

# CURRICULUM VITAE

## Farhat Iqbal

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### CONTACT

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Scopus Author ID: 37023134400

Google Scholar link: <https://scholar.google.com/citations?user=zxQ61S8AAAAJ&hl=en>

### EDUCATION

- Post Doctorate. 2016. University of Sheffield, UK. Supervisor: Dr. Kostas Triantafyllopoulos.
- Ph.D. Statistics. 2010. University of Lancaster, UK. Thesis: "Contributions to Conditional Heteroscedastic Models: M-estimation and other methods". Supervisor: Dr. Kanchan Mukherjee.
- Masters in Computer Science. 2004. University of Balochistan, Quetta, Pakistan.
- Post Graduate Diploma in Information Technology (PGD-IT). 2002. COMSATS Institute of Information Technology, Islamabad. Pakistan.
- M.Sc. Statistics. 1999. University of Balochistan, Quetta, Pakistan.
- B.Sc. Statistics, Mathematics, Physics. 1996. University of Balochistan, Quetta, Pakistan.

### RESEARCH INTERESTS

- Univariate and Multivariate Volatility Models.
- Robust Inference
- Bootstrap Methods for Time Series.
- Risk Estimation and Prediction.
- Biostatistics.
- Machine Learning

### ACADEMIC EXPERIENCE

#### **Academic Positions**

- April 2016 – Present: Associate Professor, Department of Statistics, University of Balochistan, Quetta, Pakistan.
- March 2010 – April 2016: Assistant Professor, Department of Statistics, University of Balochistan, Quetta, Pakistan.
- August 2003 – March 2010: Lecturer, Department of Statistics, University of Balochistan, Quetta, Pakistan.

## MANAGERIAL / ADMINISTRATIVE / PROFESSIONAL EXPERIENCE

- **Editorial Board Member:** *Applied Economics and Finance, Financial Statistical Journal*
- **Reviewer:** *Technometrics; Journal of Applied Statistics; Computational Economics; Journal of Statistical Computation and Simulation; Pakistan Journal of Statistics; International Journal of Physical Sciences; International Journal of Management, Statistics and Social Sciences; Pakistan Journal of Statistics and Operations Research, The Nucleus, Indian Journal of Science and Technology, Veterinary and Animal Science, Journal of Sustainability Science and Management*

### **University of Balochistan, Quetta**

- Registrar, University of Balochistan, Quetta. (since November 01, 2021)
- Chairperson, Department of Statistics, University of Balochistan, Quetta. (October 14, 2020, to November 10, 2021)
- Member Graduate Studies Monitoring Committee (since September 2021)
- Member, Tenure Track Statutes Committee (since 2018)
- M.Phil and Ph.D. Research Coordinator, Department of Statistics (since 2019)
- M.Sc. Coordinator, Department of Statistics (2017 – 2018)
- Director, Quality Assurance Directorate, University of Balochistan, Quetta. (December 2014 – May 2015)
- Member Advanced Research and Research Board, University of Balochistan, Quetta. (2013 – 2015)
- Coordinator, Virtual Education Project Pakistan. (since 2010)
- M.Phil Research Coordinator, Department of Statistics (2010 – 2014)
- Head, Department Research Committee for M.Sc Statistics Student. (2010 – 2012)
- Program Coordinator, Quality Enhancement Cell (prepare and monitor Self-Assessment Report for the Programs of Statistics Department). (since 2010)
- Member, Department Curriculum Committee (prepare BS, M.Sc, M.Phil. and Ph.D course work)

## COURSES TAUGHT

### **Teaching at University of Balochistan, Pakistan:**

#### **Ph.D courses:**

##### *Department of Statistics*

- Advanced Statistical Analysis using R
- Applied Spatial Statistics

#### **M.Phil courses:**

##### *Department of Statistics*

- Computer Applications
- Biostatistics
- Time Series and Forecasting
- Applied Multivariate Analysis
- Financial Times Series Analysis
- Bayesian Statistical Methods

