YIJUN ZUO

Department of Statistics and Probability
Michigan State University
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Education

PhD, Statistics, 05/98, University of Texas at Dallas

MS, Computer Science, 12/97, University of Texas at Dallas

MS, Statistics, 12/95, University of Texas at Dallas

MS, Applied Mathematics, 05/95, University of Texas at Dallas

MS, Computational Mathematics, 05/90, Lanzhou University, Lanzhou, P.R.China

Mathematics Diploma, 06/83, Zhenjiang teachers' college (now part of Jiangsu University), Zhenjiang, P.R. China

Experience

Professor, Department of Statistics and Probability, Michigan State University, 07/06-present

Associate Professor, Department of Statistics and Probability, Michigan State University, 07/03-06/06

Assistant Professor, Department of Statistics and Probability, Michigan State University, 06/02-06/03

Assistant Professor, Department of Mathematics and Statistics, Arizona State University, 08/98-05/02

Co-op, System Engineering, Northern Telecom (Nortel), Richardson, Texas, 05/96-08/96

Teaching Assistant, Department of Mathematics, University of Texas at Dallas, 09/93-05/98

Lecturer, Department of Mathematics, Central South University, P. R. China, 08/90-08/93

Main Research Interests

Multivariate, Non-parametric, and Robust Statistics; Statistical computing and Machine Learning; Classification and Clustering; High dimensional statistics; Data depth and applications in data science.

Grants and Awards

NSF (PD61143), "Robust penalized least squares of depth trimmed residuals regression for high-dimensional data", sole investigator, $393,071, 05/16/23-05/15/26, **Failed**.

DMS-02-34078, Faculty Early Career Development (**CAREER**) Program, NSF, "Statistical depth functions and their applications", Sole Investigator, $300,000, 06/02-05/08

DMS-05-01174, supplemental grant to DMS-02-34078 (**CAREER**: "Statistical Depth Functions and their Applications"), NSF, sole Investigator, $20,000, 06/05-05/06

DMS-00-71976, NSF, "Finite sample performance of multivariate location and scatter estimators", sole Investigator, $82,708, 06/00-05/03

Retention Grant, Michigan State University, $75,000.00, 07/06-06/10

Start-up Grant, Michigan State University, $55,000.00, 06/02-05/04

Matching Funds, Michigan State University, $82,000.00, 06/03-05/05

RIA (Research Incentive Award), Arizona State Univ., $9,222, 01/00-09/01

FGIA (Faculty Grant In Aid), Arizona State Univ., "Multivariate data ordering based on statistical depth function", Sole Investigator, $5,000, 01/99-12/99

CIR (Investigator Incentive Award), Arizona State Univ., $2,908, 05/00-08/02

Travel Grants, NSF, for conferences in Chicago, Baltimore, Dallas, Czech Republic, and Argentina

Professional Service and Societies, and Honors

Associate Editor, Journal of Multivariate Analysis, 2004-2010

Associate Editor, International Journal of Statistics and Management Systems, 2006-2014

Associate Editor, Statistics and Probability Letters, 2010-2013

Reviewer, Mathematical Reviews, 2004-2010

Member, Noether Awards Committee, American Statistical Association, 2005-2010

Member, Institute of Mathematical Statistics (lifetime), American Statistical Association (1998-2006), International Chinese Statistical Association (lifetime)

CAREER Award, National Science Foundation, 06/2002-05/2008

Invited Member, International Statistical Institute (ISI), since 2006

Elected Fellow of The Institute of Mathematical Statistical (IMS), since 2021.

Peer-Refereed Papers

1. Zuo, Y. and Zuo, H. (2024), "Weighted least squares regression with the best robustness and high computability.", arXiv:2312.05127, *Axioms* 2024, 13, 295, https://doi.org/10.3390/axioms13050295. [**six** pieces of related R code are published on https://github.com/left-github-4-codes/WLS]

2. Zuo, Y. and Zuo, H. (2023), "Least sum of squares of trimmed residuals regression", *Electronic Journal of Statistics*, Vol. 17, No. 2, 2416-2446. [**sixteen** pieces of associated R code are published on https://github.com/left-github-4-codes/LST]

3. Zuo, Y. (2023), "Non-asymptotic robustness analysis of regression depth median", *Journal of Multivariate Analysis*, arXiv: 2009.00646. https://doi.org/10.1016/j.jmva.2023.105247

