# Muhammad Yaseen

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- https://www.researchgate.net/profile/Muhammad-Yaseen-26?ev=hdr\_xprf

# Profile

- Data Scientist with twenty-four years of teaching & research experience executing data driven decisions & solutions to increase efficiency & accuracy
- Experienced at developing statistical models, using predictive data modeling & analyzing data algorithms to deliver insights & implement action-oriented solutions to complex problems
- $lacksymbol{\mathbb{F}}$  Proficient in developing R package/software for statistical analysis eta machine learning

# Work Experience

- Postdoctoral Fellow: School of Mathematical & Statistical Sciences, Clemson University, Clemson, South Carolina, USA (Mar 2024 Present)
  - Conduct research on **Group Testing** methodologies, contributing to innovative solutions in statistical sciences.
- Research Methodology & Monitoring & Evaluation Expert: Asian Development Bank (ADB)
  Consultant at Benazir Income Support Programme (BISP), Pakistan (Mar 2021 Feb 2024)
  - Designed and implemented research methodologies, evaluation frameworks, and data collection tools for large-scale social protection programs.

  - 🗷 Produced technical reports & presented findings to stakeholders for evidence-based decision-making.

  - Facilitated training sessions and workshops to enhance data collection and program implementation.
- 🖙 Assistant Professor: University of Agriculture, Faisalabad (Feb 2014 Mar 2021)
  - 🗷 Delivered courses in Statistics and conducted research in Statistics.
  - Provided statistical consulting to researchers, assisting in experimental design, survey development, and data analysis.
- Lecturer: University of Agriculture, Faisalabad (Oct 2003 Feb 2014)
- Statistician: College of Dentistry, University of Nebraska Medical Center, Lincoln-NE, USA (Mar 2009 May 2012)
  - ♠ Provided statistical expertise in designing experiments, surveys, and data analysis for dental research projects.
  - Collaborated with researchers to publish findings in peer-reviewed journals.
- Lecturer: University of Agriculture, Faisalabad (Dec 2002 Oct 2003)
  - △ Taught undergraduate courses in Statistics.
- Lecturer: Government College University, Faisalabad (Nov 2002 Dec 2002)
  - 🗷 Delivered lectures and supported academic activities in Statistics.

## Education & Qualifications

Doctor of Philosophy (Statistics)	University of Nebraska, Lincoln-NE, USA	2012
Master of Philosophy (Statistics)	University of Agriculture, Faisalabad-Pakistan	2005
Master of Science (Statistics)	University of Agriculture, Faisalabad-Pakistan	2001

#### Awards & Academic Distinctions

- Research Productivity Allowance (RPA-2012, Category G) by the Pakistan Council of Science & Technology, Islamabad, Pakistan
- III Higher Education Commission (HEC) Pakistan Approved PhD Supervisor
- PhD scholarship under the Faculty Development Program of University of Agriculture-Faisalabad
- Teaching Assistant (TA) at University of Nebraska-Lincoln USA during PhD studies
- Research Assistant (RA) at University of Nebraska-Lincoln USA during PhD studies
- First Position in MPhil (Statistics)
- Second Position in MSc (Statistics)

#### Software Skills

Proficient in:

R	Python	SciPy	Pand as	$SciKit ext{-}Learn$	matplot lib
Seaborn	SparkR	tensor flow	SQL	$ \mathbf{E} T_{\mathbf{E}} \mathbf{X} $	markdown
git	SAS	SPSS	Eviews	Mathematica	Maxima

- Conducted fifty-one computer aided statistical workshops as a resource person
- On the training panel of National Institute of Banking & Finance (NIBAF), State Bank of Pakistan (SBP), Karachi, Pakistan & National Institute of Managmnt (NIM), Lahore, Pakistan

#### Research Interests

- ➤ Data Science, ➤ Machine Learning, ➤ Statistical Modeling and Computing, ➤ Group Testing,
- ➤ Reproducible Research, ➤ Design and Analysis of Experiments, ➤ Generalized Linear Mixed Models,
- ➤ Multivariate Techniques and Analysis

# **Publications**

29 i10-index, 20 h-index & 1,674 Citations (Since 2007)

#### **Books**

Shah, D., Hussain, K. S., Khan, M. I., Yaseen, M., Kakli, M. B., Piracha, Z. F., Zia, M. A., and Javed, M. I. (2021). Pakistan Education Statistics 2017-18. National Education Management Information System (NEMIS), Academy of Educational Planning & Management (AEPAM), Islamabad, Pakistan. ISBN: 978-969-444-115-3 https://pie.gov.pk/SiteImage/Publication/PES%202017-18.pdf, https://myaseen208.com/PakEduStat2017-18/.

## Refereed Research Papers

- 1. Ali, E. A., Ghafar, A., Angeles-Hernandez, J. C., Yaseen, M., Gauci, C. G., Beveridge, I., Baxendell, S., and Jabbar, A. (2025). Global prevalence of Eimeria species in goats: a systematic review and meta-analysis. *Front. Vet. Sci.* 11(2024). https://doi.org/10.3389/fvets.2024.1537171.
- Khalid, U. and Yaseen, M. (2023). Social Protection for Persons with Disabilities in Pakistan: Current Scenario and Contribution of BISP. Ahi Evran Akademi 4(1), 75 -93. https://dergipark.org.tr/en/download/article-file/3146989.

