Dr. MUHAMMAD MOHSIN

Personal Information

Date of Birth: March 15, 1971

NIC No: 3460321145863

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Address: College of Statistical and Actuarial Sciences, University of the Punjab, Lahore, Pakistan.

Research Interests

My research interests include Distribution theory, Mathematical statistics, Statistical modeling, Bayesian Inference, Statistical Inference Meta-analysis and Applied Statistical data Analysis.

Current Position

I am working as the Professor of Statistics at the **College of Statistical and Actuarial Sciences, University of the Punjab**, Lahore, Pakistan since June 27, 2022.

Employment History

1) Served as the Chairman of Statistics from June 19, 2017 to June 27, 2022 and Head of the Statistics Department from February 26, 2015 to June 27, 2022 in the **COMSATS University Islamabad**, Lahore Campus, Pakistan.
2) Worked as the Associate Professor in the **COMSATS University Islamabad**, Lahore Campus, Pakistan from June 09, 2015 to June 27, 2022.
3) Worked as the **Principal Scientific Officer** in **COMSATS Institute of Information Technology**, Lahore from December 16, 2013 to June 08, 2015.
4) Worked as an **Assistant professor** in **COMSATS Institute of Information Technology**, Lahore from May 17, 2004 to December 15, 2013.
5) Worked as a **Lecturer** in **COMSATS Institute of Information Technology**, Lahore from November 30, 2002 to May 16, 2004.
6) Served as a visiting **Lecturer** in **COMSATS Institute of Information Technology**, Lahore from September 01, 2002 to November 29, 2002.
7) Worked as a **Research Associate** in the department of Mathematical Sciences and **Lecturer** in the Department of Management Sciences in **The University of Lahore,** Lahore from August 21, 2000 to November 29, 2002. Taught M-Phil Statistics, M-Phil Management Sciences, MBA, BCS, B-Pharmacy & Medical Classes.

8) Worked as a **Lecturer** in Statistics in **Government College University**, Lahore from December 01, 1998 to May 15, 2000. Taught graduate as well as post-graduate classes.
9) Worked as a **Statistical Instructor** from September 01, 1997 to November 30, 1998 at **Petroman Training Institute**, Sialkot, Pakistan.

Educational Accomplishments

1) Post Doctorate from **École Polytechnique Fédérale de Lausanne (EPFL), Switzerland**, in 2016.
2) PhD from **Alpen-Adria University, Klagenfurt, Austria**, in 2013.
3) M. Phil from the **University of Lahore, Pakistan** in 2003.
4) M.Sc. from the **Government College University, Lahore, Pakistan** in 1996.

Computer Softwares

I have enough experience to work with different statistical and Mathematical softwares such as R-project, SPSS, Minitab, Mathematica etc.

Course Development

I introduced and developed BS-Statistics with specialization in four different fields which is unique in this domain. I have been a member of HEC Curriculum Development Committee for BS, MS and PhD courses as well.

Research Project

I won the NRPU project titled ""Modeling and forecasting of drought duration and interarrival time" at total cost of Rs.919317/- from the HEC in 2018 and completed in 2021.

Under Review Papers

1. **Mohsin, M.** and Adnan, S. (2022) "Probabilistic modeling and comparison of different operational drought indices in Pakistan", under review in the Journal of Theoretical and Applied Climatology. **I.F= 3.179**
2. **Mohsin, M.** and Morgenthaler, S. (2022) **"**A jackknife estimator of the between-study variance for meta-analysis", under review in the Journal of Statistical Computation and Simulation. **I.F= 1.424**
3. **Mohsin, M.,** Abbas, S., and Khan, M.M. (2022) "Simulated Pareto-exponential distribution: Statistical properties, associated inference and application in seismology", under review in the Journal of Applied Analysis and Computation. **I.F= 1.827**
4. **Mohsin, M.,** Gebhardt, A. and Pilz, J. (2021) "A Stochastic model for NFL games and point spread assessment", under review in the Journal of applied Statistics. **I.F=1.404**
5. Gul, A., and **Mohsin, M**. (2020) "A New Family of Distributions to Encounter the Extrapolating Issues" under review in Proceedings of the National Academy of Sciences, India Section A: Physical Sciences. **I.F= 1.544**

