# **CURRICULUM VITAE**

Name	Dr. Hina Khan		
Personal	Address: 132A PCSIR Phase II ,Lahore Office Phone: +92-42-111-000-010 ext: 273 Mobile No: 0300-4147411 e-mail: hinakhan@gcu.edu.pk		
Thesis Title: A Class of G Estimators for Estimat Population mean using Variable in Single and T Sampling with the Propertie  2002, GC University, Lahore  M.Phil Statistics Thesis Title: A Modified		Population mean using Auxiliary Variable in Single and Two Phase Sampling with the Properties	
	1999, GC University, Lahore	Unequal Probability Sampling M.Sc Statistics	
		Description Associate Professor Assistant Professor in Statistics, GC University, Lahore Lecturer in Statistics, GC University, Lahore	
	18 <sup>th</sup> June 2001 to 6 <sup>th</sup> August 2002 8 <sup>th</sup> Sep 2000 to 18 <sup>th</sup> June 2001 10 <sup>th</sup> Oct 1999 to 31 <sup>st</sup> March 2000	Lecturer in Statistics Government College, Lahore on contract Research Assistant in Statistics, Government College, Lahore Lecturer Defense Degree College,	
Present Administrative Assignments	<ul> <li>Lahore on Adhoc bases</li> <li>Department Controller of Examination</li> <li>Coordinator BS Self-Supporting Program</li> <li>Member Department Board of Study</li> <li>Member Faculty Board</li> <li>Member Ph.D. Admission committee</li> <li>Focal person Affiliated Colleges</li> <li>Focal person Online Admission</li> </ul>		
Approved Supervisor	HEC Approved		
Scopus ID	• 56499896500		
Orcid WEB OF SCIENCE-ID	<ul> <li>https://orcid.org/0000-0002-5650-7519</li> <li>ABA-4994-2021</li> </ul>		

Administrative	Incharge of the Department of Statistics		
Assignments	Incharge of University ID cards		
performed	Incharge of Departmental Time Table		
	Coordinator M.Phil Program		
	Member National Curriculum Revision Committee		
	Advisor BS Statistical Society		
Post Graduate	2003 to date Course		
Teaching	i. Sampling Techniques		
M.Phil	ii. Survey Research Methods		
11111	iii. Multivariate Analysis		
	iv. R language		
	TV. Te language		
Course	Multivariate Analysis course recorded for Virtual University		
Development	Post Graduate Diploma in Computational Statistics and Data Analysis		
- c. c.c pc.c	1 ost Graduate Dipiona in Compatational Statistics and Data Amarysis		
Research	Title of Ph.D thesis		
Work	Development of Probability Distributions Application and its Properties		
Supervising	Develop Neutrosophic Ratio type Estimators of Population Mean and its Properties		
PhD	• The Predictive Approach for Finite Population Mean in Survey Sampling		
Research	Gender Discrimination workplace in Pakistan. 2003-2005		
Work			
Supervised:	Predictive Strength of Risk Factors of Stroke Disease by Using Logistic regression:  A Haggital Based agas control study of 277 Patients of Payalain di Paliston, 2006.		
M.Phil	A Hospital Based case-control study of 277 Patients of Rawalpindi, Pakistan. 2006-2008		
191.1 1111			
	• Statistical Perspective over Genetic and Non-Genetic Exposures of Factors Affecting the Hearing Health of People of Pakistan. 2006-2008		
	A Epidemiological Case-Control Study to Determine the Predictive Strength of  Pick Feature of Jeshamia Heart Disease by Multiple Logistics Pagrassion  Pick Feature of Jeshamia Heart Disease by Multiple Logistics Pagrassion  On the Pick Feature of Jeshamia Heart Disease by Multiple Logistics Pagrassion  On the Pick Feature of Jeshamia Heart Disease by Multiple Logistics Pagrassion  On the Pick Feature of Jeshamia Heart Disease by Multiple Logistics Pagrassion  On the Pick Feature of Jeshamia Heart Disease by Multiple Logistics Pagrassion  On the Pick Feature of Jeshamia Heart Disease by Multiple Logistics Pagrassion  On the Pick Feature of Jeshamia Heart Disease by Multiple Logistics Pagrassion  On the Pick Feature of Jeshamia Heart Disease by Multiple Logistics Pagrassion  On the Pick Feature of Jeshamia Heart Disease by Multiple Logistics Pagrassion  On the Pick Feature of Jeshamia Heart Disease by Multiple Logistics Pagrassion  On the Pick Feature of Jeshamia Heart Disease by Multiple Logistics Pagrassion  On the Pick Feature of Heart Disease by Multiple Logistics Pagrassion  On the Pick Feature of Heart Disease by Multiple Logistics Pagrassion  On the Pick Feature of Heart Disease by Multiple Logistics Pagrassion  On the Pick Feature of Heart Disease by Multiple Disease by Mult		
	Risk Factors of Ischemic Heart Disease by Multiple Logistics Regression Technique. 2007-2009		
	<ul> <li>Improved Estimators Using Two Auxiliary Variables in Single and Two-Phase</li> </ul>		
	sampling. 2008-2010		
	• Differential Diaognosis of Malnutrition among 6-59 Months Children of Flood		
	Affected Areas in 2010 in Punjab. A Statistical Review. 2009-2012		
	• Improved Estimators in Single and Two Phase Sampling by Using Qualitative and		
	Quantitative Variables. 2008-2011		
	• Sampling Plan for SKIP-V on Cpk and Resubmitted Sampling Plan for ChSP-4		
	$(C_1,C_2)$ . 2010-2012		
	Generalized Ratio and Product type Estimators with Unequal Probability Designs		
	in Single and Two-Phase Sampling. 2011-2013		
	• A Class of Generalized Ratio and Regression Estimators of Population Mean in the		
	Presence of Non-Response Under Single and Two Phase Sampling. 2012-2014		
	• Generalized Estimators for Population Variance in Survey Sampling. 2013-2015		
	• Estimation of Generalized P-phase Estimators and Their Properties in Survey		
	Sampling. 2014-2016		
	A Class of Generalized Ratio and Regression Type Estimators by Using Ranked		
	Set Sampling (RSS). 2015-2017		
	• Efficient monitoring of Process Mean Using Exponentially Weighted Moving		
	Average Charts with an Extreme Ranked Set Sampling Regression Estimator.		
	2015-2017		
	Z013-Z01 /		

