Ehsan Zamanzade

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Contact Information

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Faculty of Mathematics and Statistics, University of Isfahan, Isfahan, 81746-73441, Iran

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Websites & social links

- Homepage at UI
  https://sciold.ui.ac.ir/ e.zamanzade/
- Google Scholar Profile
  https://scholar.google.com/citations?user=lQK6REQAAAAJ&hl=en
- ORCID Profile
  https://orcid.org/0000-0002-6176-0607
- ResearchGate Profile
  https://www.researchgate.net/profile/Ehsan-Zamanzade
- Web of Science Profile
  https://www.webofscience.com/wos/author/record/N-7249-2018
- Scopus Profile
  https://www.scopus.com/authid/detail.uri?authorId=55070825800

Research Interest

Order-related Design, Theory and Inference; Baysian Modeling; Medical Statistics; Nonparametric Statistics

Education

Ferdowsi University of Mashhad, Mashhad, Iran

Ph.D., Statistics - Inference, August 2012

- Thesis Topic: *On Entropy Based Goodness of Fit Tests and Ranked Set Sampling Theory*
- Advisor: Prof N.R. Arghami

M.S., Mathematical Statistics, September 2008

- Thesis Topic: *Advanced Regression Techniques*
- Advisor: Prof N.R. Arghami

B.S., Statistics, July 2006

Academic Visit

Visiting Scholar (Sabbatical Leave), Institute of Mathematical Statistics and Actuarial Science, University of Bern, Bern, Switzerland (with Prof L. Duembgen), Jan 2012-July 2012.

Scientific Position

Associate Professor of Statistics, University of Isfahan, Dec 2016 - Present.
Assistant Professor of Statistics, University of Isfahan, Sep 2012 - Dec 2016.

Refereed Journal Publications

70. Saboori, H., Doostparast, M., and **Zamanzade, E**. 2025. Inflated regression model with its applications, To appear in *Statistics: A Journal of Theoretical and Applied Statistics*.

69. **Zamanzade, E.**, Saboori, H., and Samawi, H. 2025. Efficient estimation of a disease prevalence using auxiliary ranks information, To appear in *Computational Statistics*.

68. Jabari Koopaei, L., **Zamanzade, E.**, Parvardeh. A., and Wang, X. 2025. Nonparametric estimation of a biometric function using ranked set sampling with ties information, *Biometrical Journal*, 67 (2), e7007.

67. Aziz Kouhanestani, M., **Zamanzade, E.**, Goli, S. 2025. Statistical inference on the cumulative distribution function using judgment post stratification, *Journal of Computational and Applied Mathematics*, 458, 116340.

66. Akbari Ghamsari, Z., **Zamanzade, E.**, and Asadi, M. 2025. Statistical inference from partially nominated sets: an application to estimating the prevalence of osteoporosis, *Journal of Statistical Planning and Inference*, 235, 106214.

65. Nasr Esfahani, S., **Zamanzade, E.**, Mahdizadeh, M. 2024. Efficient estimation of the volume under ROC surface using auxiliary ranks information, *Environmental and Ecological Statistics*, 31, 1039-1062.

64. Zamanzade, E., **Zamanzade, E.**, Parvardeh. A. 2024. Estimation of a decreasing mean residual life based on ranked set sampling with an application to survival analysis, *The International Journal of Biostatistics*, 20 (2), 571-583.

63. **Zamanzade, E.**, Mahdizadeh, M., and Samawi, H. 2024. Nonparametric estimation of mean residual lifetime in ranked set sampling with a concomitant variable, *Journal of Applied Statistics*, 51 (13), 2512-2528.

62. Akbari Ghamsari, Z. , **Zamanzade, E.** and Asadi, M. 2024. Using nomination sampling in estimating the area under the ROC curve, *Computational Statistics*, 39, 2721-2742.

61. Zamanzade, E., Parvardeh, A., Asadi, M., and **Zamanzade, E.** 2023. A ranked-based estimator of the mean past lifetime with an application, *Statistical Papers*, 64, 161-177.

60. Mahdizadeh, M. and **Zamanzade, E.** 2022. On estimating the area under the ROC curve in ranked set sampling, *Statistical Methods in Medical Research*, 31 (8), 1500-1514.

59. Mahdizadeh, M. and **Zamanzade, E.** 2022. New insights on goodness-of-fit tests for ranked set samples, *Statistical Papers*, 63, 1777-1799.

58. Mahdizadeh, M. and **Zamanzade, E.** 2022. CDF estimation in multistage pair ranked set sampling, *Hacettepe Journal of Mathematics and Statistics*, 51 (6), 1768-1779.