##### *Department of Microbiology*

- Biostatistics

*Department of Pharmacy*

- Biostatistics

*Department of Commerce*

- Research Methods

**MA/M.Sc. courses:**

*Department of Statistics*

- Statistical Methods
- Probability and Probability Distributions
- Statistical Inference
- Regression Analysis and Econometrics
- Data Processing and Statistical Computing
- Operations Research
- Mathematical Methods for Statistics

*Department of Social Work (MA courses):*

- Social Research and Statistics

*Department of Computer Science (BS/MCS courses):*

- Mathematical Methods
- Discrete Mathematics
- Statistics and Probability
- Web Programming
- Object Oriented Programming

**BS courses:**

- Probability Distributions – I
- Probability Distributions – II
- Statistical Inference – I
- Statistical Inference – II
- Introduction to Probability and Probability Distributions
- Introduction to Regression and Analysis of Variance

**Tutoring at Lancaster University, UK:**

- MATH101: Calculus
- MATH102: Integration
- MATH141: Algebra, Graphs and Elementary Complex Numbers
- MATH142: Determinants, Vectors and Further Complex Numbers
- MATH220: Linear Algebra
- MATH471: Time Series

**COMPUTER SKILLS**

- Computing platforms: Windows 10
- MS Office: Word, Excel, PowerPoint, Access
- Statistical Packages: Matlab, R, Python, S-Plus, Minitab, SPSS, Stata, Statistica, EViews, OxMetrics
- Programming Languages: Python, FORTRAN, C, C++, Java, Visual Basic
- Online Learning Environments: Learning Management Systems

## PUBLICATIONS

1. Shabir, M., Chand, S., and **Iqbal, F.** (2022). Bagging-based ridge estimators for linear regression model with non-normal and heteroscedastic errors. *Communications in Statistics – Simulation and Computation*. <https://doi.org/10.1080/03610918.2022.2109675>. (Q3)
2. Zahid, M., **Iqbal, F.**, Raziq, A., and Sheikh, N. (2022). Modeling and Forecasting the Realized Volatility of Bitcoin Using Realized HAR-GARCH-type Models with Jumps and Inverse Leverage Effect. *Sains Malaysiana*. 51(3): 929-942. (Q4)
3. Shabir, M., Chand, S., and **Iqbal, F.** (2022). A Novel Hybrid Method for River Discharge Prediction. *Water Resources Management*. 36: 253-272 <https://doi.org/10.1007/s11269-021-03026-8>.
4. **Iqbal, F.**, Raziq, A., Huma, Z.E., and Khan, M.A. (2021). An application of least square support vector machine model with parameter optimization for predicting body weight of Harnai sheep breed. *Turkish Journal of Veterinary and Animal Sciences*. 45: 716-725. DOI: 10.3906/vet-2009-105. (Q4)