- 3. Al-Bouwarthan, M., AlMulla, A. A., and Yaseen, M. (2022). The impact of heat on kidney health: A PRISMA-compliant bibliometric analysis. *Medicine* 101(36), e30328. https://doi.org/10.1097/MD.000000000030328.
- Mehmood, K., Bao, Y., Saifullah, Bibi, S., Dahlawi, S., Yaseen, M., Abrar, M. M., Srivastava, P., Fahad, S., and Faraj, T. K. (2022). Contributions of Open Biomass Burning and Crop Straw Burning to Air Quality: Current Research Paradigm and Future Outlooks. Frontiers in Environmental Science 10, 854292. https://doi.org/10.3389/fenvs.2022.852492.
- 5. Mubeen, A., Tanveer, A., Khaliq, A., and Yaseen, M. (2022). Exploiting the potential of weedy rice as value added silage under different nitrogen levels and cutting intervals. *Pak. J. Agri. Sci.* 10(1), 93–103. https://www.researchgate.net/publication/363612920\_Exploiting\_the\_potential\_of\_weedy\_rice\_as\_value\_added\_silage\_under\_different\_nitrogen\_levels\_and\_cutting\_intervals.
- Yaseen, M., Kashif, M., Nazish, H. T., Munir, R., Iqbal, J., Usman, M., and Rabbani, G. (2022). Effect
  of Rain-Fed Conditions on Yield of Mash Bean Genepool by Using Augmented Design. *Journal of Statistical Theory and Applications*. https://doi.org/10.1007/s44199-022-00047-z.
- 7. Bao, Y., Mehmood, K., Saifullah, Yaseen, M., Dahlawi, S., Abrar, M. M., Khan, M. A., Saud, S., Dawar, K., Fahad, S., and Kh.Faraj, T. (2021). Global research on the air quality status in response to the electrification of vehicles. *Science of The Total Environment* 795(3), 148861. https://doi.org/10.1016/j.scitotenv. 2021.148861.
- 8. Chattha, W. S., Ahmad, H. B., Farooq, M. A., Shafqat, W., Yaseen, M., Ihsan, M. Z., Alghabari, F., and Alzamanan, S. M. (2021). A novel parent selection strategy for the development of drought-tolerant cotton cultivars. *Plant Genetic Resources* 19(4), 299–307. https://doi.org/10.1017/S1479262121000332.
- 9. Chishti, S. A. S., Hassan, A., Ahmad, M., Nadeem, K., Shabbir, R. H., Iqbal, M., Yaseen, M., and Najeebullah, M. (2021). Effect of repeated pollination on tomato hybrid seed yield under field conditions. J. Agric. Res. 59 (2), 127-132. https://journal30.magtechjournal.com/bfnyxb/EN/Y2010/V/I2/61.
- Fatma, S., Sabir, M., Aziz, T., Ahmad, H. R., Yaseen, M., Rehman, M. Z. ur, and Hakeem, K. R. (2021).
   Comparison of Fine and Coarse Rice Varieties for Nickel Accumulation and Growth Response at Different Levels of Nickel. CLEAN-Soil, Air, Water 49 (6), 2000336. https://doi.org/10.1002/clen.202000336.
- 11. Gul, H., Ghazali, S. S. A., Yaseen, M., and Qasim, H. (2021). A Study on Time Use of Nurses and Paramedical Staff, Working in Public Hospitals of District Rahim Yar Khan, Bahawalpur, Pakistan. *International Journal of Innovation, Creativity and Change* 15(3), 931-944. https://www.ijicc.net/images/Vol\_15/Iss\_3/15373\_Gul\_2021\_E1\_R.pdf.
- 12. Haq, M. E. ul, Kamran, M., Sahib, A., Yaseen, M., Anwar, M. F., Abbas, H., Chand, S. A., Hameed, A., Rashid, A., Khan, Q. A. T., Shahbaz, M. U., Abbas, W., and Ali, S. (2021). Nitrogen application accelerates the downy mildew disease severity with leaf age in canola plants. *Archives of Phytopathology and Plant Protection* 54(19-20), 1569–1577. https://doi.org/10.1080/03235408.2021.1929041.
- 13. Jamil, S., Shahzad, R., Rahman, S. U., Iqbal, M. Z., **Yaseen**, **M.**, Ahmad, S., and Fatima, R. (2021). The level of Cry1Ac endotoxin and its efficacy against H. armigera in Bt cotton at large scale in Pakistan. *GM Crops and Food* **12**(1), 1–17. https://doi.org/10.1080/21645698.2020.1799644.
- 14. Qasim, H., Ghazali, S. S. A., Yaseen, M., and Gul, H. (2021). Pensioners and their Time Use: A Case Study of District Rahimyar Khan, Pakistan. *International Journal of Innovation, Creativity and Change* 15(3), 1050–1060. https://www.ijicc.net/images/Vol\_15/Iss\_3/15378\_Qasim\_2021\_E\_R.pdf.
- Ahmad, M., Chand, S., and Yaseen, M. (2020). High resolution Bayesain Spatio-Temporal precipitation modelling in Pakistan for the appraisal of trends. Pak. J. Agri. Sci. 57 (6), 1669–1680. https://doi.org/ 10.21162/PAKJAS/20.32.
- 16. Bashir, M. R., Yaseen, M., Mahmood, A., Din, A. M. ud, and Khan, Q. A. T. (2020). Adaptability trials of sesame germplasm against macrophomina phaseolina (tassi) gold by using ammi biplot analysis in Pakistan. *International Journal of Agriculture and Biology* 23, 851–856. https://doi.org/10.17957/IJAB/15.1361.
- 17. Chattha, W. S., Shakeel, A., Iqbal, M., Yaseen, M., Amin, M., and Mahmood, N. (2020). Quantifying the Effect of Water Deficit on Cotton Genotypes Using Agro-physiological and Biochemical Parameters. *Journal of Natural Fibers*. https://doi.org/10.1080/15440478.2019.1710654.
- 18. Jameel, H. T., Panatik, S. A., Nabeel, T., Sarwar, F., Yaseen, M., Jokerst, T., and Faiz, Z. (2020). Observed social support and willingness for the treatment of patients with schizophrenia. *Psychology Research and Behavior Management* 13, 193–201. https://doi.org/10.2147/PRBM.S243722.
- 19. Bashir, M. R., Mahmood, A., Atiq, M., Yaseen, M., Rajput, N. A., Aftab, M., Din, A. M. U., Mohsan, M., and Khan, Q. A. T. (2019). Assessment of genetic variability in mustard against alternaria leaf spot disease through natural field conditions. *Pakistan Journal of Phytopathology* 31 (02), 211–216. https://pjp.pakps.com/index.php/PJP/article/view/525/277.

- 20. Rehman, F., Saeed, A., Yaseen, M., Shakeel, A., Ziaf, K., Munir, H., Tariq, S. A., Raza, M. A., and Riaz, A. (2019). Genetic evaluation and characterization using cluster heat map to assess NaCl tolerance in tomato germplasm at the seedling stage. *Chilean Journal of Agricultural Research* 79(1), 56–65. https://doi.org/10.4067/S0718-58392019000100056.
- 21. Jameel, H. T., Nabeel, T., and Yaseen, M. (2017). Effects of training for in-hand manipulation on legibility of Urdu handwriting. *Journal of Inclusive Education* 1, 7–18. https://ojs.aiou.edu.pk/index.php/jie/article/view/234.
- 22. Murtaza, G., Murtaza, B., Kahlon, U. Z., and Yaseen, M. (2017). A comparative study of different amendments on amelioration of saline-sodic soils irrigated with water having different EC: SAR ratios. Communications in Soil Science & Plant Analysis 48(22), 2630–2641. https://doi.org/10.1080/00103624. 2017.1416130.
- 23. Raza, M. M., Khan, M. A., Yaseen, M., Munawar, A., and Sabir, Z. (2016). Exploring the Potential of Multivariate Analysis to Study the Impact of Cotton Leaf Curl Disease on Yield Traits. *Pak. J. Agri. Sci.* 53(3), 339-347. https://www.researchgate.net/publication/305992391\_Exploring\_the\_potential\_of\_multivariate\_analysis\_to\_study\_the\_impact\_of\_cotton\_leaf\_curl\_disease\_on\_yield\_traits.
- 24. Ansari, T. M., Hanif, M. A., Rasool, T., Ali, M., Nadeem, R., and Yaseen, M. (2015). Reclamation of wastewater containing Cu(II) using alginated *Mentha spicata* biomass. *Desalination & Water Treatment*, 1–10. https://doi.org/10.1080/19443994.2015.1043585.
- 25. Aslam, M., Maqbool, M. A., Yaseen, M., and Qamar-U-Zaman (2015). AMMI Biplot analysis for comparative evaluation of maize genotypes under different saline environments. Pak. J. Agri. Sci. 52(2), 339-347. https://www.researchgate.net/profile/Qamar-Zaman-3/publication/279527161\_AMMI\_biplot\_analysis\_for\_comparative\_evaluation\_of\_maize\_Zea\_may\_L\_genotypes\_under\_different\_saline\_environments/links/5595123008ae21086d1f0a6d/AMMI-biplot-analysis-for-comparative-evaluation-of-maize-Zea-may-L-genotypes-under-different-saline-environments.pdf.
- 26. Fatima, K., Khan, M. A., Raza, M. M., Yaseen, M., Iqbal, M. A., and Shahbaz, M. (2015). Identification of resistant source in lentil germplasm against Fusarium wilt in relation to environmental factors. *Academic Research Journal of Agricultural Science & Research* 3(4), 60-70. https://doi.org/10.14662/ARJASR2015.005, https://www.academicresearchjournals.org/ARJASR/PDF/2015/April/Fatima%20et%20al.pdf.
- 27. Jabran, K., Ullah, E., Hussain, M., Farooq, M., Zaman, U., Yaseen, M., and Chauhan, B. S. (2015). Mulching Improves Water Productivity, Yield and Quality of Fine Rice under Water-saving Rice Production Systems. *Journal of Agronomy & Crop Science* 201(2015), 389–400. https://doi.org/10.1111/jac.12099, https://onlinelibrary.wiley.com/doi/abs/10.1111/jac.12099.
- 28. Tanveer, A., Javaid, M. M., Irfan, M., Khaliq, A., and Yaseen, M. (2015). Yield Losses in Chickpea (Cicer arietinum L.) with Varying Densities of Euphorbia dracunculoides L. Weed Science 63, 522–528. https://doi.org/10.1614/WS-D-13-00049.1.
- 29. Novacek, M. J., Mason, S. C., Galusha, T. D., and Yaseen, M. (2014). Bt transgenes minimally influence maize grain yield and lodging across plant populations. *Maydica* 59(1), 90–95. https://www.researchgate.net/publication/262261262\_Bt\_transgenes\_minimally\_influence\_maize\_grain\_yield\_and\_lodging\_across\_plant\_populations.
- 30. Yaseen, M., Griess, J. K., Mason, S. C., and Jackson, D. S. (2014). Potential use of GGE Bi-plot analysis to evaluate white Sorghum grain attributes for end uses. *Pak. J. Agri. Sci* 51(1), 263-271. https://www.researchgate.net/publication/262261452\_Potential\_use\_of\_GGE\_Bi-plot\_analysis\_to\_evaluate\_white\_Sorghum\_grain\_attributes\_for\_end\_uses.
- 31. Lum, A., Albrecht, J. A., Yaseen, M., Litchfield, R., and Ritter-Gooder, P. (2013). Food-handling Practices and Knowledge among Families with Young Children. Food Protection Trends 33(6), 358-375. https://www.foodprotection.org/files/food-protection-trends/Nov-Dec-13-Albrecht.pdf.
- 32. Novacek, M. J., Mason, S. C., Galusha, T. D., and Yaseen, M. (2013). Twin Rows Minimally Impact Irrigated Maize Yield, Morphology, and Lodging. *Agronomy Journal* 105(1), 268–276. https://doi.org/10.2134/agronj2012.0301.
- 33. Shahzad, M. W., Razaq, M., Hussain, A., Yaseen, M., Afzal, M., and Mehmood, M. K. (2013). Yield and Yield Components of Wheat (Triticum Aestivum L.) affected by Aphid feeding and sowing time at Multan, Pakistan. Pak. J. Bot 45(6), 2005–2011. https://www.pakbs.org/pjbot/PDFs/45(6)/23.pdf.
- 34. Zakria, M., Yaseen, M., Muhammad, F., and Mahmood, S. (2013). Modelling Fertility Patterns of Pakistan during 1984-2007. *Pakistan Journal of Statistics* 29(4), 479-486. https://www.researchgate.net/publication/260083176\_Modelling\_Fertility\_Patterns\_of\_Pakistan\_during\_1984-2007.
- 35. Jabran, K., Ali, A., Sattar, A., Ali, Z., Yaseen, M., Mubshir, H., Iqbl, J., and Munir, M. K. (2012). Cultural, mechanical and chemical weed control in wheat. Crop & Environment 3(1-2), 50-53. https://www.