57. Mahdizadeh, M. and **Zamanzade, E.** 2022. On interval estimation of the population mean in ranked set sampling, *Communications in Statistics-Simulation and Computation*, 51 (5), 2747-2768.

56. Mahdizadeh, M. and **Zamanzade, E.** 2022. Using a rank-based design in estimating prevalence of breast cancer, *Soft Computing*, 26 (7), 3161-3170.

55. Alirezaei Dizicheh, M., Iranpanah, N., and **Zamanzade, E.** 2021. Bootstrap methods for judgement post stratification. *Statistical Papers*, 62 (5), 2453-2471.

54. Mahdizadeh, M. and **Zamanzade, E.** 2021. Smooth estimation of the area under the ROC curve in multistage ranked set sampling, *Statistical Papers*, 62, 1753-1776.

53. Mahdizadeh, M. and **Zamanzade, E.** 2021. New estimator for the variances of strata in ranked set sampling, *Soft Computing*, 25 (13), 8007-8013.

52. **Zamanzade, E.**, and Wang, X. 2021. Estimating the area under a receiver operating characteristic curve using partially ordered sets. *International Journal of Biostatistics*, 17 (1), 139-152.

51. Alirezaei Dizicheh, M., **Zamanzade, E.** and Iranpanah, N., and 2021. Efficient estimation of the odds using judgment post stratification. *Brazilian Journal of Probability and Statistics*, 35 (2), 375-391.

50. Mahdizadeh, M. and **Zamanzade, E.** 2020. Estimating asymptotic variance of M-estimators in ranked set sampling, *Computational Statistics*, 35, 1785-1803.

49. **Zamanzade, E.**, and Mahdizadeh, M., and Samawi, H. 2020. Efficient estimation of cumulative distribution function using moving extreme ranked set sampling with application to reliability. *AStA: Advances in Statistical Analysis*,104, 485-502.

48. Mahdizadeh, M. and **Zamanzade, E.** 2020. Estimation of a symmetric distribution function in multistage ranked set sampling, *Statistical Papers*, 61, 851-867.

47. Dastbaravarde, A. and **Zamanzade, E.** 2020. On estimation of $P(X > Y)$ based on judgement post stratification, *Statistical Papers*, 61, 767-785.

46. **Zamanzade, E.**, and Mahdizadeh, M. 2020. Using ranked set sampling with extreme ranks in estimating the population proportion. *Statistical Methods in Medical Research*, 29 (1), 165-177.

45. Duembgen, L. and **Zamanzade, E.** 2020. Inference on a distribution function from ranked set samples, *Annals of the Institute of Statistical Mathematics*, 72 (1), 157-185.

44. Mahdizadeh, M. and **Zamanzade, E.** 2019. Confidence intervals for quantiles in ranked set sampling, *Iranian Journal of Science and Technology (Sciences)*, 43 (6), 3017-3028.

43. Mahdizadeh, M. and **Zamanzade, E.** 2019. Goodness-of-fit testing for the Cauchy distribution with application to financial modeling, *Journal of King Saud University - Science*, 31 (4), 1167-1174.

42. **Zamanzade, E.** 2019. EDF-based tests of exponentiality in pair ranked set sampling. *Statistical Papers*, 60 (6), 2141-2159.

41. Mahdizadeh, M., and **Zamanzade, E.** 2019. Dynamic reliability estimation in a rank-based design. *Probability and Mathematical Statistics*, 39 (1), 1-18.

40. Mahdizadeh, M., and **Zamanzade, E.** 2019. Efficient body fat estimation using multistage pair ranked set sampling, *Statistical Methods in Medical Research*, 28 (1), 223-234.

39. Mahdizadeh, M. and **Zamanzade, E.** 2018. Estimation of dynamic reliability for dependent stress and strength based on ranked set sampling. *Journal of Advanced Mathematical Modelling*, 8(2), 54-73 (In Farsi).

38. **Zamanzade, E.**, and Vock, M. 2018. Parametric tests of perfect judgement ranking based on ordered ranked set samples. *REVSTAT: A Statistical Journal*, 16(4), 463-474.

37. Mahdizadeh, M. and **Zamanzade, E.** 2018. Stratified pair ranked set sampling. *Communications in Statistics-Theory and Methods*, 47(24), 5904-5915.

36. **Zamanzade, E.**, and Vock, M. 2018. Some nonparametric tests of perfect judgment ranking for judgment post stratification. *Statistical Papers*, 59(3), 1085-1100.

35. Mahdizadeh, M., and **Zamanzade, E.** 2018. A new reliability measure in ranked set sampling. *Statistical Papers*, 59(3), 861-891.