5. Faraz, A., Waheed, A., Tauqir, N.A., Ishaq, H.M., **Iqbal, F.**, and Huma, Z.E. (2021). Feedlot Performance and Serum Profile of Buffalo (*Bubalus Bubalis*) Calves Under High Input Feeding Systems. *Buffalo Bulletin*. 40(2): 325-333. (Q4)
6. **Iqbal, F.**, Eyduran, E., Ali, M., Raziq, A., Huma, Z.E., Tirnik, C., and Sevgenler, H. (2021). Modeling and Predicting the Growth of Indigenous Harnai Sheep in Pakistan: Non-linear Functions and MARS Algorithm. *Tropical Animal Health and Production*. 53:248. (Q2)
7. **Iqbal F.**, Waheed, A., Huma, Z.E. and Faraz, A. (2021). Comparing the predictive ability of machine learning methods in predicting the live body weight of Beetal goats of Pakistan. *Pakistan Journal of Zoology*. 54(1):1-8. DOI: <https://dx.doi.org/10.17582/journal.pjz/20191003081007>. (Q4)
8. **Iqbal, F.** and Triantafyllopoulos, K. (2021). Bayesian inference of multivariate rotated GARCH models with skew returns. *Communications in Statistics – Simulation and Computation*, 50(10): 3105-3123. DOI:10.1080/03610918.2019.1620272. (Q3)
9. Yaqoob, M., **Iqbal, F.** and Zahir, S. (2020). Comparing predictive performance of *k*-nearest neighbors and support vector machine for predicting ischemic heart disease. *Research Journal in Advanced Sciences*, 1(2). <https://royalliteglobal.com/rjas/article/view/391>
10. Sengul, T., Celik, S., Eyduran, E. and **Iqbal, F.** (2020). Predicting egg production in Chukar partridges using nonlinear models and multivariate adaptive regression splines (MARS) algorithm. *European Poultry Sciences*. 84:1 – 12. DOI: 10.1399/eps.2020.302. (Q4)
11. Zahid, M. and **Iqbal, F.** (2020). Modeling the Volatility of Cryptocurrencies: An Empirical Application of Stochastic Volatility Models. *Sains Malaysiana*, 49(3): 703 – 712. DOI: 10.17576/jsm-2020-4903-25. (Q4)
12. Farid, S. and **Iqbal, F.** (2020). Forecasting Value-at-Risk of Asian Stock Markets Using the RDCC-GARCH Model Under Different Distributional Assumptions. *The Journal of Middle East and North Africa Sciences*, 6(02), 1-10.
13. **Iqbal, F.**, Ali, M., Huma, Z.E., and Raziq, A. (2019). Predicting the live weight of Harnai sheep through penalized regression models. *The Journal of Animal & Plant Sciences*. 29(6): 1541 – 1548. (Q4)
14. **Iqbal, F.**, Eyduran, E., Mikail, N., Sariyel, V., Huma, Z.E., Aygun, A. and Keskin, I. (2019). A Bayesian Approach for Describing the Growth of Chukar Partridges. *European Poultry Sciences*. 83:1 – 10. DOI: 10.1399/eps.2019.284. (Q4)
15. Huma, Z.E. and **Iqbal, F.** (2019). Predicting the body weight of Balochi sheep using machine learning approach. *Turkish Journal of Veterinary and Animal Sciences*. 43: 500 – 506. DOI: 10.3906/vet-1812-23. (Q4)