Research Papers

1. Farooq, M., **Mohsin, M**., Naeem, M., Farman, M., Ali, A., and Umar, S.M. (2022) "Generalization method of generating the continuous nested distributions" **International Journal of Nonlinear Sciences and Numerical Simulation**, doi.org/10.1515/ijnsns-2021-0231. **I.F=2.007.**

2. Farooq, M., Bashir, A. and **Mohsin, M**. (2021) "Acceptance sampling plan using new truncated Weibull-X family based on run lengths of conforming items" **Scientia Iranica**, doi: 10.24200/SCI.2020.55072.4060. **I.F= 1.435**

3. Noor, S., Noor-ul-Amin, M., **Mohsin, M.** and Ahmed, A. (2020) "Hybrid exponentially weighted moving average control chart using Bayesian approach" **Communications in Statistics–Theory and Methods,** doi.org/10.1080/03610926.2020.1805765. **I.F=0.893**

4. Bilal, M., **Mohsin, M.** and Abbas, S. (2022) "Modeling vaginal cancers among laboratory animals through Weibull-rayleigh distribution" **Journal of Animal and Plant Sciences**, 32(3), 688-693. **I.F= 0.490**

5. Salman, A. and **Mohsin, M.** (2021) "An extended life time distribution: Theory, properties, and applications" **Hacettepe Journal of Mathematics and Statistics**, 50(6), 1822-1837. **I.F= 0.929**

6. **Mohsin, M.,** and Pilz, J. (2021) "Stochastic model for drought analysis of the Colorado River Basin" **Stochastic Environmental Research and Risk Assessment**, 35(8), 1637-1648. **I.F=3.379**

7. Gul, A. and **Mohsin, M**. (2021) "Recurrence Relations for Moments of Order Statistics from half logistic-truncated exponential distribution" **Communications in Statistics – Theory and Methods**, 50(17), 3889-3902. **I.F=0.893**

8. Gul, A., **Mohsin, M.,** Adil, M., and Ali, M. (2021) "A modified truncated distribution for modeling the heavy tail, engineering and environmental sciences data. **PLoS ONE** 16(4): e0249001. doi.org/10.1371/journal.pone.0249001. **I.F= 3.240**

9. Bilal, M., **Mohsin, M.,** and Aslam, M. (2021) "Weibull-Exponential distribution and its application in monitoring industrial process" **Mathematical Problems in Engineering.** Article ID 6650237, 1-13. DOI: 10.1155/2020/6650237. **I.F= 1.305**

10. Farooq, M., **Mohsin, M**., Naeem, M., Farman, M., Ali, A., and Umar, S.M. (2021) "Discretization of the method of generating an expanded family of distributions based upon truncated distributions" **Thermal Science**, 25(1), 19-30. **I.F= 1.625**

11. Abbas, S., **Mohsin, M.** and Pilz, J. (2021) "A new life time distribution with applications in reliability and environmental science" **Journal of Statistics and Management Sciences**, 24(3), 453-479. **ISI-Indexed**

12. Abbas, S. and **Mohsin, M.** (2020) "On the Characteristics of the Pseudo-gamma Distribution with Application in Reliability and Medical Sciences" **Iranian Journal of Science and Technology, Transaction A, Science,** 44(5), 1447-1460. **I.F=1.194**

13. Abbas, S., **Mohsin, M.,** Saman, S. and Shahbaz, M. Q. (2020) "Exponentiated Exponential–Exponentiatd Weibull Linear Mixed Distribution" **Pakistan Journal of Statistics and Operation Research,** 16(3), 517-527. **ISI-Indexed**

14. **Mohsin, M.,** Pilz, J., and Gebhardt, A. (2016) "An explicit distribution to model the proportion of heating degree day and cooling degree day" **Communication in Statistics–Simulation and Computation,** 45(7), 2617-2624. **I.F=1.118**