4. Zuo, Y. (2022), "Non-asymptotic analysis and inference for an outlyingness induced winsorized mean" , arXiv:2105.02337, *Statistical Papers*, https://doi.org/10.1007/s00362-022-01353-5

5. Shao,W., Zuo, Y., Luo, J. (2022),"Employing the MCMC Technique to Compute the Projection Depth in High Dimensions", *Journal of Computational and Applied Mathematics*, vol.(411), 114278 https://doi.org/10.1016/j.cam.2022.114278 [there are some **ten-plus** pieces of R code associated with this publication]

6. Zuo, Y. (2021), "Computation of projection regression depth and its induced median", *Computational statistics and data analysis*, Vol. 158, June 2021, 107184. https://doi.org/10.1016/j.csda.2021.107184

   [some **thirty-plus** instances of (Matlab, R, and Rcpp) code associated with the article are available at https://github.com/zuo-github/comp-prd-medians] arXiv:1905.11846.

7. Zuo, Y. (2021), "On general notions of depth for regression" *Statistical Science* 2021, Vol. 36, No. 1, 142–157, arXiv:1805.02046.

8. Zuo, Y. (2021). "Robustness of the deepest projection regression depth functional", *Statistical Papers*, vol. 62(3), pages 1167-1193.

9. Zuo, Y. (2020), "Depth induced regression medians and uniqueness", *Stats* 2020, 3(2), 94-106, arXiv:1906.10461.

10. Zuo, Y. (2020), "Large sample properties of the regression depth induced median", *Statistics and Probability Letters*, November 2020 166, arXiv1809.09896.

11. Shao, W., and Zuo, Y. (2020). "Computing the halfspace depth with multiple try algorithm and simulated annealing algorithm", *Computational Statistics*, vol. 35(1), pages 203-226.

12. Zuo, Y. (2018). "A new approach for the computation of halfspace depth in high dimensions", *Communications in Statistics - Simulation and Computation*, 48(3): 900-921.

13. Liu, X., Luo S., and Zuo, Y. (2018). "The limit of finite sample breakdown point of Tukey's halfspace median for general data", *Acta Mathematica Sinica*, 34(9): 1403–1416.

14. Liu, X., Zuo, Y., and Wang , Q. (2017). "Finite sample breakdown point of Tukey's halfspace median", *Science in China Series A: Mathematics.*, 60: 861–874.

15. Liu, X., Luo, S., and Zuo, Y. (2017). "Some results on the computing of Tukey's halfspace medain", *Statistical Papers*, DOI 10.1007/s00362-017-0941-5.

16. Zuo, Y. (2016). "On the performance of confidence intervals on quantiles", *Journal of Advanced Statistics*, 1(3), 171-179.

17. Zuo, Y. (2015). "Bahadur representations for bootstrap quantiles", *Metrika*, 78(5), 597-610.

18. Liu, X. and Zuo, Y. (2015). "CompPD: A MATLAB package for computing projection depth", *Journal of Statistical Software*, 65(2), 1-21.

19. Liu, X. and Zuo, Y. (2014). "Computing halfspace depth and regression depth" *Communications in Statistics - Simulation and Computation*, 43(5), 969-985.

20. Liu, X. and Zuo, Y. (2014). "Computing projection depth and its associated estimators", *Statistics and Computing*, 24 (1), 51-63.

21. Zuo, Y. (2013). "Multidimensional medians and uniqueness", *Computational Statistics and Data Analysis*, 66, 82-88.

22. Liu, X., Zuo, Y. and Wang, Z. (2013). "Exactly computing bivariate projection depth contours and median", *Computational Statistics and Data Analysis*, 60, 1-11.

23. Shao, W. and Zuo, Y. (2012) "Simulated annealing for higher dimensional projection depth" *Computational Statistics and Data Analysis*, 56 (2012) 4026–4036

24. Luo, J. and Zuo, Y. (2011) "A new test for large dimensional regression coefficients". *Open Journal of Statistics*. 1(3), 212-216.

25. Luo, J. and Zuo, Y. (2011). "Statistical methods for differential gene detection in microarray", *Advances and Applications in Statistical Sciences*, 6(2), 77-88.