- Modified exponential ratio type estimators using stratified rank set sampling. 2016-2018
- Randomized Response Sampling Mechanism in Social Survey. 2017-2019
- Sampling on Two Successive Occasions using Auxiliary Information. 2017-2019
- Pakistan's Worsening Water Scarcity: A Statistical Analysis. 2017-2019
- A Generalized Ratio Estimators for estimating the population Mean using Systematic Sampling, its properties and EWMA control chart. 2018-2020
- Factors Influencing Exclusive Breastfeeding and Duration in Pakistan 2018-2020
- Generalized Neutrosophic Ratio-type Exponential Estimators of Population Mean and Design of Memory-type Control Charts under Interval Neutrosophic Data 2019-2021
- Generalized Exponential Quantile Regression-ratio-type Estimators for Population Mean in Survey Sampling 2019-2021
- Randomized Response Sampling Mechanism Using Exponential Type Estimators for Estimating Population Mean in Stratified Sampling 2019-2021
- Poverty, Social Inequality, Depression and Anxiety in Adults: A Case Study in Lahore 2020-2022
- Statistical Analysis of Environmental and Climate Influence Parameters on COVID19 in Punjab, Pakistan 2020-2022
- A Neutrosophic EWMA Control Chart using Auxiliary Information 2020-2022
- Assessment and Monitoring of Water Quality Parameters in Punjab, Pakistan 2020-2022
- Memory Type Control Charts Based on Auxiliary Information for Monitoring Crime Data 2020-2022
- Prevalence of Female Child Marriage and Its Impact on Health of Children in Pakistan 2021-2023
- On Exploring the Generalized Mixture Estimators Under Simple and Stratified Random Sampling 2021- 2023
- Development of Ratio Estimator for Unequal Probability Sampling using Auxiliary Information 2023-2025
- Quantifying the Effect of Family Support on Health Outcomes and Management of Geriatric condition in older Adults 2023-2025
- Statistical Spatial Analysis of Earthquake Vulnerability in city of Khyber Pakhtunkhwa, Pakistan 2023-2025

# Research Work Supervised: M.Sc and BS(Hons)

- The Impact of Irrigation Scheme on Production of Rice And Wheat Using Factorial 2001-2003
- A Comparison of Child Health of Various Social Classes Using Multivariate Analysis Of Variance 2001-2003
- A Study of Factors Affecting the Mental Health 2002-2004
- Factors Contributing Towards Hypertension among Working Women and Housewives 2002-2004
- A Study of Health Status and Socio-Economic Adjustment of Old-Age in Lahore City 2003-2004
- Survival Analysis of Kidney Dialysis Patients 2004-2006
- The Risk Factors For Infertility (A Case Control Study of 120 Females and Males) 2004-2006
- The Forecast Model for Production of Sugarcane in Punjab. 2005-2007
- The Study of Job Stress by Finding its Significant Determinants 2006-2008

- Academic self-esteem, achievement motivation and academic performance of matric vs O-level 2006-2008
- Effects of Cell Phone on the Students of Government College University, Lahore; Academic, Health, Income, Behavioral and Social Relationships 2007-2011
- Modeling and production of beef, mutton, poultry meet, total meat, egg & milk of Pakistan. 2007-2011
- Model to predict GDP of Pakistan with health variables. 2007-2011
- Factor Analysis of Impacts of Fashion on Students of Government College University, Lahore Social Life, Academic, Behavioral, Income and Health Influences. 2008-2012
- A Critical Analysis on Survival of Thalassemia Patients. 2015-2017
- The Academic Health and Social Importance of Electronic media in Students of GC University Lahore. 2008-2012
- Forecasting and model building of export of sport goods of Pakistan. 2008-2012
- Awareness of HIV/AIDS among the students of GC University Lahore. 2008-2012
- A Comparative and Critical Study of Population Literacy and Marriage for Pakistan in the Light of Population Censuses 1981 and 1998 and Population Projection. 2009-2013
- A statistical study of factors of homelessness using factor analysis. 2010-2014
- Calculation of SGPA and CGPA's of B.Sc Honors student of university of Education. 2011-2015
- The performance of students in master degree in university of education, bank road campus Lahore. 2011-2015
- A quantitative analysis of superstitious behaviors among teenagers, middle age and senior citizen. 2014-2018
- Factors Effecting on road accidents: A Case Study Lahore. 2014-2018
- A Comparative Study of Economic Indicators of Two "SAARC" members, Pakistan and Bangladesh 2015-2019
- Statistical Analysis of Performance (1992-2014) of Pakistan Cricket Team in One Day International. 2015-2019
- Statistical Analysis of Causes of Unemployment in Lahore. 2016-2020
- A Comparative Analysis of the performance of District Government in Punjab. 2016-2020
- Statistical Analysis of the effect of Nutrition requirement on BMI and health in the study of Lahore City. 2017-2021
- A statistical study on the Challenges and Problems faced by Women in Society. 2019-2021
- Workplace Harassment and Depressive Symptoms: A Cross-Sectional Multilevel Analysis 2020-2024
- An Empirical Analysis of Price Variations in Consumer Goods and Their Influence on Expenditure Patterns Over Time in Punjab, Pakistan 2021-2025
- Assessing and anticipating environmental pollution in Lahore 2021-2025

#### **Internship Title**

- Internship report on Cancer Registry and Clinical Data management at Shaukhat Khanum Memorial Cancer Hospital and Research Center. 2008-2012
- Internship report on functions of Bureau of Statistics, Govt. of the Punjab. 2008-2012