16. **Iqbal, F.**, Waheed, A. Huma, ZE. and Faraz, A. (2019). Nonlinear Growth Functions for Body Weight of Thalli Sheep Using Bayesian Inference. *Pakistan Journal of Zoology*, 51(4): 1421 – 1428. (Q4)
17. **Iqbal, F.**, Tariq, M.M., Eydurán, E., Huma, ZE., Waheed, A., Bukhari, F.A., Ali, M., Rashid, N., Rafeeq, M., Ullah, A. and Mustafa, Z. (2019). Fitting Nonlinear Growth Models on Weight in Mengali Sheep Through Bayesian Inference. *Pakistan Journal of Zoology*, 51(2): 459 – 466. DOI: <http://dx.doi.org/10.17582/journal.pjz/2019.51.2.459.466>. (Q4)
18. Bibi, A., Kakar, A., Shahwani, F. and **Iqbal, F.** (2019). Frequency of anemia in pregnant women of different age groups at Quetta: A hospital-based cross sectional study. *Pure and Applied Biology*, 8(2): 1043 – 1050.
19. **Iqbal, F.** and Raziq, A. (2018). Crude oil price-exchange rate nexus in Pakistan. *Financial Statistical Journal*, 1(2): 1 – 7.
20. Samiullah, M. and **Iqbal, F.** (2018). Statistical Analysis of the Rainfall Trend for the Nari River Basin of Balochistan. *International Journal of Current Research*, 10(04): 67576 – 67582.
21. Noor, N. and **Iqbal, F.** (2018). A Study on Robust Estimators for Generalized Autoregressive Conditional Heteroscedastic Models. *International Journal of Economics, Business and Management Research*. 2(01): 9 – 27.
22. Nisa, G. and **Iqbal, F.** (2018). Bootstrapping the Li-Mak and McLeod-Li Tests for GARCH Models. *The Journal of Middle East and North Africa Sciences*. 4(01): 32 – 38.
23. Karadas, K., Celik, S., Hopoğlu, S., Eydurán, E. and **Iqbal, F.** (2017). New Agricultural Politics in Turkey: The Econometric Assessment of Cotton Production and Yield 1925 – 2015. *The Journal of Animal and Plant Sciences*. 27(3): 1005 – 1014. (Q4)
24. Ullah, H., Nafees, M., **Iqbal, F.**, Awan, M.S., Shah, A. and Waseem, A. (2017). Absorption Kinetics of Malachite Green and Methylene Blue from Aqueous Solutions Using Surfactant-modified Organoclays. *Acta Chimica Slovaca*. 64(2):449 – 460. DOI: 10.17344/acsi.2017.3285. (Q3)
25. Raziq, A., **Iqbal, F.** and Talpur, G.H. (2017). Effects of Additive Outliers on Asymmetric GARCH Models. *Pakistan Journal of Statistics*. 33(1): 63 – 74.
26. **Iqbal, F.** (2017). Robust Value-at-Risk Forecasting of Karachi Stock Exchange. *Afro-Asian Journal of Finance and Accounting*. 7(2): 130 – 146. DOI: 10.1504/AAJFA.2017.084222
27. **Iqbal, F.** (2016). Risk Forecasting of Karachi Stock Exchange: A Comparison of Classical and Bayesian GARCH Models. *Pakistan Journal of Statistics and Operations Research*. XII(3): 453 – 465. DOI: 10.18187/pjsor.v12i3.1136
28. **Iqbal, F.** (2016). Forecasting Volatility and Value-at-Risk of Pakistan Stock Market with Markov Regime-Switching GARCH Models. *European Journal of Natural and Social Sciences*. 5(1): 172 – 189.
29. **Iqbal, F.** (2016). Risk Estimation of Karachi Stock Exchange via Conditional Autoregressive Value-at-Risk by Regression Quantiles. *The Nucleus*, 53(2): 128 – 133.
30. Faheem, N., Sajad, A., Mehmood, Z., **Iqbal, F.**, Mehmood, Q., Munsif, S. and Waseem, A. (2015). The Pesticide Exposure Through Fruits and Meat in Pakistan. *Fresenius Environmental Bulletin*. 24(12): 4555 – 4566. (Q4)
31. Asmatullah-Kakar., Anwar, M., Kamran, K. and **Iqbal, F.** (2015). Chemical Control of Coding Moth *Cydia pomonella* L. (Lepidoptera: Tortricidae) in Relation to Pheromone Trap Catches and Degree Days in Upland Balochistan. *Pakistan Journal of Zoology*. 47(2): 297 – 305. (Q4)
32. Waseem, A., Arshad, J. **Iqbal, F.**, Sajjad, A., Mehmood, Z. and Murtaza, G. (2014). Pollution Status of Pakistan: A retrospective review on heavy metal contamination of water, soil and vegetables. *BioMed Research International*. (<http://dx.doi.org/10.1155/2014/813206>). (Q2)