- researchgate.net/publication/260082892\_Cultural\_mechanical\_and\_chemical\_weed\_control\_in\_wheat.
- 36. Masood, M. A., Raza, I., and Yaseen, M. (2012). Estimation of Optimum Field Plot Size and Shape in Paddy Yield Trial. *Pakistan J. Agric. Res.* **25**(4), 280–287. https://www.idosi.org/aejsr/7(6)12/7.pdf.
- 37. McFarland, K. K., Reinhardt, J. W., and Yaseen, M. (2012). Rural dentists Does growing up in a small community matter? *The Journal of the American Dental Association* 143(9), 1013-1019. https://doi.org/10.14219/jada.archive.2012.0331.
- 38. Griess, J., Mason, S., Jackson, D., Galusha, T., Pedersen, J., and Yaseen, M. (2011). Environment and Hybrid Influences on Rapid-Visco-Analysis Flour Properties of Food-Grade Grain Sorghum. *Crop Science* 51, 1757–1766. https://doi.org/10.2135/cropsci2010.10.0604.
- 39. McFarland, K., Salama, F., and Yaseen, M. (2011). Access to Dental Care for Rural Children: A Survey of Nebraska General Dentists. *The Journal of Rural Health* 27, 205–210. https://doi.org/10.1111/j.1748-0361.2010.00333.x.
- 40. Yamin, M., Tahir, A., Nasir, A., and Yaseen, M. (2011). Studying the impact of farm mechanization on wheat production in Punjab-Pakistan. Soil & Environment 30(2), 151-154. https://www.researchgate.net/publication/260083175\_Studying\_the\_impact\_of\_farm\_mechanization\_on\_wheat\_production\_in\_Punjab-Pakistan.
- 41. Griess, J., Mason, S., Jackson, D., Galusha, T., Yaseen, M., and Pedersen, J. (2010). Environment and Hybrid Influences on Food-Grade Sorghum Grain Yield and Hardness. *Crop Science* **50**(4), 1480–1489. https://doi.org/10.2135/cropsci2009.08.0463.
- 42. McFarland, K., Reinhardt, J., and Yaseen, M. (2010). Rural Dentists of the Future: Dental School Enrollment Strategies. *Journal of Dental Education* 74(8), 830–835. https://doi.org/10.1002/j.0022-0337.2010.74.8.tb04939.x.
- 43. Saddiqi, H. A., Iqbal, Z., Khan, M. N., Sarwar, M., Muhammad, G., Yaseen, M., and Jabbar, A. (2010). Evaluation of three Pakistani sheep breeds for their natural resistance to artificial infection of Haemonchus contortus. *Veterinary Parasitology* 168, 141–145. https://doi.org/10.1016/j.vetpar.2009.10.022.
- 44. Saeed, M., Iqbal, Z., Jabbar, A., Masood, S., Babar, W., Saddiqi, H., Yaseen, M., Sarwar, M., and Arshad, M. (2010). Multiple anthelmintic resistance and the possible contributory factors in Beetal goats in an irrigated area (Pakistan). Research in Veterinary Science 88, 267–272. https://doi.org/10.1016/j.rvsc.2009.08.
- 45. Arshad, M., Suhail, A., Gogi, M., Yaseen, M., Asghar, M., Tayyib, M., Karar, H., Hafeez, F., and Ullah, U. (2009). Farmers' perceptions of insect pests and pest management practices in Bt cotton in the Punjab, Pakistan. *International Journal of Pest Management* 55(1), 1–10. https://doi.org/10.1080/09670870802419628.
- 46. Saifullah, Ghafoor, A., Sabir, M., Zia-Ur-Rehman, M., and Yaseen, M. (2008). Removal of Lead from Calcareous Contaminated Soils by Organic Acids. International Journal of Agriculture & Biology 10(2), 173-178. https://www.researchgate.net/publication/262261179\_Removal\_of\_Lead\_from\_Calcareous\_Contaminated\_Soils\_by\_Organic\_Acids.
- 47. Yasmeen, F., Mahmood, S., Hassan, M., Akhtar, N., and Yaseen, M. (2008). Comparative productive performance and egg characteristics of pullets and spent layers. *Pakistan Veterinary Journal* 28(1), 5–8. https://www.pvj.com.pk/pdf-files/28\_1/5-8.pdf.
- 48. Iqbal, Z., Sarwar, M., Jabbar, A., Ahmed, S., Nisa, M., Sajid, M., Khan, M., Mufti, K., and Yaseen, M. (2007). Direct and indirect anthelmintic effects of condensed tannins in sheep. *Veterinary Parasitology* 144, 125–131. https://doi.org/10.1016/j.vetpar.2006.09.035.
- 49. Jabbar, A., Zaman, M., Iqbal, Z., Yaseen, M., and Shamim, A. (2007). Anthelmintic activity of Chenopodium album (L.) and Caesalpinia crista (L.) against trichostrongylid nematodes of sheep. *Journal of Ethnopharmacology* 114(1), 86–91. https://doi.org/10.1016/j.jep.2007.07.027.
- 50. Malik, M. A., Iqbal, Z., Javed, A., Malik, N. A., Munir, I., Ahmad, M., Bashir, T., and Yaseen, M. (2007). Alpha (α)-Adrenergic Blocker (Doxazosin): Role in Medical Management of Ureteric Stone. Saudi German Hospitals Medical Journal 2(1), 30–35. https://www.researchgate.net/publication/260082884\_Alpha\_alpha-Adrenergic\_Blocker\_Doxazosin\_Role\_in\_Medical\_Management\_of\_Ureteric\_Stone.
- 51. Munir, M., Malik, M., and Yaseen, M. (2007). Performance of sunflower in response to nitrogen management at different stages. *Pakistan Journal of Agricultural Sciences* 44(1), 12–15. https://www.researchgate.net/publication/260082885\_Performance\_of\_sunflower\_in\_response\_to\_nitrogen\_management\_at\_different\_stages.

- 52. Nadeem, M., Khan, M., Iqbal, Z., Sajid, M., Arshad, M., and Yaseen, M. (2007). Determinants influencing prevalence of louse infestations on layers of District Faisalabad (Pakistan). *British Poultry Science* **48**(5), 546–550. https://doi.org/10.1080/00071660701573086.
- 53. Raza, M. A., Iqbal, Z., Jabbar, A., and Yaseen, M. (2007). Point prevalence of gastrointestinal helminthiasis in ruminants in southern Punjab, Pakistan. *Journal of Helminthology* 81(03), 323–328. https://doi.org/10.1017/S0022149X07818554.
- 54. Yaseen, M., Zakria, M., Shahzad, I., Khan, M., and Javed, M. (2005). Modeling and forecasting the sugarcane yield of Pakistan. *International Journal of Agriculture & Biology* 7(2), 180–183. https://www.researchgate.net/publication/242284065\_Modeling\_and\_Forecasting\_the\_Sugarcane\_Yield\_of\_Pakistan.