Internship Report in quality control unit Millat Equipments Limited. 2008-2012 Internship Report on the functions of Allied Bank. 2008-2012 Internship report on policy holder and services department at state life insurance corporation (SLIQ) 2008-2012 A report on planning and development department of Punjab Lahore Pakistan, for urban unit. 2009-2013 Practices and procedures of under-writing department in state life insurance corporation of Pakistan. 2009-2013 Internship Report on Hope Uplift Foundation. 2010-2014 Internship Report on AL-Baraka bank. 2012-2016 Internship Report on MCB bank. 2012-2016 Internship Report on Bank of Punjab. 2012-2016 Internship Report on Bureau of Statistics: Education Sector. 2013-2017 Internship Report on Bureau of Statistics: Agriculture Sector. 2013-2017 Internship Report on Bureau of Statistics: Industrial Sector. 2013-2017 Statistical Analysis on Literacy and Education in the Department of Bureau of Statistics. 2014-2018 Statistical Analysis on Industrial Sector in the Department of Bureau of Statistics. 2014-2018 An Internship Report on Weather Radar, Flood Forecasting for Lahore City (Pakistan). 2014-2018 An Internship Report on Punjab Bureau of Statistics: Factors Associated with Domestic Violence. 2015-2019 An Internship Report on Punjab Bureau of Statistics: Factors Associated with HIV. 2015-2019 A report on Statistical Analysis for the Production of Onion, pulses and potato of Punjab. 2015-2019 Statistical Analysis of Loans and Agriculture growth and credit recovery by ZTBL. 2017-2021 Internship on production efficiency of digital textile and human behaviour shift analogy to digital printing 2021-2025 Internship on Crimes in police stations of Lahore Division: Shahdara and Kahna 2021-External External Examiner for Ph.D, M.phil, and BS Hons theses at the University of Examiner of Management Sciences, Kinnaird College for Women, Lahore College University, research work Lahore, BZU Multan, and COMSAT Lahore Ph.D. M.Phil and BSc Hons other Universities PHD thesis Development of Hybrid Classifiers for Classification of High Dimensional Data with Limited Sample Size (UMT 2023) evaluated as Improved Memory-Type Control Charts for Censored Data (2020 UMT Lahore) External Reservoir Inflow Prediction Employing Numerous Data Driven Techniques (BZU Multan 2021) A Class of Generalized Estimators of Population Mean under Rank set sampling Schemes (2022 UMT Lahore)

## External Comparison of the Statistical Analysis of Likert and Visual Analogue Scale on Examiner Academic Stress of Students Evaluated Survival Analysis of Dengue patients M.phil thesis Forecasting Barley Production in Pakistan Factors Affecting Exclusive Breastfeeding Duration in Pakistan: Parametric And Non-Parametric Survival Approach Exponentially Weighted Moving Average (EWMA) and Hybrid Exponentially Weighted Moving Average (HEWMA) Control Charts Under Successive Sampling A New Generalized Exponential Type Ratio Estimator for Population Mean for Two Phase Sampling Effects of Social Application on Students Academic Performance: A Case Study of Lahore. • Consumer Choice towards modern and Traditional Stores While Buying FMCG. Exploring Factors Effecting Unemployment And Exports in Some Selected **Developing Countries** Mixture Regression cum Ratio Estimators of Population mean under Stratified **Random Sampling** Mixture Regression Estimators of Population mean and Total under Stratified Random Sampling Agent Base Simulation Fashion Retail Chain Exploring and Comparing Factors Affecting the Reading Abilities of Grade-III Students- A Case Study of Army Public Schools of Lahore A Comparison of Different Weather Forecasting Models The Mediating effect of Foreign Direct Investment (FDI) and Social Progress Index (SPI) between Population and Global Hunger Index(GHI) Factors Associated with Retention of Intermediate Students - A case study of Government College of Science, Lahore Development of Calibration estimators in survey sampling. COMSATS Role of parent's income and student's part-time job on academic achievement: A structural equation modeling approach. UMT Minhai University Lahore The ratio cum exponential estimator to estimate the population mean in the presence of non-response and measurement error (LCWU) Family of estimators of the finite population mean using auxiliary information in the presence of non-response and measurement error (LCWU) **COMSATS** Spatial patterns and heterogeneity in parity specific son preference across Pakistan's districts: A design based small area estimation study(LCWU) Stein's method for exponentiated exponential distribution(LCWU) **Presiding** One day training of Presiding Officers Organized by the Election Commission of Officer Pakistan. 20-04-2013. Service Resource person In-Service Training Course organized by Higher Education. 2002 Activity/ In Service Training Course organized by Higher Education Commission in April 2003 **Training** for one week. 08-02-2003 to 13-02-2003. In Service Training Course organized by Higher Education Commission from 10<sup>th</sup> May 2004 to 15<sup>th</sup> May 2004 HEC Regional Center Lahore.

- A special course of five weeks on Stochastic Processes organized by Department of Statistics GC University, Lahore in collaboration with HEC Pakistan June 9, 2006- July 11, 2006.
  - In Service Teacher's Training Program organized by HRDC GC University, Lahore Sep 2005-May 2006.
  - Two Weeks Computer Literacy workshop organized by Department of Computer Science.
  - Participant Teacher's course of the intel Teach to the future program organized by GC University, Lahore from 6<sup>th</sup> May to 25<sup>th</sup> May 2002
  - Workshop Training of Pakinfo User Module for Faculty Development organized by GC University, Lahore from 3<sup>th</sup> and 4<sup>th</sup> February 2014
  - Capacity Building Programme on PPRA rules 2014 organized by PPRA in collaboration with CPDP at QEC GCU Lahore. April 2015.
  - Survey research on sampling methods, questionnaire designing, setting up field work, and the processing and displaying of data. Pildat 18<sup>th</sup> -20<sup>th</sup> March 2015. Flatties hotel Lahore.
  - PISTAR International training programme, Tidyverse ggplot2 for elegant data visualization organized by ISOSS. 27-06-2020
  - PISTAR International training programme, Tidyverse tidyr for efficient data tidiness organized by ISOSS. 15-08-2020

## National Curriculum Developed

Member National Curriculum Revision meeting organized by Higher Education Commission in Karachi from 12<sup>th</sup> Sep 2005 to 14<sup>th</sup> Sep 2005 and 27<sup>th</sup> March 2006 to 29<sup>th</sup> March 2006.

