

YIJUN ZUO

Department of Statistics and Probability
Michigan State University
East Lansing, MI 48824
Tel: (517) 432-5413 Fax: (517) 432-5413
Email: zuo@msu.edu URL: www.stt.msu.edu/~zuo

Education

PhD, Statistics, 05/98, University of Texas at Dallas, (GPA 4.0/4.0)
MS, Computer Science, 12/97, University of Texas at Dallas, (GPA 4.0/4.0)
MS, Statistics, 12/95, University of Texas at Dallas, (GPA 4.0/4.0)
MS, Applied Mathematics, 05/95, University of Texas at Dallas, (GPA 4.0/4.0)
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

Full 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, 08/98-08/02
Teaching Assistant, Department of Mathematics, University of Texas at Dallas, 09/93-05/98
Co-op, System Engineering, Northern Telecom (Nortel), Richardson, Texas, 05/96-08/96
Lecturer, Department of Mathematics, Central South University, P. R. China, 08/90-08/93

Grants and Awards Received

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

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

Peer-Refereed Papers

1. Zuo, Y. and Kang, G. (2009). “A mixed two-stage analysis for detecting interactions in genomewide association studies, *Journal of theoretical Biology*, (in press, 17 pages)
2. Zuo, Y. (2009). “Data depth trimming counterpart of the classical t (or T^2) procedure,” *Journal of Probability and Statistics*(in press, 12 pages)
3. Serfling, R. and Zuo, Y. (2009). “Some Perspectives on Multivariate Quantile and Depth Functions” *The Annals of Statistics* (in press) [Invited and refereed discussion to Marc Hallin, Davy Paindaveine, and Miroslav Siman’s paper, “Multivariate quantiles and multiple-output regression quantiles: from L1 optimization to halfspace depth (with discussion)”, *Annals of Statistics*, 2009, in press]
4. Zuo, Y. and Lai, S. (2009), “On a robust and efficient maximum depth estimator”. *Science in China Series A: Mathematics* (invited), 52(6), 1-21.

5. 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
6. Wu, M. and Zuo, Y. (2008), "Trimmed and Winsorized Standard Deviations based on a scaled deviation". *Journal of Nonparametric Statistics*, 20(4), 319-335
7. 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
8. 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
9. 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
10. Kang, G., Zuo, Y. (2007). "Entropy-based joint analysis for two-stage genome-wide association studies". *Journal of Human Genetics*, 52(9), 747-756.
11. 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
12. Zuo, Y. (2006). "Multi-dimensional trimming based on projection depth". *The Annals of Statistics*, 34(5), 2211-2251
13. 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
14. 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)
15. Zuo, Y., Zou, G. and Zhao, H. (2006). "Two-stage designs in case-control association analysis". *Genetics*, 173, 1747-1760
16. 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

17. 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
18. Arcones, M., Cui, H. and Zuo, Y. (2006). "Empirical depth processes". *Test* (Spanish statistical and operations research society), 15(1), 151-177
19. Zuo, Y. and Cui, H. (2005). "Depth weighted scatter estimators". *The Annals of Statistics*, 33(1): 381-413
20. Zuo, Y. (2004). "Projection based affine equivariant multivariate location estimators with the best possible finite sample breakdown point". *Statistica Sinica*, 14(4): 1199-1208
21. 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
22. 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
23. 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
24. Zuo, Y. (2004). "Statistical depth functions and some applications". *Advances in Mathematics* (China). 33(1), 1-26
25. Zuo, Y. (2003). "Projection based depth functions and associated medians". *The Annals of Statistics*, 31(5), 1460-1490
26. Zuo, Y. (2003). "Finite sample tail behavior of multivariate location estimators". *Journal of Multivariate Analysis*, 85, 91-105
27. 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
28. Zuo, Y. (2001). "Finite sample tail behavior of Hodges-Lehmann type estimators". *Statistics*, 35, 557-568
29. Zuo, Y. (2001). "Some quantitative relationships between two types of finite sample breakdown point". *Statistics and Probability Letters*, 51 (4), 369-375
30. Zuo, Y. (2000). "Multivariate monotone location estimators". *Sankhyā, Series A*, 62 (2), 161-177

31. Zuo, Y. and Serfling, R. (2000). "General notions of statistical depth function". *The Annals of Statistics*, 28 (2), 461-482
32. 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
33. Zuo, Y. (2000). "A note on finite sample breakdown points of projection based multivariate location and scatter statistics". *Metrika*, 51 (3), 259-265
34. 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
35. Zuo, Y. and Serfling, R. (2000). "On the performance of some robust non-parametric location measures relative to a general notion of multivariate symmetry". *Journal of Statistical Planning and Inference*, 84, 55-79
36. Zuo, Y. (2000). "Finite sample tail behavior of multivariate trimmed mean based on Tukey-Donoho halfspace depth". *Metrika*, 52 (1), 69-75
37. 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
38. 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
39. Zuo, Y. and Zhang, J. (1991). "On the solvability of the Runge-Kutta equations". *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* (Chinese), 14 (4), 1-6
40. Zuo, Y. and Zhang, J. (1991). "Nonlinear stability for a class of two-stage Runge-Kutta methods". *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* (Chinese), 14 (3), 56-60
41. Zuo, Y. and Zhang, J. (1991). "B-convergence of the two-stage diagonally implicit R-K methods". *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* (Chinese), 14 (2), 14-22
42. Zuo, Y. and Zhang, J. (1990). "B-convergence of a class of linear multistep methods". *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* (Chinese), 13 (2), 7-11
43. Zuo, Y. and Zhang, J. (1989). "The improvement of Taylor algorithm". *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* (Chinese), 12 (2), 7-14

Submitted Papers

1. Zuo, Y. (2009). “Exact computation of the bivariate projection depth and Stahel-Donoho estimator” *Computational Statistics and Data Analysis* (tentatively accepted on 8/19/09 subject to a revision, 14 pages)
2. Zuo, Y. (2009). “Is the t confidence interval: $\bar{x} \pm t_\alpha(n-1) \frac{s}{\sqrt{n}}$ optimal?” *The American Statistician*, (tentatively accepted in 06/09 subject to a revision, 10 pages)
3. Zuo, Y. (2009). “On the performance of confidence intervals for quantiles”. *Journal of Nonparametric Statistics*, (tentatively accepted in 04/09 subject to a revision, 20 pages)

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