34. Mahdizadeh, M., and **Zamanzade, E.** 2018. Efficient reliability estimation in two-parameter exponential distribution. *Filomat*, 4(32), 1455-1463.

33. Mahdizadeh, M. and **Zamanzade, E.** 2018. Smooth estimation of a reliability function in ranked set sampling, *Statistics: A Journal of Theoretical and Applied Statistics,* 52(4), 750-768.

32. **Zamanzade, E.**, and Wang, X. 2018. Proportion estimation in ranked set sampling in the presence of tie information. *Computational Statistics*, 33(3), 1349-1366.

31. Mahdizadeh, M. and **Zamanzade, E.** 2018. Interval estimation of $P(X < Y)$ in ranked set sampling, *Computational Statistics*, 33(3), 1325-1348.

30. **Zamanzade, E.**, and Mahdizadeh, M. 2018. Distribution function estimation using concomitant-based ranked set sampling. *Hacettepe Journal of Mathematics and Statistics,* 47(3), 755-761.

29. Al-Omari, A.I. and **Zamanzade, E.** 2018. Goodness of fit tests for logistic distribution based on Phi-divergence, *Electronic Journal of Applied Statistical Analysis*, 11(1), 185-195.

28. **Zamanzade, E.**, and Mahdizadeh, M. 2018. Estimating the population proportion in pair ranked set sampling with application to air quality monitoring. *Journal of Applied Statistics*, 45(3), 426-437.

27. Mahdizadeh, M., and **Zamanzade, E.** 2017. A comprehensive study of lognormality tests, *Electronic Journal of Applied Statistical Analysis* , 10(2), 349-377.

26. Mahdizadeh. M, and **Zamanzade, E.** 2017. Reliability estimation in multistage ranked set sampling. *REVSTAT: A Statistical Journal*, 15(4), 565-581.

25. **Zamanzade, E.**, and Mahdizadeh, M. 2017. A more efficient proportion estimator in ranked set sampling. *Statistics and Probability Letters*, 129, 28-33.

24. **Zamanzade, E.**, and Wang, X. 2017. Estimation of population proportion for judgment post-stratification. *Computational Statistics and Data Analysis*, 112, 257-269.

23. **Zamanzade, E.**, and Mahdizadeh, M. 2017. Goodness of fit tests for Rayleigh distribution based on Phi-divergence. *Revista Colombiana de Estadística*, 40(2), 279-290.

22. **Zamanzade, E.**, and Mahdizadeh, M. 2017. Entropy estimation from ranked set samples with application to test of fit. *Revista Colombiana de Estadística*, 40(2), 223-241.

21. Al-Omari, A.I., and **Zamanzade, E.** 2017. Goodness-of-fit tests of Laplace distribution using ranked set sampling. *Revista Investigacion Operacional*, 38(4), 366-376.

20. Al-Omari, A.I., and **Zamanzade, E.** 2017. Double acceptance sampling plan for time truncated life tests based on transmuted generalized inverse Weibull distribution. *Journal of Statistics Applications and Probability*, 6(1), 1-6.

19. Mahdizadeh, M., and **Zamanzade, E.** 2017. New goodness of fit tests for Cauchy distribution. *Journal of Applied Statistics*, 44 (6), 1106-1121.

18. Mahdizadeh, M., and **Zamanzade, E.** 2016. Kernel-based estimation of $P(X > Y)$ in ranked set sampling. *Statistics and Operations Research Transactions (SORT)*, 40(2), 243-266.

17. **Zamanzade, E.**, and Mahdizadeh, M. 2016. Entropy estimation from judgement post stratified data. *Pakistan Journal of Statistics and Operation Research*, 7(4), 625-637.

16. **Zamanzade, E.**, and Al-Omari, A.I., 2016. New ranked set sampling for estimating the population mean and variance. *Hacettepe Journal of Mathematics and Statistics*, 45(6), 1891-1905.

15. Mohamadghasemi, H., **Zamanzade, E.**, and Mohammadi, M,. 2016. A new mean estimator for judgment post stratification by ordering observations in strata. *Journal of Statistical Sciences*, 10 (1), 129-137 (in Farsi).

14. **Zamanzade, E.**, and Mohammadi., M. 2016. Some modified mean estimators in ranked set sampling using a covariate. *Journal of Statistical Theory and Applications*, 15(2), 142-152.

13. Al-Omari, A.I., and **Zamanzade, E.** 2016. Different goodness of fit tests for Rayleigh distribution in ranked set sampling. *Pakistan Journal of Statistics and Operation Research* 12 (1), 25-39.

