, Suzhou, China, July, 2013. (International, Invited).

37. "Automatic Model Structure Selection for Multivariate Nonparametric Regression", The 59th World Congress of Statistics, Hongkong, August, 2013. (International, Invited)

38. "Identify Interactions for Ultra-high Dimensional Data", SAMSI Low-dimensional Structure in High-dimensional Systems (LDHD) workshop, February, 2014.

39. "Structured functional additive regression in reproducing kernel Hilbert spaces", ENAR, Baltimore, MD, March 2014.

40. "Rising Stars: Women Making Waves", Panel on NSF Career Award, Woman in Statistics Conference, May 2014.

41. "Structured functional additive regression in reproducing kernel Hilbert spaces", ASA Section on Statistical Learning and Data Mining, Durham, NC, June 2014.

42. "Structured functional additive regression in reproducing kernel Hilbert spaces", ICSA/KISS Joint Applied Statistics Symposium, Portland, OR, June 2014.

43. "Structured functional additive regression in reproducing kernel Hilbert spaces", Joint Statistical Meetings (JSM), Boston, MA, August 2014.

44. "Structured functional additive regression in reproducing kernel Hilbert spaces", Big Data Statistics Workshop, Shanghai, China, November 2014.

45. "Identify Interactions for ultra-high dimensional data", The Second International Workshop on Statistical Genetics and Genomics, Shanxi Medical University, Taiyuan, Shanxi, China, June 2015.

46. "Probability-enhanced sufficient dimension reduction for binary classification", 8th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics 2015), University of London, London, UK.

47. "Probability-enhanced sufficient dimension reduction for binary classification", International Statistics Forum, Renmin University of China, Beijing, China, May 2016.

48. "Probability-enhanced sufficient dimension reduction for binary classification", Third Conference of the International Society for Nonparametric Statistics, Avignon, France, June 2016.

49. "Structured functional additive regression in reproducing kernel Hilbert spaces", Workshop on Probability and Statistics, Beida University, Beijing, China, June 2016.

50. "Modern statistics methods for genomics and optimal treatment", The Second International Workshop on Statistical Genetics and Genomics, Shanxi Medical University, Taiyuan, Shanxi, China, June 2016.

51. "Structured functional additive regression in reproducing kernel Hilbert spaces", The 4th IBS-China International Biostatistic Conference, Shanghai, China, June 2016.

52. "Identify Interactions for Ultra-high Dimensional Data", SAMSI DPDA Workshop: Reinforcing the Importance of Statistics and Applied Mathematics in Distributed Computing, Sep. 20-23. 2016.

53. "Structured functional additive regression in RKHS", The 1st International Conference on Econometrics and Statistics (EcoStat 2017), Hong Kong University of Science and Technology, Hong Kong, June 15-17, 2017.

54. "Hierarchy-preserving regularization solution paths for identifying interactions in high dimensional data ", The Third International Workshop on Statistical Genetics and Genomics, Shanxi Medical University, Taiyuan, Shanxi, China, June 22-23, 2017.

55. "Scalable Methods and Algorithms for Interaction Selection", Workshop SINW01: Scalable Statistics Inference, Isaac Newton Institute for Mathematical Sciences, Cambridge, UK, July 3-7, 2017.

56. "Scalable Methods and Algorithms for Interaction Selection", Workshop on Big Data and Statistical Sciences, Shanxi University of Finance and Economics, Taiyuan, China, Dec 16-17, 2017.

57. "Scalable Methods and Algorithms for Interaction Selection", The 2017 International Conference on Data Science, School of Data Science, Fudan University, Dec 17-19, 2017.

58. "Interaction Selection: Its Past, Present, and Future", Conference on Predictive Inference and Its Applications, Iowa State University, May 7-8, 2018.

59. "Scalable model-free estimation for multiclass probabilities", Conference on Statistical Learning and Data Science/Nonparametric Statistics, Columbia University, June 4-6, 2018.

60. "Partially function linear regression in high dimensions", The ICSA 2018 Applied Statistics, Symposium, Rutgers University, June 14-17, 2018.

61. "Scalable model-free estimation for multiclass probabilities", The 2018 Joint Statistical Meetings, Vancouver, July 28-August 2, 2018.

62. "Oracle P-value and variable screening", Workshop on Higher-order Asymptotics and Post-Selection Inference, Washington University, September 8-10, 2018.

Colloquia

63. "Variable Selection via Basis Pursuit for non-Gaussian data", Department of Statistics, University of Wisconsin-Madison, Madison, November, 2001.

64. "Nonparametric Variable Selection via Likelihood Basis Pursuit", Institute of Statistics and Decision Sciences, Duke University, Durham, September, 2002.

65. "Component Selection and Smoothing Operator in SS-ANOVA," Department of Biostatistics, University of North Carolina at Chapel Hill, Raleigh, NC, Sep., 2004.

66. "Component Selection and Smoothing Operator in Nonparametric Models," Department of Statistics, Pennsylvania State University, College Park, PA, Nov., 2004.

67. "Multiclass proximal support vector machines," Duke Clinical Research Institute (DCRI), Duke University, Durham, NC, May, 2005. (Department Colloquium Invited)

68. "Variable Selection via Penalized Likelihood Methods," Department of Statistics, University of Georgia, Athens, GA, Nov., 2006.