26. Jiang, B., Zhang, X., Zuo, Y., Kang, G. (2011) "A powerful truncated tail strength method for testing multiple null hypotheses in one dataset". *Journal of Theoretical Biology*, 277 (1), 67-73

27. Zuo, Y. and Lai, S. (2011). "Exact computation of the bivariate projection depth and Stahel-Donoho estimator", *Computational Statistics and Data Analysis*, 55(3), 1173-1179.

28. Zuo, Y. (2010). "Is the t confidence interval: $\bar{x} \pm t_\alpha(n-1)\frac{s}{\sqrt{n}}$ optimal?" *The American Statistician*, 64(2), 170-173.

29. Zuo, Y. and Kang, G. (2010)."A mixed two-stage analysis for detecting interactions in genomewide association studies", *Journal of theoretical Biology*, 262(4), 576-583.

30. Serfling, R. and Zuo, Y. (2010). "Some Perspectives on Multivariate Quantile and Depth Functions", *The Annals of Statistics* (discussion paper) , 38(2), 676-684

31. Kong. L. and Zuo, Y. (2010). "Smooth Depth Contours Characterize Underlying Distribution", *Journal of Multivariate Analysis*, 101(2010), 2222 - 2226.

32. Yuan, Y.,Wu, J., Zuo, Y. and Chen, J. (2009). "A new method for fitting the complicated water level process of the lower Yellow River". *Science in China Seies E: Technological Sciences*, 52(10): 2997-3003.

33. Zuo, Y. (2009). "Data depth trimming counterpart of the classical t (or T^2) procedure," *Journal of Probability and Statistics* Volume 2009 (2009), Article ID 373572, 9 pages, doi:10.1155/2009/373572

34. Zuo, Y. and Lai, S. (2009). "On a robust and efficient maximum depth estimator". *Science in China Series A: Mathematics*, 52(6), 1-21.

35. Wu, M. and Zuo, Y. (2009). "Trimmed and Winsorized means based on a scaled deviation". *Journal of Statistical Planning and Inference*,139(2), 350-365

36. Wu, M. and Zuo, Y. (2008) "Trimmed and Winsorized Standard Deviations based on a scaled deviation". *Journal of Nonparametric Statistics*, 20(4), 319-335

37. Kang, G., Yue, W., Zhang, J., Huebner, M., Zhang, H., Ruan, Y., Lu, T., Ling, Y., Zuo, Y., Zhang, D (2008). "Two-stage designs to identify the effects of SNP combinations on complex diseases". *Journal of Human Genetics*, 53(8), 739-46

38. Zuo, Y., Zou, G., Wang, J., Zhao, H., Liang, H. (2008). "Optimal two-stage design for case-control association analysis incorporating genotyping error". *The Annals of Human Genetics*,72(3), 375-387

39. Kang, G., Yue, W. Zhang, J., Cui, Y., Zuo, Y., and Zhang, D. (2008). "An entropy-based approach for modeling and testing genetic epistasis underlying complex diseases". *Journal of theoretical Biology*, 250(2), 362-374

40. Kang, G., Zuo, Y. (2007). "Entropy-based joint analysis for two-stage genome-wide association studies". *Journal of Human Genetics*, 52(9), 747-756.

41. Zuo, Y. and He, X. (2006). "On the limiting distributions of multivariate depth-based rank sum statistics and related tests". *The Annals of Statistics*, 34(6), 2879-2896

42. Zuo, Y. (2006). "Multi-dimensional trimming based on projection depth". *The Annals of Statistics*, 34(5), 2211-2251

43. Zuo, Y. and Du, J. (2006) "On an L-estimator with data-dependent coefficients". *International Journal of Statistics and Management Systems.* 1(1), 24-47

44. Zuo, Y. (2006). "Robust location and scatter estimators in multivariate analysis" (invited book chapter to honor Peter Bickel on his 65th Birthday), *The Frontiers in Statistics*, Imperial College Press (23 pages)

45. Zuo, Y., Zou, G. and Zhao, H. (2006). "Two-stage designs in case-control association analysis". *Genetics*, 173, 1747-1760

46. Sha, Q., Zhu, X., Zuo, Y., Cooper, R. and Zhang, S. (2006). "A combinatorial searching method for detecting a set of interacting loci associated with complex traits". *The Annals of Human Genetics*, 70(5), 677-692