15. **Mohsin, M.**, Kazianka, H., Pilz, J., and Gebhardt, A. (2014) "A new bivariate exponential distribution for modeling moderate negative dependence" **Statistical Methods and Applications,** 23(1), 123-148. **I.F=1.314**

16. Hanook, S., Shahbaz, M. Q., **Mohsin, M.** and Kibria, B. M. G. (2013) "Letter to editor" **Communication in Statistics-Theory and Methods,** 42(18), 2671-2672. **I.F=0.893**

17. **Mohsin, M.,** Gebhardt, A., Pilz, J. and Spöck, G. (2013) "A new bivariate Gamma distribution generated from functional scale parameter with application to drought data" **Stochastic Environmental Research & Risk Assessment (SERRA),** 27(5), 1039-1054. **I.F=3.379**

18. **Mohsin, M.** and Pilz, J. (2013). "A recurrence relation of hypergeometric series through record statistics and a characterization" **Applied Mathematics & Information Sciences,** 7(4), 1307-1310. **I.F=1.232**

19. **Mohsin, M.**, Kazianka, H. and Pilz, J. (2013) "Likelihood and objective Bayesian modeling of acidity and major ions in rainfall using a bivariate pseudo-Gamma distribution" **Computers and Geosciences,** 54, 269-278. **I.F=2.991**

20. Hanook, S., Shahbaz, M. Q., **Mohsin, M.** and Kibria, B. M. G. (2013) "A Note on Beta Inverse-Weibull distribution" **Communication in Statistics-Theory and Methods,** 42(2), 320-335. **I.F=0.893**

21. **Mohsin, M.**, Spöck, G. and Pilz, J. (2012) "On the Performance of a new bivariate pseudo Pareto distribution with application to drought data" **Stochastic Environmental Research & Risk Assessment (SERRA),** 26(7), 925-945. **I.F=3.379**

22. Saman, S., Shahbaz, M. Q., Ahsanullah, M. and **Mohsin, M.** (2011) "On a new class of Probability distribution" **Applied Mathematics Letters,** 24(4), 545-552. **I.F=3.848**

23. **Mohsin, M.**, Pilz, J., Spöck, G. and Ahsanullah, M. (2010) "On some new bivariate Pseudo-Gamma distribution" **Journal of Applied Statistical Science,** 18(2), 239-250. **HEC=Y Category**

24. **Mohsin, M.**, Pilz, J., Spöck, G. Saman, S. and Shahbaz, M. Q. (2010) "Some distributional properties of the concomitants of record statistics for bivariate Pseudo–Exponential distribution and characterization" **Journal of Prime Research in Mathematics,** 6, 32-37. **HEC=Y Category**

25. Ahsanullah, M., Saman, S., Shahbaz, M. Q. and **Mohsin, M.** (2010) "Concomitants of upper record statistics for bivariate Pseudo–Weibull distribution" **Applications and Applied Mathematics,** 5(2), 1379-1388. **HEC=Y Category**

26. **Mohsin, M.**, Saman, S and Shahbaz, M. Q. (2010) "A characterization of Erlang-truncated Exponential distribution in record values and its use in mean residual life" **Pakistan Journal of Statistics and Operation Research,** 6(2), 143-148. **ISI-Indexed**

27. **Mohsin, M.**, Shahbaz, M. Q. and Kibria, B. M. G. (2010) "Recurrence relations for single and product moments of the generalized order statistics for Rayleigh distribution" **Applied Mathematics & Information Sciences,** 4(3), 273-279. **I.F=1.232**

28. Shahbaz, M. Q., Saman, S., **Mohsin, M.** and Rafiq, A. (2010) "On distribution of bivariate concomitants of records" **Applied Mathematics Letters,** 23(5), 567-570. **I.F=3.848**

29. Irfan, S.M. **Mohsin, M**. and Yousaf, I. (2009) "Achieving service quality through its valuable human resource: An empirical study of banking sector of Pakistan" **World Applied Sciences Journal**, 7(10), 1222-1230. **ISI-Indexed**