12. **Zamanzade, E.**, 2016. An Isotonized variance estimator for judgment post stratified data. *Journal of the Korean Statistical Society* 45 (1), 25-32.

11. **Zamanzade, E.** and Mohammad Ghasemi, H. 2015. Estimation of $E(Y)$ from a population with known quantiles. *Journal of the Iranian Statistical Society* 14 (2), 53-70.

10. **Zamanzade, E.**, Vock, M. 2015. Variance estimation in ranked set sampling using a concomitant variable, *Statistics and Probability Letters*, 105 , 1-5.

9. **Zamanzade, E.**, 2015. An improved mean estimator in unbalanced ranked set samples, *Journal of Statistical Sciences*, 8(2), 175-184 (in Farsi).

8. **Zamanzade, E.**, 2015. Testing uniformity based on new entropy estimators, *Journal of Statistical Computation and Simulation*, 85(16), 3191-3205.

7. **Zamanzade, E.**, Arghami, N.R., and Vock, M. 2014. A parametric test of perfect ranking in balanced ranked set sampling, *Communications in Statistics-Theory and Methods*, 43(21), 4589-4611.

6. **Zamanzade, E.**, 2013. Goodness of fit tests of exponentiality based on new entropy estimators, *Journal of Statistical Sciences*, 7(1), 61-75 (In Farsi).

5. **Zamanzade, E.**, Arghami, N.R., and Vock, M. 2012. Permutation-based tests of perfect ranking, *Statistics and Probability Letters*, 82(12), 2213-2220.

4. **Zamanzade, E.**, Arghami, N.R., 2012. Testing normality based on new entropy estimators, *Journal of Statistical Computation and Simulation*, 82(11), 1701-1713.

3. **Zamanzade, E.**, Arghami, N.R., 2011. Goodness-of-fit test based on correcting moments of modified entropy estimator, *Journal of Statistical Computation and Simulation*, 81(12), 2077-2093.

2. Arghami, N. R., Dastbaravarde, A., and **Zamanzade, E.**, 2009. Statistical evidence, Part II: Law of likelihood and P-Values defects as a measure of support of the null hypothesis, *Journal of Statistical Thinking*, 2(27), 3-16 (in Farsi).

1. Arghami, N. R., **Zamanzade, E.**, and Rahati, S., 2008. Statistical evidence: Interpretation of classical statistical tests, *Journal of Statistical Thinking*, 1 (26), 3-10 (in Farsi).

Book Chapters

3. **Zamanzade, E.** and Mahdizadeh, M. 2022. Efficiency of ranked set sampling design in goodness of fit tests for Cauchy distribution; In: *Applied Statistical Methods*, Editors: D. Hangal, R. V. Latpate and G. Chandra, 53-64.

2. **Zamanzade, E.** and Wang, X. 2020. Improved nonparametric estimation using partially ordered sets; In: *Statistical Methods and Applications in Forestry and Environmental Sciences*, Editors: G. Chandra, R. Nautiyal and H. Chandra, 57-77.

1. **Zamanzade, E.** and Mahdizadeh, M. 2019. Extropy estimation in ranked set sampling with its application in testing uniformity; In: *Ranked Set Sampling: 65 Years Improving the Accuracy in Data Gathering*, Editors: C. Bouza and A. I. Al-Omari, 259-267.

Conference Papers and Presentations

11. Mahdizadeh, M. and **Zamanzade, E.** 2020. On asymptotic intervals for the reliability parameter, 15th Iranian Statistics Conference, Yazd University, Yazd, Iran.

10. Mahdizadeh, M. and **Zamanzade, E.** 2019. Fitting Lognormal distribution to actuarial data, y-BIS 2019 Conference: Recent Advances in Data Science and Business Analytics, Istanbul, Turkey.

9. **Zamanzade, E.**, and Mahdizadeh, M,. 2018. On entropy based tests of fit using ranked set samples, 3rd workshop on Information Measures and Their Applications, Ferdowsi University of Mashhad, Mashhad, Iran.

8. Mahdizadeh, M. and **Zamanzade, E.** 2017. Using ranked set sampling in reliability estimation: Parametric versus nonparametric approach, , 11th Seminar on Probability and Stochastic Processes, Imam Khomeini university, Ghazvin, Iran.

7. Mahdizadeh, M. and **Zamanzade, E.** 2016. Estimating exponential mean using unbalanced ranked set samples, 47th Annual Iranian Mathematics Conference, University of Kharazmi, Karaj, Iran.