47. Zou, G. and Zuo, Y. (2006). "On the sample size requirement in genetic association tests when the proportion of false positives is controlled". *Genetics*, 172(1), 1-5

48. Arcones, M., Cui, H. and Zuo, Y. (2006). "Empirical depth processes". *Test* (Spanish statistical and operations research society), 15(1), 151-177

49. Zuo, Y. and Cui, H. (2005). "Depth weighted scatter estimators". *The Annals of Statistics*, 33(1), 381-413

50. Zuo, Y. (2004). "Projection based affine equivariant multivariate location estimators with the best possible finite sample breakdown point". *Statistica Sinica*, 14(4), 1199-1208

51. Zuo, Y. (2004). "Robustness of weighted L_p - depth and L_p - median". *Allgemeines Statistisches Archiv* (Journal of the German Statistical Society), 88(1), 1-20

52. Zuo, Y., Cui, H. and Young, D. (2004). "Influence function and maximum bias of projection depth based estimators". *The Annals of Statistics*, 32(1), 189-218

53. Zuo, Y., Cui, H. and He, X. (2004). "On the Stahel-Donoho estimator and depth-weighted means of multivariate data". *The Annals of Statistics*, 32(1), 167-188

    (**won the first-class award of National Bureau of Statistics of China in 2006**) Please check
    http://www.stt.msu.edu/ zuo/papers_html/20091102133515.pdf;
    http://www.stt.msu.edu/ zuo/papers_html/20091102133612.pdf)

54. Zuo, Y. (2004). "Statistical depth functions and some applications". *Advances in Mathematics* (China). 33(1), 1-26

55. Zuo, Y. (2003). "Projection based depth functions and associated medians". *The Annals of Statistics*, 31(5), 1460-1490

56. Zuo, Y. (2003). "Finite sample tail behavior of multivariate location estimators". *Journal of Multivariate Analysis*, 85, 91-105

57. Zuo, Y. (2002). "Multivariate trimmed means based on data depth". *Statistical Data Analysis Based on the L1-Norm and Related Methods* (Y. Dodge ed.). Birkhäuser, 313-322

58. Zuo, Y. (2001). "Finite sample tail behavior of Hodges-Lehmann type estimators". *Statistics*, 35, 557-568

59. Zuo, Y. (2001). "Some quantitative relationships between two types of finite sample breakdown point". *Statistics and Probability Letters*, 51(4), 369-375

60. Zuo, Y. (2000). "Multivariate monotone location estimators". *Sankhyã, Series A*, 62 (2), 161-177

61. Zuo, Y. and Serfling, R. (2000). "General notions of statistical depth function". *The Annals of Statistics*, 28 (2), 461-482

62. Zuo, Y. and Serfling, R. (2000). "Structural properties and convergence results for contours of sample statistical depth functions". *The Annals of Statistics*, 28 (2), 483-499

63. Zuo, Y. (2000). "A note on finite sample breakdown points of projection based multivariate location and scatter statistics". *Metrika*, 51, 259-265

64. Zuo, Y. and Serfling, R. (2000). "Nonparametric multivariate notions of 'scatter' and 'more scattered' based on statistical depth function". *Journal of Multivariate Analysis*, 75, 62-78

65. Zuo, Y. and Serfling, R. (2000). "On the performance of some robust nonparametric location measures relative to a general notion of multivariate symmetry". *Journal of Statistical Planning and Inference*, 84, 55-79

66. Zuo, Y. (2000). "Finite sample tail behavior of multivariate trimmed mean based on Tukey-Donoho halfspace depth". *Metrika*, 52 (1), 69-75

67. Zuo, Y. and Zhang, J. (1995). "The existence and uniqueness of solutions for the equations in Runge-Kutta methods". *International Journal of Computer Mathematics*, 55, 67-77

68. Zuo, Y. and Zhang, J. (1994). "The existence and uniqueness of solutions for the equations in Runge-Kutta methods". *International Journal of Computer Mathematics*, 50, 23-33

69. Zuo, Y. and Zhang, J. (1991). "On the solvability of the Runge-Kutta equations". *Sichuan Shifan Daxue Xuebao* (Chinese), 14 (4), 1-6