## R Packages/Software

- 1. Hitt, B., Bilder, C., Tebbs, J., McMahan, C., and Yaseen, M. (2024). PooledTesting: A Shiny App for Pooled Testing. https://bilder.shinyapps.io/PooledTesting/.
- 2. Yaseen, M. and Asghar, Z. (2024). PakNAcc: 'shiny' App for National Accounts. https://cran.r-project.org/web/packages/PakNAcc/index.html. Shiny App available at https://myaseen208.shinyapps.io/PakNAcc/.
- 3. Yaseen, M., Dilber, M. A., and Asghar, Z. (2024). PakPC: 'shiny' App to Analyze Pakistan's Population Census Data. https://cran.r-project.org/web/packages/PakPC/index.html. Shiny App available at https://myaseen208.shinyapps.io/PakPC/.
- 4. Yaseen, M. and Eskridge, K. M. (2024). StabilityApp: Stability Analysis App for GEI in Multi-Environment Trials. https://cran.r-project.org/web/packages/StabilityApp/index.html. Shiny App available at https://myaseen208.shinyapps.io/StabilityApp/.
- 5. Yaseen, M. and Dilber, M. A. (2023). PakPC2023: Pakistan Population Census 2023. https://cran.r-project.org/web/packages/PakPC2023/index.html. R Package documentation available at https://myaseen208.com/PakPC2023.
- 6. Edmondson, R., Piepho, H.-P., and Yaseen, M. (2019). agriTutorial: Tutorial Analysis of Some Agricultural Experiments. https://cran.r-project.org/web/packages/agriTutorial/index.html. R Package documentation available at https://myaseen208.com/agriTutorial.
- 7. Yaseen, M. (2019). PakPMICS2018: Multiple Indicator Cluster Survey (MICS) 2017-18 Data for Punjab, Pakistan. https://cran.r-project.org/web/packages/PakPMICS2018/index.html. R Package documentation available at https://myaseen208.com/PakPMICS2018.
- 8. Yaseen, M., Ullah, S., and Haider, G. (2019). SupMZ: Detecting Structural Change with Heteroskedasticity. https://cran.r-project.org/web/packages/SupMZ/index.html. R Package documentation available at https://myaseen208.com/SupMZ.
- 9. Yaseen, M. and Usman, M. (2019a). PakPMICS2018bh: Multiple Indicator Cluster Survey (MICS) 2017-18
  Birth History of Children Questionnaire Data for Punjab, Pakistan. https://cran.r-project.org/web/packages/PakPMICS2018bh/index.html. R Package documentation available at https://myaseen208.com/PakPMICS2018bh.
- 10. Yaseen, M. and Usman, M. (2019b). PakPMICS2018fs: Multiple Indicator Cluster Survey (MICS) 2017-18 Children Age 5-17 Questionnaire Data for Punjab, Pakistan. https://cran.r-project.org/web/packages/PakPMICS2018fs/index.html. R Package documentation available at https://myaseen208.com/PakPMICS2018fs.
- 11. Yaseen, M. and Usman, M. (2019c). PakPMICS2018hh: Multiple Indicator Cluster Survey (MICS) 2017-18
  Household Questionnaire Data for Punjab, Pakistan. https://cran.r-project.org/web/packages/
  PakPMICS2018hh/index.html. R Package documentation available at https://myaseen208.com/
  PakPMICS2018hh.
- 12. Yaseen, M. and Usman, M. (2019d). PakPMICS2018mm: Multiple Indicator Cluster Survey (MICS) 2017-18

  Maternal Mortality Questionnaire Data for Punjab, Pakistan. https://cran.r-project.org/web/packages/PakPMICS2018mm/index.html. R Package documentation available at https://myaseen208.com/PakPMICS2018mm.
- 13. Yaseen, M. and Usman, M. (2019e). PakPMICS2018mn: Multiple Indicator Cluster Survey (MICS) 2017-18 Men Questionnaire Data for Punjab, Pakistan. https://cran.r-project.org/web/packages/PakPMICS2018mn/index.html. R Package documentation available at https://myaseen208.com/PakPMICS2018mn.

- 14. Yaseen, M., Aslam, M., Ullah, S., Azam, M., Jun, C.-H., and Kashif, M. (2018). qccrs: Quality Control Charts under Repetitive Sampling. https://cran.r-project.org/web/packages/qccrs/index.html. R Package documentation available at https://myaseen208.com/qccrs.
- 15. Yaseen, M., Aslam, M., Ullah, S., and Kashif, M. (2018). rgsp: Repetitive Group Sampling Plan Based on Cpk. https://cran.r-project.org/web/packages/rgsp/index.html. R Package documentation available at https://myaseen208.com/rgsp.
- 16. Yaseen, M., Crossa, J., Perez-Elizalde, S., Jarquin, D., Cotes, J. M., Viele, K., Liu, G., and Cornelius, P. L. (2018). bayesammi: Bayesian Estimation of the Additive Main Effects and Multiplicative Interaction Model. https://cran.r-project.org/web/packages/bayesammi/index.html. R Package documentation available at https://myaseen208.com/bayesammi.
- 17. Yaseen, M. and Dilber, M. A. (2018). ppcSpatial: Spatial Analysis of Pakistan Population Census. https://cran.r-project.org/web/packages/ppcSpatial/index.html. R Package documentation available at https://myaseen208.com/ppcSpatial.
- 18. Yaseen, M. and Eskridge, K. M. (2018). stability: Stability Analysis of Genotype by Environment Interaction (GEI). https://cran.r-project.org/web/packages/stability/index.html. R Package documentation available at https://myaseen208.com/stability.
- 19. Yaseen, M., Jarquin, D., Perez-Elizalde, S., Burgueno, J., and Crossa, J. (2018). baystability: Bayesian Stability Analysis of Genotype by Environment Interaction (GEI). https://cran.r-project.org/web/packages/baystability/index.html. R Package documentation available at https://myaseen208.com/baystability.
- 20. Yaseen, M. and Nadeem, A. (2018). dmai: Divisia Monetary Aggregates Index. https://cran.r-project.org/web/packages/dmai/index.html. R Package documentation available at https://myaseen208.com/dmai
- 21. Yaseen, M. and Ullah, S. (2018a). eda4treeR: Experimental Design and Analysis for Tree Improvement. https://cran.r-project.org/web/packages/eda4treeR/index.html. R Package documentation available at https://myaseen208.com/eda4treeR.
- 22. Yaseen, M. and Ullah, S. (2018b). gvcR: Genotypic Variance Components. https://cran.r-project.org/web/packages/gvcR/index.html. R Package documentation available at https://myaseen208.com/gvcR.
- 23. Yaseen, M. and Dilber, M. A. (2017a). PakPC2017: Pakistan Population Census 2017. https://cran.r-project.org/web/packages/PakPC2017/index.html. R Package documentation available at https://myaseen208.com/PakPC2017.
- 24. Yaseen, M. and Dilber, M. A. (2017b). PSLM2015: Pakistan Social and Living Standards Measurement Survey 2014-15. https://cran.r-project.org/web/packages/PSLM2015/index.html. R Package documentation available at https://myaseen208.com/PSLM2015.
- 25. Yaseen, M. and Usman, M. (2017a). PakPMICS2014Ch: Multiple Indicator Cluster Survey (MICS) 2014 Child Questionnaire Data for Punjab, Pakistan. https://cran.r-project.org/web/packages/ PakPMICS2014Ch/index.html. R Package documentation available at https://myaseen208.com/ PakPMICS2014Ch.
- 26. Yaseen, M. and Usman, M. (2017b). PakPMICS2014HH: Multiple Indicator Cluster Survey (MICS) 2014
  Household Questionnaire Data for Punjab, Pakistan. https://cran.r-project.org/web/packages/
  PakPMICS2014HH/index.html. R Package documentation available at https://myaseen208.com/
  PakPMICS2014HH.
- 27. Yaseen, M. and Usman, M. (2017c). PakPMICS2014HL: Multiple Indicator Cluster Survey (MICS) 2014 Household Listing Questionnaire Data for Punjab, Pakistan. https://cran.r-project.org/web/packages/PakPMICS2014HL/index.html. R Package documentation available at https://myaseen208.com/PakPMICS2014HL.
- 28. Yaseen, M. and Usman, M. (2017d). PakPMICS2014Wm: Multiple Indicator Cluster Survey (MICS) 2014 Women Questionnaire Data for Punjab, Pakistan. https://cran.r-project.org/web/packages/PakPMICS2014Wm/index.html. R Package documentation available at https://myaseen208.com/PakPMICS2014Wm.
- 29. Yaseen, M., Duchateau, L., Janssen, P., and Rowlands, J. (2016). VetResearchLMM: Linear Mixed Models
   An Introduction with Applications in Veterinary Research. https://cran.r-project.org/web/packages/VetResearchLMM/index.html. R Package documentation available at https://myaseen208.com/VetResearchLMM.
- 30. Yaseen, M., Eskridge, K. M., Barbosa, P., and Guo, Y. (2016). DiallelAnalysisR: Diallel Analysis with R. https://cran.r-project.org/web/packages/DiallelAnalysisR/index.html. R Package documentation available at https://myaseen208.com/DiallelAnalysisR.