30. Ahmad, M., M., **Mohsin, M.**, Shahbaz, M. Q. and Saman, S. (2009) "On the distribution of bivariate concomitants for the Pseudo-Inverse Rayleigh distribution and a characterization" **Journal of Statistical Theory and Applications**, 8(3), 299-310. **HEC=Y Category**

31. **Mohsin, M.**, Shahbaz, M. Q., Saman, S and Kibria, B. M. G. (2009) "Exact sampling distribution of reliability coefficient for Erlang-truncated Exponential model" **Mathematical Sciences and Mathematics Education**, 3(2), 7-13.
32. Saman, S., Shahbaz, M. Q. and **Mohsin, M.** (2009) "On concomitants of order statistics for bivariate Pseudo Exponential distribution" **World Applied Sciences Journal**, 6(8), 1151-1156. **ISI-Indexed**
33. **Mohsin, M.**, Ahmad M., Saman, S. and Shahbaz, M. Q. (2009) "Concomitants of lower records for bivariate Pseudo-Inverse Rayleigh distribution" **Science International Journal,** 21(1), 21-23. **ISI-Indexed**
34. **Mohsin, M**. (2009) "Recurrence relation for single and product moments of record values from Erlang-truncated Exponential distribution" **World Applied Sciences Journal**, 6(2), 279-282. **ISI-Indexed**
35. **Mohsin, M**. (2007) "Some distributional properties and estimation of parameters for Inverse Rayleigh distribution through lower record values" **International Journal of Statistics and Systems (IJSS),** 2(1), 15-19.
36. Irfan, S.M. Tajammul, H. **and Mohsin, M**. (2007) "Effect of sharded management practices of HRM and TQM on job satisfaction & retention" **Journal of Quality & Technology Management**, 3(1), 33-40. **HEC=Y Category**
37. Tajammul, H. **and Mohsin, M**. (2005) "Knitwear product quality analysis and development of SPC implementation plan" **Journal of Quality & Technology Management**, 1(1), 35-41. **HEC=Y Category**
38. **Mohsin, M**. and Shahbaz, M. Q. (2005) "A comparison of negative moment estimator and maximum likelihood estimator of Inverse Rayleigh distribution" **Pakistan Journal of Statistics and Operation Research**, 1(1), 45-48. **ISI-Indexed**
39. **Mohsin, M.** and Ahmad, M. (2002) "Recurrence relation of movements and distributional relation of lower record values for Inverse Rayleigh distribution with Gamma distribution" **Journal of Statistical Theory and Applications**, 1(3), 215-221. **HEC=Y Category**
40. **Mohsin, M**. and Ahmad, M. (2001) "A note on SBJ-Binomial distribution" published in the **ISSOS** preceding, 12, 431-434.

Conferences Attended

1) European Union Geosciences conference held from April 22-27, 2012 in Vienna, Austria.
2) One day Seminar on Mathematics and its Application at COMSATS institute of information technology, Lahore on March 8, 2007.
3) Second world Conference on Applied Mathematics at COMSATS institute of information technology, Lahore, from 20-22 January 2006.
4) Summer Conference on Mathematics at Lahore University of Management sciences (LUMS) from 26-27 November 2004.
5) One day Seminar on Mathematics and its Application at COMSATS institute of information technology, Lahore.
6) Mohsin, M. and Shahbaz, M.Q. (2003) "Comparison of Negative Moment Estimator with Maximum Likelihood Estimator" presented at the First National Conference on Statistical Sciences, held on October 18, 2003 at The Government College University, Lahore, Pakistan.

7) Mohsin, M. and Ahmed M. (2001) "A Note on SBJ-Binomial Distribution" presented at the 7th Islamic Countries Conference on Statistical Sciences (ICCS-VII), held on January 2-5, 2001 at The University of Lahore, Lahore, Pakistan.