70. Zuo, Y. and Zhang, J. (1991). "Nonlinear stability for a class of two-stage Runge-Kutta methods". *Sichuan Shifan Daxue Xuebao*(Chinese), 14 (3), 56-60

71. Zuo, Y. and Zhang, J. (1991). "B-convergence of the two-stage diagonally implicit R-K methods". *Sichuan Shifan Daxue Xuebao*(Chinese), 14 (2), 14-22

72. Zuo, Y. and Zhang, J. (1990). "B-convergence of a class of linear multistep methods". *Sichuan Shifan Daxue Xuebao*(Chinese), 13 (2), 7-11

73. Zuo, Y. and Zhang, J. (1989). "The improvement of Taylor algorithm". *Sichuan Shifan Daxue Xuebao*(Chinese), 12 (2), 7-14

Submitted Papers

05 Zuo, Y. and Zuo, H. (2024), "Computation of least squares trimmed regression–an alternative to least trimmed squares regression.", (under revision) arXiv:2312.05077 [**nine** pieces of associated R code are published on https://github.com/left-github-4-codes/amlst]

04 Zuo, Y. (2024), "Asymptotics for the least trimmed squares estimator", (under review). arXiv:2210.06460

03 Zuo, Y., Zhong, P., and Weng, H. (2024), "Robust penalized least squares of depth trimmed residuals regression for high-dimensional data", (under review). arXiv:2309.01666 [**seven** pieces of associated R code are published on https://github.com/left-github-4-codes/lst-enet]

Technical Reports

02 Zuo, Y. (2022), "New algorithms for computing the least trimmed squares estimator". arXiv4220133

[**eight** associated pieces of R code are published on https://github.com/left-github-4-codes/comp-lts]

01 Zuo, Y. (2022). "Asymptotic normality of the least sum of squares of trimmed residuals estimator". arXiv4243064

Invited Talks

1. 2023, Invited talk in ICORS (International conference on Robust Statistics), 22-26 May 2023 Toulouse (France) (declined due to the impaired mobility)

2. 2022, Invited talk in ICORS (International conference on Robust Statistics), University of Waterloo, June of 2022 (declined due to the impaired mobility)

3. 2021, Invited colloquium talk, Department of Statistics, Florida State University, (declined due to concern of covid-19)

4. 2020, Invited seminar talk, Department of Statistics, University of Kentucky, (declined due to concern of covid-19)

5. 2019, Invited seminar talk, School of Mathematical and Statistical Sciences, Clemson University, Clemson, SC (declined due the health concern)

6. 2018, Invited workshop talk and visit, College of Econonomic Mathematics, Southwestern University of Finance and Economics, Chengdu, Sichuan, China (declined due the visa complication)

7. 2016, Invited colloquium talk, Department of Statistics & Actuarial Science, University of Waterloo, Canada, (declined due the health concern)

8. 2014, Invited workshop talk and visit, Research Center of Applied Statistics, Jiangxi University of Finance and Economics, Nanchang, 330013, Jiangxi, China (declined due the health concern)

9. 2013, Invited workshop talk and visit, Research Center of Applied Statistics, Jiangxi University of Finance and Economics, Nanchang, 330013, Jiangxi, China (declined due the health concern)

10. 2012, Invited workshop talk and visit, Research Center of Applied Statistics, Jiangxi University of Finance and Economics, Nanchang, 330013, Jiangxi, China (declined due the health concern)

11. Financial Mathematics, Shandong University Weihai branch, 8/5/11, "Confidence Interval"

12. Institute of Stock and Finance, Shandong University, 7/21-7/29/11, "Robust Statistics and Statistical Data Depth"

13. Sichuan Statistical Buereau, Chengdu, Sichuan, 7/18/11, "History and current trends in Statistics"

14. College of Econonomic Mathematics, Southwestern University of Finance and Economics, Chengdu, Sichuan, 6/21-7/15/11, "Statistics and Data Analysis for Financial Engineering"

15. Department of Statistical Sciences, Hunan Normal University, Changsha, Hunan, 6/21/11, "Data depth based inference procedures"

16. Department of Mathematical Sciences, Central South University, Changsha, Hunan, 6/23/11, "Data depth based inference procedures"

17. 2010 ICSA(International Chinese Statistical Association) International Conference, GuangZhou, China, 12/10, "Data depth based inference procedure" (organizer and speaker of an invited session)

18. Colloquium talk, Department of Mathematics and Statistics, University of Windsor, Canada, Windsor, (9/22-9/23/10),"Is the t confidence interval $\bar{X} \pm t_\alpha(n-1)\frac{s}{\sqrt{n}}$ optimal?"