#### **Publications**

- Muzaffar, H., & Shahbaz, Q. (2003). Modified Murthy Estimator of population total in unequal probability sampling. *Journal of Statistics GC University*, Lahore. 10(1), 9-15 (HEC approved Y)
- Muzaffar, H., Pervaiz, K., & Shah, G. (2005). Nature of Anxiety-Factors Among Working Women and House Wives in Urban Pakistan. *European Journal of Scientic Research*, 5(4), 46 68 (HEC approved Y)
- Muzaffar, H., Pervaiz, K., Shahbaz, Q., & Khan, M. (2006). A Comparative Study of Various Unequal Probability Sampling Estimators. *European journal of scientific research*, 15, 327-335 (HEC approved Y)
- Ashraf, S., Pervaiz, K., Azad, M., **Muzaffar, H.**, & Zahra, N. (2008). Survival analysis of infants: Case study concerning gender and birth weights. *BIOLOGIA* (*PAKISTAN*),54(1),105-116. (**HEC approved Y**)
- Aslam, M., Shoaib, M., & Khan, H. (2011). Group Acceptance Sampling Plan for Dagum Distribution under Percentiles Lifetime. *Communication of the Korean Statistical Society*, 18(4),403-411 SJR IF:0.477
- Shabnam, N., **Khan, H.**, & Khan, M. (2011). Predictive Strength of Risk Factors of Stroke. *Journal of Statistics GC University*, 18,54-64. (**HEC approved Y**)

- **Khan, H.,** Shouket, S., & Sanaullah, A. (2012). A Class of Improved Estimators for Estimating Population Mean Regarding Partial Information in Double Sampling. *Global Journal of Science Frontier Research*, 12(14), 33-43.
- Sanaullah, A., **Khan, H.**, Ameer, Humera., & Singh, R. (2012). Improved Exponential Ratio-Type Estimators in Survey Sampling. *Journal of Reliability and Statistical Studies*, 5(2), 119-132. ISSN (Print): 0974-8024 (HEC approved Y)
- Shouket, S., **Khan, H.,** & Sanaullah, A. (2014). A Class of Improved Estimators for Estimating Population Mean Using Full Information in Single and Two Phase Sampling. *Journal of Statistics GC University*, 20,103-117. ISSN-1684-8403 (**HEC approved Y**)
- **Khan, H.**, & Siddiqi, F. (2014). A New Class of Generalized Exponential Ratio and Product Type Estimators for Population Mean using Variance of an Auxiliary Variable, *Journal of Statistics GC University*, 21, 206-214. **(HEC approved Y)**
- **Khan, H.**, Sanaullah, A., Khan, M., & Siddiqi, F. (2014). Improved Exponential Ratio Type Estimators For Estimating Population Mean Regarding Full Information In Survey Sampling. *Sci.Int(Lahore)*,26(5),1897-1902. ISSN: 1013-5316. (HEC approved Y)
- Aslam, M., Khan, N., & Khan, H. (2015). SKSP-V Acceptance Sampling Plan Based on Process Capability Index. *Chiang Mai J.Sci*, 42(1) 258-267. IF = **0.42**
- Hameed, F., **Khan, H**. (2017). Generalized P-phased Regression Estimators with Single and Two Auxiliary Variables. *Pakistan Journal of Statistics Operation Research*,8(3), 661-685. (**HEC approved Y**)
- **Khan, H.**, Siddiqi, F., & Khan, M. (2017). A Class of Improved Estimators for Estimating the Population Mean in Double Sampling and its properties. *Journal of Statistics GC University*, 24,120-132. **(HEC approved Y)**
- **Khan, H.**, Khan, M. (2017). A New Exponential- Ratio Type Estimators of Population Mean in Two- Phase Sampling Using No Information Case on Auxiliary Variables. *Journal of Reliability and Statistical Studies*, 10(2), 95-103. ISSN (Print): 0974-8024. **(HEC approved Y)**
- **Khan, H.**, Aslam, M., & Khan, M. (2018). Properties of Exponential Ratio Type Estimators in Equal Probability Sampling: A Simulation Study. *Communication in Mathematics and Statistics*, 6, 91–118. **(HEC approved Y)**
- Daraz, U., Shahbir, J., & Khan, H. (2018). Estimation of finite population mean by using minimum and maximum values in Stratified random sampling. *Journal of Modern Applied Statistical Methods*, 17(1), 25-48. DOI: 10.22237/jmasm/1532007537 (HEC approved Y)
- **Khan, H.**, Farooq,S., Aslam, M., & Khan, M. (2018). Exponentially weighted average moving control charts for the process mean using exponential type ratio