MS Supervision

1) Najwa Liaqat (MS Statistics) "On the performance of extant distributions to model the margin of victory over point spread in NFL games". 2020-2022. Notification No. CUI-Reg/Notif-2768/21/2307.
2) Fiaza Shahid (MS Statistics) "An Extended Marshall-Olkin Simulated Pareto-exponential distribution: development, properties and application", 2019-2021. Notification No. CUI-Reg/Notif-1502/21/996.
3) Ayesha Israr (MS Statistics) "Some properties, characterization and an application of Mittag-Leffler type Poisson distribution", 2019-2021. Notification No. CUI-Reg/Notif-1951/20/2292.
4) Asad Ahmad (MS Statistics) "On the Finite Mixture of Truncated Exponential and Truncated Moment Exponential Distributions", 2018-2020. Notification No. CUI-Reg/Notif-914/20/1079.
5) Muhammad Mubeen Khan (MS Statistics) "On the characteristics of simulated Pareto-exponential distribution with applications", 2018-2020. Notification No. CUI-Reg/Notif-913/20/1078.
6) Ayesha (MS Statistics) "Sampling Plan using Truncated Life Test for Weibull –Generated Distributions" 2018-2020. Notification No. CUI-Reg/Notif-1573/19/1865.
7) Sehrish Liaquat (MS Statistics) "Bayesian Estimation of Inverse Rayleigh Distribution using Truncated Inverted Gamma as a Prior with different Loss Functions" 2017-2019. Notification No. CUI-Reg/Notif-171/19/104.
8) Sadia Sarfraz Khan (MS Statistics) "A four-parameter generalized Burr distribution and its application, 2016-2018. Notification No. CUI-Reg/Notif-1891/18/2484.
9) Fakhar Mustafa (MS Statistics) "A New Bivariate Maxwell Distribution, 2013-2015. Notification No. CUI-Reg/Notif-88/15/127.
10) Salman Abbas (MS Statistics) "Exponentiated Exponential-Exponentiated Weibull Linear Mixed Distribution", 2013-2015. Notification No. CUI-Reg/Notif-770/15/040.
11) Mahjabeen Hameed (MS Statistics) "The Kumarswamy-Weibull Distribution using Survival Function", 2013-2015. Notification No. CUI-Reg/Notif-771/15/039.

PhD Supervision

1) Ahtasham Gul (PhD Statistics-Completed) 2013-2021"Generating new class of distributions" under notification No. CIIT-Reg/Notif-1089/14/1619.
2) Muhammad Bilal (PhD Statistics-Completed) 2013-2022"A new class of Weibull generated distributions" under notification No. CIIT-Reg/Notif-1031/14/1528.
3) Main Muhammad Farooq (PhD Statistics-Completed) 2013-2022 "Generating a new family of distributions" under notification No. CIIT-Reg/Notif-1091/14/1622.

Administrative Duties

I have served as a

1) Member of Campus Scholarship Recommendation Committee,
2) Member of Campus Award Committee for Financial Assistance for Students,
3) Member of E&D committee,
4) Convener of Departmental Academic Review Committee,
5) Member of Campus Academic Review Committee,
6) Member of Graduate Academic Review Committee.

Certificates of Merit

1) Won Ernst-Mach Nachbetreuungsstipendium (EZA) from OeAD, Austria in 2018.
2) Won Swiss Excellent Scholarship from the Swiss Government for Postdoc Studies in 2015.
3) Got distinction in my Doctoral Studies from Alpen-Adria University, Klagenfurt, Austria in 2013.
4) Won the HEC Scholarship for Doctoral Studies in 2008.
5) Received the Certificate of Merit at the Postgraduate level for securing the Second Position in M.Sc. Statistics in Government College, during the Session 1993-1995.
6) Received the Certificate of Merit at the Postgraduate level for securing the First Division in M.Sc. Statistics, during the Session 1993-1995.

Certificates of Honor

1) Certificate of Honor at Intermediate level for securing Third Position in the College, during Session 1987-1989.
2) Certificate of Honor at Intermediate level for securing the Highest Marks in the subject of STATISTICS in the College Examination in 1989.
3) Certificate of Honor at Degree level for securing the Second Position in College, during the Session 1989-1991.
4) Certificate of Merit for serving as the Prefect, during the Session 1994-1995.