19. 2010 Joint Statistical Meetings, Vancouver, Canada, (08/10),"Multivariate ordering and related topics" (Chair and Organizer of IMS an invited session)

20. 2010 International Conference on Robust Statistics (ICORS2010), Prague, Czech Republic (6/28-7/2/10) "On a robust and efficient maximum depth estimator"

21. 2009 International Conference on Robust Statistics (ICORS2009), Parma, Italy, (06/09), "Depth based multivariate medians"

22. 2009 Annual Meeting of the Statistical Society of Canada, Vancouver,(05/09), "On multivariate medians"

23. 2008 Joint Statistical Meetings, Denver, Colorado, (08/08), " Data Depth Based Inference Procedures that Outperform Classical t (or T^2 in High D) Procedures" (organizer and speaker of an invited session)

24. Summer workshop (4 two-hour lectures), Renming University, China, (06/06), " Dimension reduction for Multi-dimension Data"

25. Workshop on Frontiers of Statistics, Princeton, New Jersey, (05/06), "Multi-dimensional trimming based on data depth"

26. 25^{th} European Meeting of Statisticians, Oslo, Norway, (07/05), "Multi-dimensional trimming and robustness"

27. Joint meeting of the Chinese Society of Probability and Statistics and the Institute of Mathematical Statistics, Beijing, China, (07/05), "A trimmed mean with a random fraction of trimmed points"

28. Department of Statistics, Beijing Normal University, Beijing, China, (07/05), "Random trimming"

29. International Conference on Robust Statistics (ICORS 2005), Jyvaskyla, Finland, (06/05), "A trimmed mean with a random fraction of trimmed points"

30. Workshop on non-parametrical statistical methods, , Tampere, Finland, (06/05), "Multi-dimensional trimming based on projection depth" (**one-hour invited talk**)

31. 7^{th} International Conference on Computer Data Analysis and Modeling: Robustness and Computer Intensive Methods, Minsk, Belarus, (09/04) (declined the invitation due to the visa complication)

32. 6^{th} International Chinese Statistical Association (ICSA) International Conference, Singapore, (07/04), "Multivariate depth-trimmed means"

33. International Conference on Robust Statistics (ICORS 2004), Beijing, China, (07/04), "Multivariate trimmed means based on data depth"

34. Department of Statistics and Probability, Michigan State University, (08/03), " A long-standing open problem in robust statistics"

35. International Conference on Robust Statistics (ICORS 2003), Antwerp, Belgium, (07/03), "Depth based multivariate control charts"

36. 7^{th} Purdue International Symposium, Purdue University, (06/03), "Depth-based multivariate medians"

37. Center for Discrete Mathematics & Theoretical Computer Science, Rutgers University, (05/03), "Computing projection depth and related estimators"

38. Department of Statistics, Case Western Reserve University, (02/03), "Depth weighted covariances"

39. Department of Statistics and Probability, Michigan State University, (01/03), "Depth weighted scatter estimators"

40. Institute of Systems science, Chinese Academy of Sciences, Beijing, China, (09/02), "Depth weighted scatter estimators"

41. Department of Mathematics, Beijing Normal University, Beijing, China, (09/02), "Depth weighted scatter estimators"

42. 7^{th} Chinese National Conference of Statistics and Probability, Changchun, (09/02), "Statistical depth functions and some applications" (**keynote speaker**)

43. 4^{th} International Conference on Statistical Data Analysis Based on the L1-Norm and Related Methods, Switzerland, (08/02), "Multivariate depth trimmed means"

44. 4^{th} International Conference on Statistical Data Analysis Based on the L1-Norm and Related Methods, Switzerland, (08/02), "Finite sample tail behavior of Hodges-Lehmann type estimators"

45. International Conference on Current Advances and Trends in Nonparametric Statistics, Crete, Greece, (07/02), "Depth-weighted scatter estimators"

46. 5^{th} ICSA International Conference, Hong Kong (08/01), "Location depth functions and associated estimators"