31. Yaseen, M., Munawar, A., Stroup, W. W., and Eskridge, K. M. (2016). StroupGLMM: R Codes and Datasets for Generalized Linear Mixed Models: Modern Concepts, Methods and Applications by Walter W. Stroup. https://cran.r-project.org/web/packages/StroupGLMM/index.html. R Package documentation available at https://myaseen208.com/StroupGLMM.

#### Publications in Conference Proceedings

- Batool, Z. and Yaseen, M. (2016a). Time Series Analysis and Forecasting of Water Reservoir in Pakistan. In: 14-th International Conference on Statistical Sciences, Karachi, Pakistan. Vol. 29, pp.195-202. https://www.researchgate.net/publication/370691615\_Time\_Series\_Analysis\_and\_Forecasting\_of\_Water\_Reservoir\_in\_Pakistan.
- 2. Shafiq, F., Arif, M., and Yaseen, M. (2016). Impulse Response Function Analysis: An Application to Macroeconomic Data of Pakistan. In: 14-th International Conference on Statistical Sciences, Karachi, Pakistan. Vol. 29, pp.67-76. https://www.researchgate.net/publication/388631846\_IMPULSE\_RESPONSE\_FUNCTION\_ANALYSIS\_AN\_APPLICATION\_TO\_MACROECONOMIC\_DATA\_OF\_PAKISTAN.
- 3. Zafar, H., Arif, M., and Yaseen, M. (2016a). An Empirical Investigation of Economic Variables of Pakistan by Using Autoregressive Distributed LAG Model. In: 14-th International Conference on Statistical Sciences, Karachi, Pakistan. Vol. 29, pp.203-214. https://www.researchgate.net/publication/388631710\_AN\_EMPIRICAL\_INVESTIGATION\_OF\_ECONOMIC\_VARIABLES\_OF\_PAKISTAN\_BY\_USING\_AUTOREGRESSIVE\_DISTRIBUTED\_LAG\_MODEL.
- 4. Naveed, M., Saifullah, Bibi, S., Yaseen, M., and Murtaza, G. (2015). Grain Cadmium concentration decreased in Rice (Oryza sativa L.) while managing different Water Regimes. In: International Conference on Soil Sustainability for Food Security, Univ. of Agri., Faisalabad, Pakistan. https://www.researchgate.net/publication/388631932\_Grain\_Cadmium\_concentration\_decreased\_in\_Rice\_Oryza\_sativa\_L\_while\_managing\_different\_Water\_Regimes.
- 5. Batool, S. and Yaseen, M. (2014a). Spatial Analysis of Hepatitis C Epidemiology in Faisalabad District. In: 12-th International Conference on Statistical Sciences, Karachi, Pakistan. Vol. 26, pp.391-396. https://www.researchgate.net/publication/262261178\_Spatial\_Analysis\_of\_Hepatitis\_C\_Epidemiology\_in\_Faisalabad\_District.
- 6. Saleem, S. and Yaseen, M. (2014a). Modeling Survival Rates of Cardiovascular Patients in Faisalabad. In: 12-th International Conference on Statistical Sciences, Karachi, Pakistan. Vol. 26, pp.397-402. https://www.researchgate.net/publication/262261097\_Modeling\_Survival\_Rates\_of\_Cardiovascular\_Patients\_in\_Faisalabad.
- 7. Zakria, M, Yaseen, M., Muhammad, F., and Mahmood, J. (2012a). Modelling the Age Specific Fertility Rates of Rural and Urban Areas of Pakistan During 1984-2007. In: *Proc. ICCS-12, Doha, Qatar.* Vol. 23, pp.607-618. https://www.researchgate.net/publication/388631936\_MODELLING\_THE\_AGE\_SPECIFIC\_FERTILITY\_RATES\_OF\_RURAL\_AND\_URBAN\_AREAS\_OF\_PAKISTAN\_DURING.

#### Abstracts Published in Conferences

- 1. Jabeen, S., Usman, M., and Yaseen, M. (2018). Factors affecting C-section deliveries in Punjab. In: 16-th International Conference on Statistical Sciences: Advances in Statistics and Data Management: It's Role in National Growth and Socio-Economic Developments, Peshawar, Khyber Pakhtunkhwa, Pakistan.
- 2. Saleem, S., Munir, R., and Yaseen, M. (2018). Empirical Comparison of Partial Least Squares, Principal Component and Ridge Regression in the presence of multicollinearity. In: 16-th International Conference on Statistical Sciences: Advances in Statistics and Data Management: It's Role in National Growth and Socio-Economic Developments, Peshawar, Khyber Pakhtunkhwa, Pakistan.
- 3. Ishaq, K., Younas, M., Yaseen, M., Ali, M., and Riaz, M. (2017). Effect of physical form of feed and addition of live yeast culture (saccharomyces cerevisiae) on the growth performance and carcass traits of beetal male kids under high input feeding system. In: 2017 International Conference on Agricultural and Food Science (ICAFS2017) & 7-th International Conference on Biotechnology and Bioengineering (7-th ICBB) ICAFS&ICBB2017, Lahore, Pakistan.
- 4. Batool, Z. and Yaseen, M. (2016c). Time Series Analysis and Forecasting of Water Reservoir in Pakistan. In: 14-th International Conference on Statistical Sciences, Jinnah Sindh Medical University, Karachi, Pakistan.
- 5. Irfan, M. and Yaseen, M. (2016). Bayesian network for modeling relationships among variables of neonatal sepsis. In: 14-th International Conference on Statistical Sciences, Jinnah Sindh Medical University, Karachi, Pakistan.