- estimators. Journal of Probability and Statistics,15,1-15 https://doi.org/10.1155/2018/9413939 (HEC approved Y)
- **Khan, H.**, Aslam, M., & Khan, M. (2018). Ratio type estimators in unequal probability sampling: A numerical study, *Advances and Applications in Statistics*, 5(3), 457-471 https://doi.org/10.1007/s40304-017-0124-7 h-index: 15 IF = 1.44
- Ishtiaq, S., Mahmood, Y., & Khan, H. (2019). Acute Performance Estimation of Students Using Quantile Regression Approach (A Case Study of Lahore). *Pakistan Journal of Education*, 36(3), 1-18. https://doi.org/10.30971/pje.v36i3.850. (HEC approved Y)
- **Khan, H.**, Sat Gupta, S., & Farhat, H. (2020). A Ratio Cum Regression Estimator of Population Mean in Unequal Probability Sampling Design. *Communications in Statistics Simulation and Computation*, 49(2), 484-490, doi: 10.1080/03610918.2018.1485944 **IF=0.86**
- Kaleem, S., **Khan, H.**, & Aslam, M. (2020). Generalized regression cum ratio estimators of population variance in two phase sampling. *Journal of Statistics and Management System*. 23(3), 663-676, doi: 10.1080/09720510.2019.1675293 **IF:SJR = 0.241**
- Waseem, Z., Khan, H., & Shahbir, J. (2021). Generalized exponential type estimator for the mean of sensitive variable in the presence of non-sensitive auxiliary variable. Communication in Statistics Theory and Methods. 50(14), 3477-3488. doi: 10.1080/03610926.2019.1708399 IF = 1.118
- Farooq, R., **Khan, H.**, Khan, M., & Aslam, M. (2020). Socioeconomic and Demographic Factors Determining the Underweight Prevalence among Children Under-Five in Punjab. *BMC public health*, 30;20(1), 1-11. doi: 10.1186/s12889-020-09675-5. **IF** = **3.18**
- Waseem, Z., **Khan, H.**, Shabbir, J., & Fatima, S. (2021). A generalized class of exponential type estimators for estimating the mean of the sensitive variable when using optional randomized response model. *Communications in Statistics Simulation* and Computation ,50(14),3477-3488. doi.org/10.1080/03610918.2020.1850788 **IF** = **1.118**
- Mahmood, Y., Ishtiaq, S., Khoo, M.B.C., Teh, S. Y., & **Khan**, **H**. (2021). Monitoring of three-phase variations in the mortality of covid-19 pandemic using control charts: where does Pakistan stand? *International Journal for quality in Health Care*, 33(2). https://doi.org/10.1093/intqhc/mzab062 **IF** = **2.038**
- Arshad, R., Mahmood, Y., Aslam, M., **Khan, H.,** Khan, N. & Sakran, N. (2021). Cost Model of Variable Multiple Dependent State Sampling Plan with Rectifying

- Inspection, Communication in Statistics-Simuation and Computations. https://doi.org/10.1080/03610918.2021.1905844 **IF** = **1.118**
- Shah, G., Faraz, A., **Khan, H.**, & Waterfield, K. (2021). Perceived Benefits Matter the Most in COVID-19 Preventive Behaviors: Empirical Evidence from Okara District. *Int J Environ Res Public Health*,18(13):6772 doi: 10.3390/ijerph18136772 **IF** = **3.364**
- Riaz, A., Noor, A., & **Khan, H**. (2021). Auxiliary information based exponentially weighted moving co-efficient of variation control chart: An application to monitor electric conductivity for water system, *Communication in Statistics: Case Studies, Data Analysis and Applications*, 7, 49-66. https://doi.org/10.1080/23737484.2020.1836533 (HEC approved Y)
- Mahmood, Y., Fatima, S., Khan, H., Amir, H., Khoo, M.B.C., & Teh, S. Y. (2021).
   Acceptance Sampling Plans based on Topp-Leone Gompertz Distribution.
   Computers & Industrial Engineering, 159, 107526.
   https://doi.org/10.1016/j.cie.2021.107526 IF = 5.431
- Tahir, Z., **Khan, H.**, Aslam, M., Shabbir, J., Mahmood, Y., & Smarandache, F. (2021). Neutrosophic ratio type estimators for estimating the population mean. *Complex & Intelligent Systems*. https://doi.org/10.1007/s40747-021-00439-1.https://doi.org/10.1007/s40747-021-00439-1 **IF** = **4.927**
- Arif, S., Khan, H., & Aslam, M. (2021). Factors influencing exclusive breastfeeding duration in Pakistan: a population-based cross-sectional study. *BMC Public Health*, Nov 3;21(1), 1-10. https://doi.org/10.1186/s12889-021-12075-y IF = 3.177
- Azam, S., Khan, H., Aatizaz, M. (2021). A New Generalized Class of Mixture Estimators for estimating the population mean under single and double-phase sampling schemes, J.Stat. Comp.& Interdis. Rese., Vol 3(2), 83-98. (HEC approved Y)
- Asghar, A., Khan, H., Razzak, N., Waseem, Z., Midhat, S. M., and Hussain, T. (2022). Forecasting the daily deaths caused by Covid-19 using ARIMA Model, Pak J Pharm Sci, 35(1),141-149. PMID: 35221283. IF = 0.684
- Mujtaba, G., Khan, A. R., **Khan, H**. (2023). Sectarianism as a Menace to Social, Economic and Political Participation: A Case Study from Pakistan, Journal of Development and Social Sciences (JDSS), 2022 Volume 3, Issue 3.(**HEC approved Y**)
- Bashir, S & Khan, H. (2023). Characterization of the weighted power function distribution by reliability functions and moments, Research in Mathematics, 2023, VOL. 10, NO. 1. DOI:10.1080/27684830.2023.2202023 (HEC approved Y)