6. **Zamanzade, E.**, and Dastbaravarde, E,. 2015. A reliability measure for judgement post stratified data, 10th Seminar on Probability and Stochastic Processes, Yazd University, Yazd, Iran.

5. Mahdavi manseh, N., Iranpanah, N., and **Zamanzade, E,**. 2015. Unbiased estimation of population variance in ranked set sampling, 8th Statistical Conference in Payam Noor University, Payam Noor University, Tehran, Iran.

4. **Zamanzade, E.**, and Arghami, N.R., 2011. Testing exponentiality based on the sample distribution corresponding to sample entropy, Proceeding, NEDETAS, Middle East Technical University, Ankara, Turkey.

3. **Zamanzade, E.**, and Arghami,N.R., 2010. A review on goodness of fit tests based on sample entropy. Proceeding. 10th Iranian Statistical Conference, Tabriz University, Tabriz, Iran.

2. Dastbaravarde, A **Zamanzade, E.**, and Arghami,N.R., 2010. Interpretation of likelihood ratio as support criterion and justification of likelihood ratio test statistics using asymmetric Kullback-Leiber distance. 10th Iranian Statistical Conference, Tabriz University, Tabriz, Iran.

1. **Zamanzade, E.**, and Arghami, N.R., 2008. A review on optimal transformations in nonparametric regression techniques. 9th Iranian Statistical Conference, University of Isfahan, Isfahan, Iran.

Grants received

- Reliability estimation in a variation of ranked set sampling, Institute for Research in Fundamental Sciences (IPM), 2017, 84,000,000 IRR.
- Estimation of a reliability function from a ranked-based design, Institute for Research in Fundamental Sciences (IPM), 2018, 102,000,000 IRR.
- Improved statistical inference on a reliability function using a ranked-based sampling design, Institute for Research in Fundamental Sciences (IPM), 2020, 218,000,000 IRR.
- On estimating stress-strength reliability using auxiliary rank information, Institute for Research in Fundamental Sciences (IPM), 2021, 260,000,000 IRR.
- On estimating the reliability parameter in ranked set sampling, Institute for Research in Fundamental Sciences (IPM), 2022, 338,000,000 IRR.
- Statistical inference using partially ordered sets, Iran National Science Foundation (INSF), 2022, 120,000,000, IRR.
- More efficient statistical inference for some reliability functions, Institute for Research in Fundamental Sciences (IPM), 2023, 240,000,000 IRR.

Honors and Awards

- Winner of Prof Behboodian Award for Outstanding Research, Iranian Statistical Society, Iran, 2018.

PhD Supervision

4. Azizi Kouhanestani, M., Statistical inference on some population parameters using judgment post stratification, University of Isfahan, Iran (Co-Supervision), In Progress.

3. Jabari Koopaei, L. Statistical inference on some survival functions using ranked set sampling, University of Isfahan, Iran (Co-Supervision), In Progress.

2. Akbari Ghamsari, Z. 2024. Statistical inference based on partially nominated sets, University of Isfahan, Iran (Co-Supervision).

1. Alirezaei Dizicheh, M. 2021. Nonparametric inference based on judgement post stratification using bootstrap methods, University of Isfahan, Iran (Co-Supervision).

MSc Supervision

6. Nourbakhsh, A. Estimation of the inequality indices based on the ranked set sampling, University of Isfahan, In progress.

5. Malekpour, N. Statistical inference of pareto distribution using ranked set sampling. University of Isfahan, (Co-supervision), In progress.

4. Fazeli, H. 2023. Statistical inference on the ROC curve using ranked-based sampling designs. University of Isfahan.

3. Esmaeilain Mobarakeh, A. 2019. Estimation of cumulative distribution function using ranked set sampling, University of Isfahan.

2. Soltanian, E. 2019. Sign test in raked-based sampling designs, University of Isfahan.

1. Mahdavi manseh, N. 2015. Variance estimation in ranked set sampling, University of Isfahan (Co-Supervision).

Teaching Experience

BSc

Probability and its Applications
Mathematical Statistics
Monte Carlo Methods
Nonparrametric Statistics
Statistics for Medical (Social) Sciences

MSc

Advanced Statistical Methods for Medical (Social) Sciences
Inferential Statistics **I** and **II**

PhD

Advanced Inferential Statistics

Membership

Lifetime Member of Iranian Statistical Society

Conference Organized

4th Seminar on Information Theory and its Applications, 2020, University of Isfahan, Isfahan, Iran.
Member of organizing committee of 1st Seminar on Reliability Theory and its Applications, 2015, University of Isfahan, Isfahan.

Review Services

Available at my web of science profile
https://www.webofscience.com/wos/author/record/N-7249-2018