- 6. Jameel, H. T., Nabeel, T., and Yaseen, M. (2016). Development of a Tool for the Assessment of English and Urdu Handwriting. In: 14-th International Conference on Statistical Sciences, Jinnah Sindh Medical University, Karachi, Pakistan.
- 7. Khan, S., Yaseen, M., Idress, N., and Ghamkhar, M. (2016). Structural Equation Modeling to study the relationship of Cotton fiber traits. In: 14-th International Conference on Statistical Sciences, Jinnah Sindh Medical University, Karachi, Pakistan.
- 8. Khan, U. W., Yaseen, M., and Arif, M. (2016). Bayesian Approach: An Alternative of Additive Main effect and Multiplicative Interaction (AMMI) model for Genotype-by-Environment Interaction (GEI). In: 14-th International Conference on Statistical Sciences, Jinnah Sindh Medical University, Karachi, Pakistan.
- 9. Lodhi, T. S. and Yaseen, M. (2016). Drought Forecasting using Seasonal Autoregressive Integrated Moving Average Models and Artificial Neural Networks. In: 14-th International Conference on Statistical Sciences, Jinnah Sindh Medical University, Karachi, Pakistan.
- Munawar, A., Arif, M., Yaseen, M., Ullah, S., and Ahmad, H. R. (2016). Interpolating CD Metal in Soil Using Spatial Techniques in Metropolis Areas of Faisalabad. In: 14-th International Conference on Statistical Sciences, Jinnah Sindh Medical University, Karachi, Pakistan.
- 11. Nazir, N. and Yaseen, M. (2016). Assessing the In-control Robustness of Progressive Mean Control Chart. In: 14-th International Conference on Statistical Sciences, Jinnah Sindh Medical University, Karachi, Pakistan.
- 12. Raza, M. M., Khan, M. A., Yaseen, M., and Nutter, F. (2016). Exploring the slow rusting potential of wheat genotypes against leaf and strip rust of wheat. In: APS Annual Meeting, Tampa, Florida, USA.
- 13. Rehman, F., Saeed, A., Munir, H., Shakeel, A., Saleem, M. F., Ziaf, K., Yaseen, M., and Raza, M. A. (2016). Genotype × Environment interaction for NaCl tolerance in *Solanum lycopersicum* L. at seedling stage. In: 2-nd International Conference on Horticultural Sciences (ICHS2016), University of Agriculture, Faisalabad, Pakistan.
- Shafique, F., Arif, M., and Yaseen, M. (2016). Impulse Response Function Analysis: An Application to Macroeconomic Data of Pakistan. In: 14-th International Conference on Statistical Sciences, Jinnah Sindh Medical University, Karachi, Pakistan.
- 15. Zafar, H., Arif, M., and Yaseen, M. (2016b). An Empirical Investigation of Economic Variables of Pakistan by using Autoregressive Distributed Lag Model. In: 14-th International Conference on Statistical Sciences, Jinnah Sindh Medical University, Karachi, Pakistan.
- 16. Raza, M. M., Khan, A., M., Yaseen, M., Atiq, M., Mushtaq, A., Ikram, A., and Riaz, K. (2015). Biorational management of leaf rust of wheat caused by Puccinia recondita rob.ex. Desm. f. Sp. tritici. In: 10-th Biennial International Conference of Pakistan Society for Microbiology. Microbiology and Molecular Genetics, Punjab University, Lahore, Pakistan.
- 17. Yaseen, M. and Eskridge, K. M. (2015). Linear System of Simultaneous Equations with Random Effects. In: International Conference on Management, Education & Social Sciences Research, University of Karachi, Karachi, Pakistan.
- 18. Batool, S. and Yaseen, M. (2014b). Spatial Analysis of Hepatitis C Epidemiology in Faisalabad District. In: 12-th International Conference on Statistical Sciences, Karachi, Pakistan.
- 19. Chattha, W. S., Shakeel, A., Akram, H. M., Saeed, A., Saleem, M. F., and Yaseen, M. (2014). Evaluating genetic variability for water-deficit tolerance in Gossypium hirsutum L. In: 5-th International Conference on Agriculture, Food Security & Climate Change, University of Poonch, Rawalakot, Azad Kashmir, Pakistan.
- 20. Ishaq, K., Younas, M., Yaqoob, M., Mirza, M. A., Yaseen, M., and Rafiq, M. (2014). Effect of Dietary Protein Levels and Age of Weaning on the Growth Performance of Beetal Male Kids under High Input Feeding System. In: *International Participated Small Ruminant Congress, Konya, Turkiye*.
- 21. Saleem, S. and Yaseen, M. (2014b). Modeling Survival Rates of Cardiovascular Patients in Faisalabad. In: 12-th International Conference on Statistical Sciences, Karachi, Pakistan.
- 22. Yaseen, M. and Eskridge, K. M. (2014a). Combining Experiments A tool for selection of Superior and Stable Genotypes tested in diverse Environments. In: 12-th International Conference on Statistical Sciences, Dow University of Health Sciences, Karachi, Pakistan.
- 23. Yaseen, M. and Eskridge, K. M. (2014b). Linear Model- A Unified Approach for Regression, ANOVA, and ANCOVA. In: 12-th International Conference on Statistical Sciences, Dow University of Health Sciences, Karachi, Pakistan.
- 24. Yaseen, M., Eskridge, K. M., Arif, M., and Nadeem, A. (2014). Fitting Simultaneous Equations using Multivariate Approach. In: 12-th International Conference on Statistical Sciences, Dow University of Health Sciences, Karachi, Pakistan.

- 25. Rafiq, M., Younas, M., Ishaq, K., Yaqoob, M., Shahzad, A., and Yaseen, M. (2013). Effect of feeding systems on growth performance and blood urea concentration of beetal and teddy male kids. In: *Proceedings of the 2-nd Workshop on Dairy Science Park, Peshawar-25120, Pakistan*, pp.98.
- 26. Zakria, M., Yaseen, M., Muhammad, F., and Mahmood, J. (2012b). Modelling the Age Specific Fertility Rates of Rural and Urban Areas of Pakistan During 1984-2007. In: *The 12-th Islamic Countries Conference on Statistical Sciences (ICCS-12), Doha, Qatar.*
- 27. Abbas, R. Z., Iqbal, Z., and Yaseen, M. (2008). Anticoccidial Activity of Salinomycin Sodium in Broilers. In: The 1st International Veterinary Poultry Congress, Tehran, Iran.
- 28. Mustafa, G., Yasmin, I., **Yaseen**, M., and Ullah, S. (2008). Modeling and Forecasting Gross Domestic Product Deflator for Pakistan. In: *The 4th National Conference on Statistical Sciences, University of Gujrat, Gujrat, Pakistan*.
- 29. Saeed, M., Iqbal, Z., Jabbar, A., Yaseen, M., and Arshad, M. (2008). Anthelmintic Resistance: Beetal Goats in Punjab (Pakistan). In: *The Parasitology Conference, Kalampura, Malaysia*.
- 30. Ahmad, I., Arif, M., Yaseen, M., Idrees, N., Ahmad, I. J., and Hassan, M. U. (2007). Latent Variables Approach for handling Multicollinearity Problem. In: *International Conference on Statistical Sciences with Special Reference to Survival Data Analysis, G.C University Lahore, Lahore, Pakistan.*
- 31. Ullah, S., Yaseen, M., and Arif, M. (2007). Exploring Uses and Abuses of internet by using Correspondence Analysis. In: International Conference on Statistical Sciences with Special Reference to Survival Data Analysis, G.C University Lahore, Lahore, Pakistan.
- 32. Yaseen, M. (2007). Comparison of proposed Estimators of Box's correction in Single Factor Experiments having three Repeated Measures on the same subjects. In: The 3rd National Conference on Statistical Sciences and its application to Engineering, Biostatistics, Industrial, Computer & Telecom Technology, National University of Computer and Emerging Sciences FAST-NU, Lahore, Pakistan.
- 33. Jabbar, A., Zaman, M. A., Iqbal, Z., Yaseen, M., and Shmim, A. (2006). Anthelmintic Activity of Chenopodium album (L..) and Caesalpinia crista (L.) against Trichostrongylid Nematodes of Sheep. In: *The 9th International Congress on Ethnopharmacology, Nanning, Guanqxi, P.R. China.*

#### Manuals

1. Khan, M. I., Yaseen, M., and Arif, M. (2006). Manual for Biometric Techniques for Agriculture Research in Pakistan using STATISTICA. Department of Mathematics & Statistics, Univ. of Agriculture, Faisalabad.