- Khalid, M., Khan, H., Shahbir.J. (2023). Exponentially quantile regression-ratiotype estimators for robust mean estimation. Communications in Statistics – Theory and Methods IF= 0.863
- Razzak, N., Khan, H, Tariq, H and Aslam, M. (2023). Association between risk factors and migraine in Pakistani females, BMC Women Health, 23:642 IF: 2.742
- Awaisa, A., Saeeda, N., Abu-Shawieshb, M.O., Sherwania, R.A., K., Khan, H and Haddad, F. (2023). Multiple dependent repetitive group sampling plan for Marshall-Olkin logistic-exponential distribution assuring percentile lifetime with applications, Arab Journal of Basic and Applied Sciences, Vol. 30, No. 1, 650–664 <a href="https://doi.org/10.1080/25765299.2023.2278847">https://doi.org/10.1080/25765299.2023.2278847</a>. IF: 1.361
- Asghar, A., Sanaullah, A., **Khan, H.**, Hanif, M. (2023). Analysis of Variance Estimation Methods in Two-Phase Sampling: A Focus on Regression-cum-Exponential Estimators with Multiple Auxiliaries. Bulletin of Business and Economics, 12(3), 573-579. (**HEC approved Y**)
- Karim, A., **Khan, H.**, Mahmood, Y., & Riaz, M. (2024). On estimation and monitoring of population mean using systematic sampling under exponentially weighted moving average scheme, Pakistan Journal of Statistics and Operation Research, Vol.20, No3, pp 517-531. **IF:0.62**
- Asghar, A., Kalsoom, R., Zafer, Z., **Khan, H**. (2024). Comparing Marital Satisfaction: Insights from South Asian and Middle Eastern Perspectives, ARBOR. **IF: 0.27**
- Nasar, H., Batool, I.N., **Khan, H.**, Asghar, A. (2024). Visualizing Peace: Data-Driven Insights into UN SDG 16, Remittances Review, Volume: 9, No: 2, pp.4274-4291 doi.org/10.33282/rr.vx9i2.223 **IF: 0.26**
- Chaudhry, A., Khan H., Mahmood, Y., Karim, A., Shah, G., Aslam, M., Vijilamery, S. (2024). Water utilization practices and wastage at household level: A case control study of Lahore, World Water Policy. DOI: 10.1002/wwp2.12246
   IF: 1.29
- Rafaqat, M., **Khan, H**. (2025). Some ratio type predictive estimators for estimation of the average water level of a river using season as an auxiliary attribute, Heliyon, Vol. 11, 1-11 **IF: 3.4**
- Shan E Fatima, **Khan**, **H**, Gulzar H. Shah, Zain ul Abbas. (2025). Modeling Anemia Dynamics Among Women of Reproductive Age: Topp-Leone Exponentiated Generalized Exponential (TLEG-E) Distribution Approach for a Global Comparative Study with Focus on Pakistan Accepted in Pakistan Journal of Statistics and Operation Research.
- Shan E Fatima, Khan, H,. Aamir Sanaullah, and Kanwal Javaid. (2025). Modeling aerosol optical depth variability using the Topp-Leone exponentiated exponential distribution: insights from MODIS data for climate and space science in Pakistan, Accepted in Theoretical and Applied Climatology DOI: 10.1007/s00704-025-05776-6

### International Neutrosophic Exponentially Weighted Moving Average Control Chart Utilizing Conference Neutrosophic Ratio-type Exponential Estimator under Interval Neutrosophic Data. **Paper** International Conference on Advances in Interdisciplinary Statistics and presentation Combinatorics. University of North Carolina Greensboro, October 7-9, 2022. Sampling on Two Successive Occasions using Single Auxiliary Variable for the Estimation of Population Mean held Malaysia 4<sup>th</sup> International Multidisciplinary Conference 14-17 April 2020. Development of Topp-Leone Exponentiated Generalized-Class of Exponential Distribution, 2nd International Conference on Statistical Sciences-2022, Applied Statistics & Sustainable Development Goals March 9-10, 2022 Monitoring of Particulate Matter (PM 2.5) using Control Charts in Urban Areas of Pakistan, 2nd International Conference on Statistical Sciences-2022, Applied Statistics & Sustainable Development Goals March 9-10, 2022 Predictive Regression Estimator for finite Population Mean using an Auxiliary Attribute, 2nd International Conference on Statistical Sciences-2022, Applied Statistics & Sustainable Development Goals March 9-10, 2022 The Exponential Quantile Regression-Ratio-Type Estimators for Robust Estimation of Population Mean in Survey Sampling, 2nd International Conference on Statistical Sciences-2022, Applied Statistics & Sustainable Development Goals March 9-10, 2022 Prevalence of Coronary Heart Disease in Adults, Punjab, Pakistan, 2nd International Conference on Statistical Sciences-2022, Applied Statistics &Sustainable Development Goals March 9-10, 2022 The Neutrosophic Ratio-type Exponential Estimators for Estimation of Population Mean under Interval Neutrosophic Data. Day-Long Virtual Conference on Latest Developments in the theory and practice of sample survey and censuses, March 12 -13, 2022 On Estimation And Monitoring Of Population Mean Using Sampling On Two Successive Occasions With Auxiliary Information, International Conference on Advances in Interdisciplinary Statistics and Combinatorics (AISC 2021) at the University of North Carolina Greensboro, October 8 –10, 2021 Factors of Water Scarcity in Lahore: A Barrier to Sustainable Development in Punjab, Pakistan, 3<sup>rd</sup> International Conference on Environment and Sustainable development (ICESD 2021) September 5-7, 2021. Sampling on Two Successive Occasions using Single Auxiliary Variable for the Estimation of Population Mean held Malaysia 4th International Multidisciplinary Conference 14-17 April 2020. Efficient Monitoring of Process Mean Using Exponentially Weighted Moving Average Control Charts, Designed with Ratio Estimators under Ranked Set Sampling. International Conference on Advances in Interdisciplinary Statistics and Combinatorics (AISC 2018). University of North Carolina Greensboro, October 5-7,2018. **Travel Grants** Presentation of Research Paper in International Conference, Funded by PHEC, 2018, USA Presentation of Research Paper in International Conference, Funded by PHEC, 2022, USA International Chair one session in International Conference on Advances in Interdisciplinary Statistics and Combinatorics (AISC 2018) held at the University of North Carolina Conference Chair Greensboro October 5, 2018