69. "Nonparametric Variable Selection with COSSO and Its Recent Development", Department of Statistical Sciences, Cornell University, Ithaca, NY, January 2009.

70. "Nonparametric Variable Selection with COSSO and Its Recent Development", Department of Statistics, University of Pittsburgh, February 2009.

71. "Nonparametric Variable Selection with COSSO and Its Recent Development", Department of Statistics, Michigan State University, April 2009.

72. "Statistical Model Selection: Past, Present, and Future", Glaxo Smith Klein (GSK) Company, Research Triangle Park, NC, June 2009.

73. "Automatic Model Structure Selection for Partially Linear Models", Department of Statistics, University of Minnesota, Twin City, MN, October, 2009.

74. "Automatic Model Structure Selection for Partially Linear Models", Department of Statistics, Virginia Tech., Blacksburg, November, 2009.

75. "Multivariate nonparametric regression and variable selection using smoothing splines", Department of Mathematics, University of Arizona, March, 2010.

76. "Automatic Model Structure Selection for Partially Linear Models", Department of Biostatistics, University of North Carolina at Chapel Hill, December, 2010.

77. "Variable Selection for Random Effects", Department of Biostatistics, University of South Carolina at Columbia, February 2011.

78. "Automatic Model Structure Selection for Partially Linear Models", Statistics GIDP, University of Arizona, December 2011.

79. "Statistical Model Selection for High Dimensional and Complex Data", Department of Mathematics, University of Arizona, September 2012.

80. "Identify Interactions for Ultra-high Dimensional Data", Department of Statistical Sciences, University of Toronto, September 2012.

81. "Automatic Model Structure Selection for Partially Linear Models", Department of Statistics, Oregon State University, May 2013.

82. "Automatic Model Structure Selection for Partially Linear Models ", Department of Mathematics, Beijing University, June 2013.

83. "Robust Model-free Probability Estimation via Multiclass Support Vector Machines", Department of Computer Science, Tsinghua University, July 2013.

84. "Recent Development in Model Selection for Multivariate Nonparametric Regression", Department of Mathematics, Tsinghua University, June 2013.

85. "Recent Development in Massive High-Dimensional Data Analysis", Department of Statistics, Taiyuan University of Technology, June 2013.

86. "Weighted Support Vector Machines", Guanghua School of Management, Beijing University, July 2013.

87. "Identify Interactions for Ultra-high Dimensional Data", Department of Statistics, Ohio State University, Columbus, OH, April 2014.

88. "Identify Interactions for Ultra-high Dimensional Data", Department of Statistics, Florida State University, Tallahassee, FL, October 2014.

89. "Interaction Selection for High Dimensional Data", Department of Statistics, Iowa State University, Ames, Iowa, April 2015.

90. "Identify Interactions for Ultra-high Dimensional Data", School of Mathematical and Statistical Sciences, Arizona State University, Phoenix, AZ, May 2015.

91. "Hierarchy-preserving Regularization Solution Paths for Identifying Interactions in High Dimensional Data", School of Statistics, University of Minnesota, Minneapolis/St Paul, Minnesota, November 2017.

92. "Interaction Selection: Its Past, Present, and Future", RIT Data Science Research Group (webnar), Rochester Institute of Technology, December 8, 2017.

93. "Scalable model-free estimation for multiclass probabilities", Department of Biostatistics, Columbia University, October 17-18 , 2018.

94. "Scalable Methods and Algorithms for Interaction Selection", Department of Statistics, Purdue University, October 19-20 , 2018.

95. "Scalable Methods and Algorithms for Interaction Selection", Department of Statistics, University of California at Santa Barbara, November, 2018.

96. "Scalable Methods and Algorithms for Interaction Selection", Department of Statistics, Georgia Institute of Technology, November, 2018.

Local Seminars

97. "Statistical Machine Learning", Department of Statistics, North Carolina State University, Raleigh, NC, August 19, 2003.

98. "Soft-thresholding Penalties for Variable Selection", Bayesian Group Seminar, Department of Statistics, NCSU, Raleigh, NC, Dec., 2006.

99. "Variable Selection in Linear Models via Shrinkage Methods", Department of Statistics, North Carolina State University, Raleigh, NC, Dec., 2006.

100. "Statistical Model Selection for High Dimensional and Complex Data", Computation and Applied Math seminar, Department of Mathematics, UA, November 2012.

101. "Statistical Machine Learning for Big and High Dimensional Data", seminar for undergraduate mathematics majors, Department of Mathematics, UA, April 2013.

102. "Improved Multiclass Support Vector Machines for Uncertainty Evaluation", joint Mathematics and Computer Science seminar, UA, April 2013.

103. "The Path to Personalized Medicine: a Statistical Perspective", Woman Advancing Arizona Mathematics (WAAM), Nov, 2013.

104. "Variable Selection for Optimal Treatment Decision", Department of Epidemiology and Biostatistics, University of Arizona, Jan, 2015.

105. "Conquering Cancer", Second Mathematical Science Cafes Series, organized by College of Science UA Cafes Series, University of Arizona, Dec. 2015.

106. "Conquering Cancer", Seminar Course for Graduate Students, Applied MATH GIDP, University of Arizona, Feb. 2016.

References:
    Available upon request