# Research & Development Grant Funding & Support

- 1. Effects of Air Pollution on Performance and Attendance of School Children Funded by Interactive Group (Pvt) Ltd. as Co-Principal Investigator (Rs 1.268 million, Running)
- 2. Improved mechanism for UAF Synopses and Theses using LATEX (2017) Funded by U.S. Pakistan Center for Advanced Studies in Agriculture & Food Security (USPCAS-AFS) as Principal Investigator (Rs 0.623 million, 10 Month Duration)
- 3. Complementing Food Security through selection of Superior & Stable genotypes of major crops (2017) Funded by Higher Education Commission (HES) Pakistan under National Research Programme for Universities (NRPU) as Principal Investigator (Rs 1.686 million, 36 Month Duration)
- 4. **Research grant** from the Endowment Fund Secretariat at the University of Agriculture-Faisalabad, Pakistan of Rs.61,200 to organize training workshop titled **An Introduction to R-Programming Language for Statistical Computing**

# Statistical Training & Workshops Offered

1. **\( \mathbb{B}T\_{E}X: A Typesetting for Official and Scientific Writing \)** held on June 13-14, 2022 at National Institute of Banking & Finance (NIBAF), Karachi, Pakistan

- 2. In-Service Eight Weeks Mandatory Pre-Promotion Training Research Officer (BS-17) to Senior Research Officer (BS-18) 1st Session held on January 29, 2021 & February 29, 2021 at Forest Services Academy Ghoragali, Murree, Pakistan
- 3. In-Service Eight Weeks Mandatory Pre-Promotion Training Research Officer (BS-17) to Senior Research Officer (BS-18) 1st Session held on January 22, 27-28, 2021 at Forest Services Academy Ghoragali, Murree, Pakistan
- 4. In-Service Eight Weeks Mandatory Pre-Promotion Training Research Officer (BS-17) to Senior Research Officer (BS-18) 1st Session held on January 19-20, 2021 at Forest Services Academy Ghoragali, Murree, Pakistan
- 5. Training Course on Capacity Building of NARS Scientists in Advance Analytical Techniques held on October 27-29, 2020 at Ayub Agricultural Research Institute (AARI), Faisalabad, Pakistan
- 6. Training Course on Capacity Building of NARS Scientists in Advance Analytical Techniques held on November 25-28, 2019 at National Agricultural Research Centre, Islamabad, Pakistan
- 7. **Econometrics using STATA** held during July 29, 2019 to August 2, 2019 at National Institute of Banking & Finance (NIBAF), Karachi, Pakistan
- 8. 1st International Workshop on Scholarly Writing and Publishing held on March 18-21, 2019 at the University of Agriculture, Faisalabad, Pakistan
- 9. **Python: Programming for Statistics** held on February 18, 2019 at Department of Statistics, Bahauddin Zakariya University, Multan, Pakistan
- 10. An Introduction to Statistics using SPSS held on August 16-17, 2018 at National Textile University, Faisalabad, Pakistan
- 11. *Emerging Technologies in Research: Google Apps and SPSS* held on May 15-16, 2018 at Ayub Agriculture Research Institute, Faisalabad, Pakistan
- 12. An introduction to R for Agricultural Research held on May 09-11, 2018 at Ayub Agriculture Research Institute, Faisalabad, Pakistan
- 13. Structural Equation Modeling with Latent Variables using R during Symposium on Professional Development of New Generation of Research Scholars held on December 14, 2017 at COMSATS Institute of Information Technology, Lahore, Pakistan
- 14. Applied Econometrics during Statistical Officers Training Scheme (SOTS-7) held on December 12-13, 2017 at National Institute of Banking & Finance (NIBAF), Islamabad, Pakistan
- 15. Statistical Methods for Researchers using R held on August 10-12, 2017 at the University of Agriculture, Faisalabad, Pakistan
- 16. Statistical Methods for Researchers using R held on August 07-09, 2017 at the University of Agriculture, Faisalabad, Pakistan
- 17. An Introduction to R & Bioconductor for Computational Biology & Bioinformatics during one day international workshop on Application of Computational Biology in Biotechnology held on July 31, 2017 at National Institute for Biotechnology and Genetic Engineering (NIBGE), Faisalabad, Pakistan
- 18. An Introduction to IMTEX: UAF Synopsis and Thesis held on July 26-28, 2017 at the University of Agriculture, Faisalabad, Pakistan
- 19. Statistics for Veterinary and Animal Science using R held on July 17-19, 2017 at the University of Agriculture, Faisalabad, Pakistan
- 20. Statistics for Veterinary and Animal Science using R held on July 17-19, 2017 at the University of Agriculture, Faisalabad, Pakistan

- 21. Generalized Linear Mixed Modeling for Agricultural Sciences held on February 25, 2017 at Bahauddin Zaria University, Multan, Pakistan
- 22. **Technical and Patent Writing** held on January 28, 2017 at the University of Agriculture, Faisalabad, Pakistan
- 23. Generalized Linear Mixed Models using R held on December 13, 2016 during 14-th Islamic Countries Conference on Statistical and Allied Sciences (ICCS-14) held on December 12-15, 2016 at Multan, Pakistan
- 24. An Introduction to Later held on December 13, 2016 during 14-th Islamic Countries Conference on Statistical and Allied Sciences (ICCS-14) held on December 12-15, 2016 at Multan, Pakistan
- 25. An Introduction to Econometrics with R held on February 22-25, 2016 at National Institute of Banking & Finance (NIBAF), State Bank of Pakistan, Karachi, Pakistan
- 26. Statistics: The Art and Science of Learning from Data held on February 6, 2016 at the University of Agriculture Faisalabad, Pakistan
- 27. Quantitative Techniques for Decision Making during 20-th Mid-Career Management Course (MCMC) held on Aug 21, 24-25, 2015 at National Institute of Management, Lahore, Pakistan
- 28. An Introduction to LateX held on May 27, 2015 at National Institute of Banking & Finance (NIBAF), State Bank of Pakistan, Karachi, Pakistan
- 29. An Introduction to R held on May 25-26, 2015 at National Institute of Banking & Finance (NIBAF), State Bank of Pakistan, Karachi, Pakistan
- 30. Structural Equation Modeling with R held on May 24, 2015 at Iqra University, Karachi, Pakistan
- 31. Generalized Method of Moments Estimation with R held on April 06, 2015 at Iqra University, Karachi, Pakistan
- 32. An Introduction to R held on March 28, 2015 at the University of Agriculture Faisalabad, Pakistan
- 34. **An Introduction to R** held on August 11-12, 2014 at National Institute of Banking & Finance (NIBAF), State Bank of Pakistan, Karachi, Pakistan
- 35. An Introduction to R-Programming Language for Statistical Computing held on May 24 to June 14, 2013 (16 Contact Hours) at University of Agriculture Faisalabad, Pakistan
- 36. Training Course on *Statistical and Economic Analysis of Experimental Data using Statistical Software* held on December 17-21, 2012 at Agricultural Research Institute (ARI), Muzaffarabad, AJK, Pakistan
- 37. **SPSS Training for Social Sciences** held on August 13-20, 2007 at University of Agriculture Faisalabad, Pakistan
- 38. Design and Analysis of Agricultural Research Experiments using STATISTICA/Minitab (Biological Sciences) held on August 06-11, 2007 at University of Agriculture Faisalabad, Pakistan
- 39. Statistical and Economical Analysis of Field Experiments held on May 21-25, 2007 at AZRE, Quetta, Balochistan, Pakistan
- 40. Advanced Econometric Techniques using EViews held on August 24-29, 2006 at Department of Mathematics & Statistics, University of Agriculture, Faisalabad, Pakistan

- 41. Workshop on Applied Multivariate Statistical Techniques Using Different Statistical Packages held on June 05-10, 2006 at Department of Mathematics & Statistics, University of Agriculture, Faisalabad, Pakistan
- 42. STATISTICA Training Workshop of Biological Scientists held on August 08-13, 2005 at Department of Mathematics & Statistics, University of Agriculture, Faisalabad, Pakistan
- 43. SPSS Training Workshop of Social Scientists held on August 01-06, 2005 at Department of Mathematics & Statistics, University of Agriculture, Faisalabad, Pakistan
- 44. Advanced Biometric Techniques for Agricultural Research in Pakistan held on June 20-25, 2005 at Department of Mathematics & Statistics, University of Agriculture, Faisalabad, Pakistan
- 45. Training Course on Design and Analysis of Agricultural Field Experiments using STATISTICA held on Feb 21-25, 2005 at Social Sciences Institute, National Agriculture Research Center, Islamabad, Pakistan
- 46. **Research Methodology and Analytical Techniques** held from 21-06-04 to 03-07-04 in the Department of Mathematics & Statistics, University of Agriculture, Faisalabad, Pakistan