Jury	• International Conference on Advances in Interdisciplinary Statistics and		
member for	Combinatorics (AISC 2022) held at the University of North Carolina Greensboro		
International	October 7, 2022		
best paper Book Chapters	Neutrosophic Regression cum Ratio Estimators for the Population Mean: An		
Evaluated	Application in Medical Science, Elsevier, Jan 14, 2022		
Editor of an	CI LATI		
Academic	Chief Editor		
Journal	Journal of Statistics GC University, Lahore, Volume 24, 2017		
International	Asian Research Journal of Mathematics		
Reviewer			
Keviewei	Journal of Reliability and Statistical Studies  A statistical Studies		
	Journal of Statistical Computation and Simulation		
	BMC Public Health		
	Mathematical Population Studies: An International Journal of Mathematical		
	Demography		
	Journal of Statistical Theory and Practice		
	Sequential Analysis		
	Mathematical Population Studies: An International Journal of Mathematical		
	Demography		
	Research in Statistics		
	• Statistics		
	Statistics		
Assessment	Member self-assessment of Mphil Program, Department of Geography		
Team for the	<ul> <li>Member of the Department of Statistics at Forman Christian College (A Chartered</li> </ul>		
self-assessment	University) Lahore of BS Program		
QEC	Member of the Department of Statistics at Mirpur University of Science &		
	Technology (MUST), Mirpur AJ&K		
Conference	International Conference on Statistical Sciences with special reference to survival		
organized as	data analysis, November 7-8, 2007		
Focal Person	• 2 <sup>nd</sup> International Conference on Statistical Sciences 2022: Applied Statistics and		
	Sustainable Development Goals, March 9-10, 2022		
National	• 1st National Conference on Statistical Sciences 18th October 2003 held in GC		
Conference	University, Lahore		
paper	• 1 <sup>st</sup> International Conference on Statistics and Operation Research 2006 from 3 <sup>rd</sup>		
presentation	April to 5 <sup>th</sup> April 2006 held in Punjab University		
	• International conference on Statistical Sciences with special reference to survival		
	data analysis from 7 <sup>th</sup> -8 <sup>th</sup> November 2007 held in GC University, Lahore		
	• 5 <sup>th</sup> International conference on Statistical Sciences Mathematics, Statistics and		
	Application held in ISOSS from Jan 23 <sup>rd</sup> to 25 <sup>th</sup> 2009.		
	• 2 <sup>nd</sup> International Conference on Statistics and Actuarial Sciences 2010 from 25 <sup>th</sup>		
	November to 27 <sup>th</sup> November 2010 held in Punjab University		
	• 6 <sup>th</sup> International conference on Statistical Sciences Mathematics, Statistics and Application 2011 held in ISOSS from Jan 23 <sup>rd</sup> to 25 <sup>th</sup> 2011.		
	<ul> <li>Application 2011 field in ISOSS from Jan 23 to 23 2011.</li> <li>7th International Conference on World Statistics Day 2012 from 21st – 22nd October</li> </ul>		
	held in Superior University Raiwind Road Lahore		
	• 3 <sup>rd</sup> International conference on Statistical Sciences from 25 <sup>th</sup> -27 <sup>th</sup> November 2010		
	held in Punjab University		
	nera mir anjao omrenonj		

Poster Competition	<ul> <li>8<sup>th</sup> International conference on Recent Advances in Statistics "Statistics, Biostatistics and Econometrics" held in NCBA&amp;E from 8<sup>th</sup>-9<sup>th</sup> February 2011</li> <li>Kinnaird Multidisciplinary Research Conference (KMRC 2013) held in Kinnaird from 18<sup>th</sup>-19<sup>th</sup> November 2013.</li> <li>Factors Effecting on road accidents: A Case Study Lahore 2014. Won 3<sup>rd</sup> position 20<sup>th</sup> October 2015 held in GC University, Lahore</li> <li>Generalized Estimators for Population Variance in Survey Sampling. Won 5<sup>th</sup> position 9<sup>th</sup> December 2015 held in COMSATS. Lahore</li> </ul>		
Project	<ul> <li>position 9<sup>th</sup> December 2015 held in COMSATS, Lahore</li> <li>Exponentially Weighted Moving Average Charts Using Ratio Estimator Based On</li> </ul>		
	<ul> <li>Ranked Set Sampling. Approved in ORIC GC University, Lahore (PI), 100,000 completed</li> <li>On the improvement and design of EWMA and DEWMA control charts for zero and steady-state conditions (PI), 200,000 accepted</li> </ul>		
Co-Advisor	<ul> <li>Youth Development Centre</li> <li>Peace Society</li> </ul>		
Jury Member	2 <sup>nd</sup> COMSATS Statistical Poster Competition 2017		
Selected Professional Presentations	<ul> <li>On designing EWMA charts using Neutrosophic Ratio-type Exponential estimators under interval data for monitoring the location of normal processes. 1st PISTAR Global Statistics Conference 2023 held on January 2023</li> <li>Strengths and Weakness of Teachers Involved in Higher Education (A case study) Presented at HEC</li> <li>Imaging of Tuberculosis spondylitis in Pakistan</li> <li>Modified Murthy Estimator of population total in unequal probability sampling. 1st National Conference on Statistical Sciences 18th October 2003 held in GC University, Lahore</li> </ul>		
Role in Institutional Development	<ul> <li>Incharge Department of Statistics GC University, Lahore, July 27,2017 to June 20, 2018</li> <li>Incharge University Identity Card, July 27, 2017 to October 30, 2021</li> <li>HEC Approved PhD Supervisor, 30-01-2020 to date</li> <li>Member PhD. Admission committee, 2020 to date</li> <li>Member Departmental Board of Study, 2019 to date</li> <li>Focal person online Admission, October 2021 to date</li> <li>Departmental Controller of Examination, 2002 to date</li> <li>Mphil Coordinator, 2013-2017</li> <li>BS Self Supporting Programme coordinator, July 1, 2021 to date</li> <li>Member Board of Faculty, 2021 to date</li> <li>Member Board of Study of Virtual University, 2021 to date</li> <li>Member Selection board of Virtual University</li> </ul>		