47. International Workshop: Quantile Regression, Liberec, Czech (07/01), "Tail behavior of some multivariate location estimators" (one-hour talk)

48. Department of Mathematics, Arizona State University (01/01), "Depth based multivariate median and regression"

49. Department of Mathematical Sciences, The University of Texas at Dallas, Richardson, Texas (11/00), "Projection based depth functions and associated Medians"

50. Annual Meeting of INFORMA (Institute for Operations Research and the Management Sciences), San Antonio, TX (11/00), "A robust clustering method based on L1-median"

Other Professional Service and Contributions

Invited *chair* of a number of sessions and workshops in professional conferences

Invited *organizer* of a number of sessions in professional conferences

Speaker of more than a dozen of talks in professional conferences

Referee for

- five-dozen-plus manuscripts submitted to more than a dozen of journals;
- two-dozen-plus proposals from NSF, NEA, NSA, and Science foundation of European Union, European Research Council, Czech Republic, France, and Belgium;
- a half-dozen promotions to associate or full professor;
- a dozen-plus of applications for graduate school and assistant professorship.

Panelist for National Science Foundation (2011)

Selected Teaching Experience

Undergraduate Level

Statistical Methods, (STT 200, STT-201, Utts/Heckard) (SS, US, FS) (06, 07, 08, 09, 20, 21, 22, 23, 24)

Introductory Statistics, (Moore & McCabe), (Fall 98, 99, 00, 01; Spring 00, 02)

Mathematical Statistics, (Bain & Engelhardt), (Spring 01, 02; Fall 01)

Probability and Statistics for Engineering, (Sheldon M. Ross), (Spring 05)

Stochastic Processes, (Sheldon M. Ross), (Spring 97)

Graduate Level

Applied Regression Analysis, (Neter et al.), (Fall 99, 00)

Applied Analysis of Variance, (Neter et al.), (Spring 00, 01)

Applied Multivariate Analysis, (Johnson & Wichern), (Fall 99, Spring 04, 06, 10)
Theory of Probability and Statistics I & II, (Rice), (Spring 03, 06, 10, 11, Fall 05, 09, 10)

Topics in Statistics and Probability, (own notes), (Spring 03) (for PhD students)

Theory of Statistics I & II, (Shao, Lehmann (TPE, TSH)), (Fall 03, 04, Spring 04, 05) (for PhD students)

Theory of Statistics I (Shao, Lehmann (TPE, TSH)) (Spring 2015)

Advanced Topics in Statistics (own notes) (Fall 2015)

Graduate Students and Postdoctoral Fellows and Visitors

MS students, Jingru Zhang, Hengwei Liu, Songtao Zhang (2000)

PhD students,

- Mingxin Wu (Spring 06, robust statistics, now at American Express, Phoenix, AZ),
- Jun Luo (Spring 07, machine learning/biostatistics, now Associate professor at Clemson University),
- Xiaohui Liu (Spring 12, joint Ph.D. student with Central South University, statistical computing,, now Professor at School of Statistics, Jiangxi University of Finance and Economics, Nanchang, Jiangxi, China).
- Wei Shao (Fall 12, statistical computing, now Associate professor at Qifu normal University, Shandong, China)
- Yiqing Wei (Fall 2026, STT, on going)

Postdoctoral fellows/visitors, Hengjian Cui (01), Jinsoo Hwang (02), Christophe Croux (03), Zhidong Bai (03), Shuanglin Zhang (04), Guohua Zou (04-05), Catherine Dehon (05), Minghua Deng (05), Guolian Kang (06-07), Yongsheng Yuan (05-06), Linglong Kong (09-10), Fatih Kulanci (11)

Service within Department and College

was **Chair** of committees

(i) Searching

(ii) Reappointment

(iii) Computer

(iv) Master and PhD Exam

(iv) Advisory

(v) Colloquium

is/was **Member** of committees

(i) Outside Chair Searching

(ii) Graduate Support

(iii) many PhD Thesis

(iv) award committee

(v) CNS Position Management Committees

(vi) RPTC

(vii) DEIC

is/was **mentor** of undergraduate student's research: Denis Selyuzhitsky, Nadav Langberg, Junheng Gao, Junbo Ye Minh Nguyen, Lowell Monis, and Hanwen Zuo