# Training & Workshops Attended

- 1. Consultative Workshop on Social Protection for Persons with Disabilities organized by Benazir Income Support Programme (BISP) held on June 9, 2022 at BISP HQ Islamabad, Pakistan
- 2. Consultative Workshop on Research Strategy for BSIP organized by Benazir Income Support Programme (BISP) held on February 2, 2022 at BISP HQ Islamabad, Pakistan
- 3. Introduction to TileDB for R in The R User Conference, useR! 2021, during July 5-9, 2021
- 4. Introduction to Responsible Machine Learning in The R User Conference, useR! 2021, during July 5-9, 2021
- 5. The R User Conference, useR! 2021, July 5-9, 2021 online
- 6. *BISP Orientation* organized by Benazir Income Support Programme (BISP) held on June 15-17, 2021 at BISP HQ Islamabad, Pakistan
- 7. UN World Data Forum 2018 organized by United Nations Statistics Division & Federal Competitiveness and Statistics Authority of United Arab Emirates held on October 22-24, 2018 at Madinat Jumeirah Conference Centre Madinat Jumeirah, Al Sufouh Road Dubai, United Arab Emirates
- 8. 5th Workshop on Advanced Techniques for Scientific Programming and Management of Open Source Software Packages Science organized by The Abdus Salam International Centre for Theoretical Physics (ICTP), in collaboration Sharif University of Technology, Tehran, Iran held on March 04-15, 2017, at Sharif University of Technology, Tehran, Iran
- 9. Second Consultative Workshop on Multiple Indicator Cluster Survey (MICS) Punjab 2017 held on January 31, 2017 at Faisalabad Institute of Cardiology (FIC), Faisalabad, Pakistan
- 10. **Technical and Patent Writing** held on January 28, 2017 at the University of Agriculture, Faisalabad, Pakistan
- 11. 14-th Islamic Countries Conference on Statistical and Allied Sciences (ICCS-14) held on December 12-15, 2016 at Multan, Pakistan
- 12. Four-Day Workshop on "Hybrid Course Design and Development" organized by U.S.-Pakistan Center for Advanced Studies in Agriculture and Food Security, October 18-21, 2016, University of Agriculture-Faisalabad, Pakistan

- 13. The CODATA-RDA School of Research Data Science organized by The Abdus Salam International Centre for Theoretical Physics (ICTP), in collaboration with International Council for Science Committee on Data for Science and Technology (CODATA), The Research Data Alliance (RDA), The World Academy of Sciences and The Association of Commonwealth Universities (TWAS), August 01-12, 2016, Abdus Salam International Center for Theoretical Physics (ICTP), Trieste, Italy
- 14. *Dialogue on Current Fertilizer Policy* organized by Food and Agriculture Organization (FAO) of the United Nations, June 06, 2016, Ramada Hotel, Islamabad, Pakistan
- 15. Two-Day Workshop on "4R Nutrient Stewardship for Food, Economic and Environmental Security" organized by Food and Agriculture Organization (FAO) of the United Nations, April 04-05, 2016, Serena Hotel, Islamabad, Pakistan
- 16. 14-th International Conference on Statistical Sciences held on March 14-16, 2016 at Jinnah Sindh Medical University, Karachi, Pakistan
- 17. **2-nd International Conference on Horticultural Sciences (ICHS2016)** held on February 18-20, 2016 at the University of Agriculture, Faisalabad, Pakistan
- 18. Water Dialogue on Irrigation System of Pakistan: Challenges & Opportunities held on February 10, 2016 at the University of Agriculture, Faisalabad, Pakistan
- 19. Grant Writing Workshop Competitive Grants Program organized by U.S.-Pakistan Centers for Advanced Studies in Agriculture/Food Security, June 01, 2015, University of Agriculture-Faisalabad, Pakistan
- 20. International Conference on Management, Education & Social Sciences Research held on April 4-5, 2015 at the University of Karachi, Karachi, Pakistan
- 21. 12-th International Conference on Statistical Sciences held on March 24-26, 2014 at the Dow University of Health Sciences, Karachi, Pakistan
- 22. Reference Management in Scientific Writings, Oct 25, 2014 at Dept. of Physics, University of Agriculture-Faisalabad, Pakistan
- 23. One day Workshop on Scientific Writing, May 24, 2014 at Dept. of Agronomy, University of Agriculture-Faisalabad, Pakistan
- 24. **2-nd Annual Workshop on Scientific Writing & Plagiarism**, May 07, 2014 at the University of Agriculture-Faisalabad, Pakistan
- 25. *Statistical Learning*, presented by Drs. Trevor Hastie & Rob Tibshirani, January 20, 2014 to April 04, 2014 Stanford University, Stanford, CA, USA (Through Stanford Online OpenEdx)
- 26. Advanced Multivariate Techniques, March 23, 2014 at the Dow University of Health Sciences, Karachi, Pakistan
- 27. Introduction to SAS, March 23, 2014 at the Dow University of Health Sciences, Karachi, Pakistan
- 28. *Introduction to SPSS*, March 22, 2014 at the Dow University of Health Sciences, Karachi, Pakistan
- 29. Remote Sensing for Monitoring Agricultural Crops and Assessing Soil Salinity, presented by Dr. Muhammad Waqar, February 3-15, 2014, at the University of Agriculture, Faisalabad, Pakistan
- 30. **Development in Applied Forecasting for Business and Economics**, presented by Dr. Muhammad Akram, January 16-17, 2013, at the University of Agriculture, Faisalabad-Pakistan
- 31. *Introduction to Statistical Software R*, presented by Dr. Muhammad Akram, January 15, 2013, at the University of Agriculture, Faisalabad-Pakistan
- 32. Three-day Workshop on Data Analysis & Developing Research Grant Proposal, presented by Drs. H. Anwar Ahmad & Shaukat Ali Bhatti, December 27-29, 2012, at the University of Agriculture, Faisalabad-Pakistan

- 33. *Learn R In-Depth*, presented by Dr. Paul Geissler, June 7 to August 25, 2011 (23 contact hours), U.S. Geological Survey
- 34. Generalized Linear Mixed Model, presented by Prof. Charles McCulloch in the 2011 Joint Statistical Meetings on August 1, 2011 at Miami Beach Florida, USA
- 35. Bayesian Inference, presented by Prof. Bruno Sanso in the 2011 Joint Statistical Meetings on July 31, 2011 at Miami Beach Florida, USA
- 36. Analysis and Design of Agricultural Research: A Generalized Mixed Model Perspective, presented by Prof. Walter Stroup in the Conference on Applied Statistics in Agriculture held on May 1-3, 2011 at Kansas State University, Manhattan, Kansas, USA
- 37. **Learn R by Example**, presented by Dr. Paul Geissler, October 12 to November 16, 2010 (32 contact hours), U.S. Geological Survey
- 38. Fitting and evaluating mixed models using lme4, presented by Prof. Douglas Bates in The R User Conference, useR! 2010, at the Gaithersburg, Maryland, USA, campus of the National Institute of Standards and Technology (NIST), during July 21-23, 2010
- 39. Applied spatial data analysis with R, presented by Dr. Virgilio Gomez-Rubi in The R User Conference, useR! 2010, at the Gaithersburg, Maryland, USA, campus of the National Institute of Standards and Technology (NIST), during July 21-23, 2010
- 40. The R User Conference, useR! 2010 July 21-23 2010 National Institute of Standards and Technology (NIST), Maryland, USA
- 41. *Training for International Teaching Assistants* held on August 3-7, 2009 at University of Nebraska-Lincoln USA
- 42. Faculty Development Program held on March 27-28, 2007 at The University of Faisalabad, Faisalabad, Pakistan
- 43. Workshop on Intelligent Data Analysis Methods in Functional Genomics held on March 17-18, 2007 at Lahore University of Management Sciences, Lahore, Pakistan
- 44. **Workshop on Data Analysis** held on March 10-11, 2007 at Lahore University of Management Sciences, Lahore, Pakistan
- 45. Workshop on Foundation of Data Mining held on June 11-12, 2005 at Lahore University of Management Sciences, Lahore, Pakistan
- 46. **Staff Development Course** under the scheme National Academy of Higher Education, held from May 9-June 4, 2005 at University of Agriculture, Faisalabad, Pakistan
- 47. Research Orientation Program on Research Methodology and Analytical Techniques held on June 15-30, 2004 at University of Agriculture, Faisalabad, Pakistan
- 48. *Bio-Informatics*, *Information Technology and Bio-Statistics* held on December 27-28, 2003 at National College of Business Administration and Economics, Lahore, Pakistan
- 49. EU Asia Link Project Short Course on Principles of Experimental Design and Analysis organized by SALINE Agriculture Research Center, University of Agriculture, Faisalabad, held from December 1-12, 2003 at University of Agriculture, Faisalabad, Pakistan
- 50. GRE Preparation Course of 45 teaching hours held on 27-10-2003 to 12-11-2003 at University of Agriculture, Faisalabad, Pakistan