Attended	Title	Period	Organized By
Seminars	10, 200		
Academic Talks/ Seminar as Resource person	<ul> <li>On designing EWMA charts using Neutrosophic Ratio-type Exponential estimators under interval data for monitoring the location of normal processes. 1<sup>st</sup> PISTAR Global Statistics Conference 2023 held on January 2023</li> <li>Exponential weighted moving average control charts, designed with ratio estimators under ranked set sampling, presented at the Department of Statistics Virtual University, June 20, 2019</li> <li>Strengths and Weakness of Teachers Involved in Higher Education (A case study), Presented at HEC, 2006</li> <li>Unequal Probability Sampling, Higher Education, GC University Lahore, May 10-15, 2004</li> </ul>		
Arranged international speaker for the seminar as Focal person	<ul> <li>Seminar on Big Data: Post Selection Learning in Big Data         Professor Dr. Ejaz Ahmad         Brock University, Canada         October 6, 2017     </li> <li>Seminar on Practicing Statistics         Professor Dr. Sat Gupta         University of North Carolina at Greensboro         December 15, 2017     </li> </ul>		

Title	Period	Organized By
Research workshop on A study of environmental factors that could cause events such as the disastrous Indus River Flood of 2022 by Prof. Don McNeil	June 23, 24 &26 ,2023	PISTAR, Bureau of Statistics Punjab Lahore
Data Visualization with Excel	21st Jan 2023	ISSOS, PISTAR
Workshop on Python	21st Feb 2021	Superior University, Lahore
One day international seminar on Statistical sciences	June 20, 2019	Virtual University
Seminar in Contribution of HEC	January 4, 2018	GC University, Lahore
World Statistics Day 2017	October 20, 2017	Statistics Society, GC University, Lahore
Seminar on Women-on-Wheels	December 13, 2017	Chief Minister's Office
Training Workshop on Outcome Based Education (OBE) in Higher Education Institutes	November 20-22, 2017	QEC, GC University, Lahore
Breast Carcinoma Awareness Campaign	October 17, 2017	Shaukat Khanum Memorial Cancer Hospital and Research Centre
Seminar on Big Data: Post Selection Learning in Big Data	October 6, 2017	Statistics Society, GC University, Lahore
Workshop on HELP ( Higher Education Learning Portal)	August 16, 2017	GC University, Lahore

 		1
3 <sup>rd</sup> All Pakistan Inter collegiate and Inter Universities Quiz Competition 2017	May 10, 2017	Ravian Quiz Society, GC University, Lahore
Workshop on Career Development	March 17, 2017	Statistics Society, GC University, Lahore
Seminar on women Empowerment in Islam	March 14, 2017	Majlis e Uloom e Islamiah GC University, Lahore
Women's Day	March 8, 2017	Government of Pakistan
World Statistics Day	October 20, 2016	Statistics Society Department of Statistics
Poster Competition	December 8, 2015	COMSATS University, Lahore
World Statistics Day	October 20, 2015	Statistics Society Department of Statistics
Seminar on Survey Sampling (Dr. M Hanif)	April 3, 2015	Statistics Society Department of Statistics
Workshop on Best Research Practices (Western Perspective)	August 21, 2014	Kinnaird College for Women, Lahore
Mental Health Week (Humorous Day)	April 30, 2014	Department of Psychology GC University, Lahore
Statistical Modeling: Some Issues and Solutions	April 18, 2014	Statistics Society Department of Statistics GC University, Lahore
Conference on Recent Advances in Mathematical Methods, Models & Applications	April 19-20, 2014	Centre for Mathematics & Statistical Sciences Lahore School of Economics, Lahore, Pakistan
Youth in the Eyes of Iqbal By IG Motorways and DIG Operations Lahore	March 19, 2014 Lecture	Majlis-E-Iqbal GC University, Lahore
International World Women Day	March 8, 2014	Government of Punjab
Prevention and Treatment of Cancer (World Cancer Day)	February 4, 2014 (Lecture)	GC University, Lahore.
Workshop Training of Pakinfo User Module for Faculty Development	February 3-4, 2014 (Workshop)	Statistics Society Department of Statistics GC University, Lahore
Spiritual Relief by Matching of Counts	December 10, 2013 (Lecture)	Statistics Society Department of Statistics GC University, Lahore
One day Training of presiding officer	April 21, 2013 (Training)	Election Commission of Pakistan
Seminars on Dengue Preventions	August 18, March 3 and November 11, 2013 February 24, November 20, 2012	GC University, Lahore
Make a Difference one step at a time "Walk-A-Thon.	November 20, 2013	Statistics Society, GC University, Lahore

	Turnitin (Anti-Plagarism	April 19, 2013	Quality Enhancement Cell,
	Software)	(Workshop)	GC University, Lahore
	SKMCH Hold Cancer Awareness	October 15, 2012	Quality Enhancement Cell,
	Drive (Pink Ribbon Campaign)	November 11, 2013	GC University, Lahore
	In Service Teacher's Training Programme For Newly Inducted Faculty Members	September 3-6, 2012	Quality Enhancement Cell, GC University, Lahore.
	Acceptance Sampling Plans by Dr. Muhammad Aslam	11 April 2011	Department of Statistics, GC University Lahore
	Data Collection and Survey Plan (Mr. Shamim Rafiq, DG BOS, Punjab)	September 9, 2011	Department of Statistics, GC University Lahore
	International Conference on Statistical Science with Special Reference to Survival Analysis	November 7-8, 2007	Department of Statistics GC University, Lahore
Google	https://scholar.google.com/citations?hl=en&view_op=list_works&gmla=AJsN-		
Scholar ID	F7oDu6_rkOOW6imMkD_tlIx8IoEgS8ujUN8yzx2neKg3L7QgW7ka1q-udPmvI_I6XeeEfEVbF3jQeSOiVExnzqc8_dnew&user=eaUemcsAAAAJ		