33. **Iqbal, F.** and Chand, S. (2014). Modelling the monthly and Annual Temperature Series of Quetta, Pakistan. *Pakistan Journal of Statistics and Operation Research*. 10(4): 361 – 368. DOI: 10.18187/pjsor.v10i4.806
34. **Iqbal, F.**, Jafri, Y.Z., Siddiqi, A.R. and Sabir, M.A. (2014). Determining Risk Factors for Ischemic Heart Disease using Logistic Regression and Classification Tree. *SYLWAN*. 158(6): 69 – 87. (Q4)
35. **Iqbal, F.** (2013). Robust Estimation of the Simplified Multivariate GARCH Model. *Empirical Economics*. 44(3): 1353 – 1372. DOI: 10.1007/s00181-012-0588-y. (Q3)
36. **Iqbal, F.** (2013). Diagnostic Checking for GARCH-type Models. *Communications in Statistics – Theory and Methods*. 42(6): 934 – 953. DOI: 10.1080/03610926.2011.588366. (Q4)
37. **Iqbal, F.** (2013). Robust Estimation for the Orthogonal GARCH model. *The Manchester School*. 81(6): 904 – 924. DOI: 10.1111/j.1467-9957.2012.02315.x. (Q4)
38. **Iqbal, F.** and Chand, S. (2013). Efficient Bootstrap Forecast Intervals for Return and Volatility Using the Linear Estimator of ARCH Models. *Middle-East Journal of Scientific Research*. 14(11): 1502 – 1507. DOI: idosi.mejsr.2013.14.11.2164
39. **Iqbal, F.**, Jafri, Y.Z. and Talpur, G.H. (2013). Diagnostics of GARCH-Type Models under Symmetric and Asymmetric Errors. *Sindh University Research Journal (Science Series)*. 45 (3): 529 – 533.
40. Eydurán, E., Waheed, A., Tariq, M.M., **Iqbal, F.** and Ahmad, S. (2013). Prediction of Live Weight from Morphological Characteristics of Commercial Goat in Pakistan Using Factor and Principal Component Scores in Multiple Linear Regression. *The Journal of Animal & Plant Sciences*. 23(6): 1532 – 1540. (Q4)
41. **Iqbal, F.** (2013). Diagnostic Test for GARCH Models Based on Absolute Residual Autocorrelations. *Pakistan Journal of Statistics and Operation Research*. 9(2): 171 – 180. DOI: 10.18187/pjsor.v9i2.612
42. Tariq, M.M., **Iqbal, F.**, Eydurán, E., Bajwa, M.A, Huma, ZE. and Waheed, A. (2013). Comparison of Non-Linear Functions to Describe the Growth in Mengali Sheep Breed of Balochistan. *Pakistan Journal of Zoology*. 45(3): 661 – 665. (Q4)
43. Tariq, M.M., Eydurán, E., Bajwa, M.A., Waheed, A., **Iqbal, F.** and Javed, Y. (2012). Prediction of Body Weight from Testicular and Morphological Characteristics in Indigenous Mengali Sheep of Pakistan: Using Factor Analysis Cores in Multiple Linear Regression Analysis. *International Journal of Agriculture and Biology*, 14: 590 – 594. (Q2)
44. **Iqbal, F.** and Mukherjee, K. (2012). A Study of Value-at-Risk Based on M-Estimators of the Conditional Heteroscedastic Models. *Journal of Forecasting*, 31: 377 – 390. DOI: 10.1002/for.1224. (Q2)
45. Khan, A., Ahmed, Z., Nazir, K., Khan, M.N., **Iqbal, F.** and Khan, T.A. (2011). A study on the perception evaluation of Pakistani population against influenza A (H1N1). *International Journal of Biology and Biotechnology*, 8(3): 427-432.
46. **Iqbal, F.** (2011). A Weighted Resampling for the Linear Estimator of ARCH Model. *Journal of Statistics*, 18: 1 – 9.
47. **Iqbal, F.** (2011). A Weighted Linear Estimator of Multivariate ARCH Parameters. *Communications in Statistics – Simulation and Computation*. 40(4): 544 – 560. DOI: 10.1080/03610918.2010.546544. (Q3)
48. **Iqbal, F.** and Mukherjee, K. (2010). M-estimators for some GARCH-type models; Computation and application. *Statistics and Computing*. 20(4): 435 – 445. DOI: 10.1007/s11222-009-9135-x (Q1)
49. **Iqbal, F.** and Jafri, Y.Z. (2010). The accuracy of the Linear Estimator for ARCH Model. *Science International (Lahore)*, 22(2), 113 – 118.
50. Jafri, Y.Z., Kamal, L., **Iqbal, F.**, Pasha, G.R. and Aslam, M. (2007). Regression and Regression Analysis Time Series Prediction Modelling on Climate Data of Quetta, Pakistan. *Science International (Lahore)*, 19 (2), 97 – 103.

## WORKING PAPERS / TECHNICAL REPORTS

1. Eyduran, E., Waheed, A., Tariq, M.M., **Iqbal, F.**, Akin, M., and Celik, S. (2019). Use of factor analysis scores in multiple linear regression analysis in agricultural sciences.
2. Eyduran, E., **Iqbal, F.**, Sevgenler, H., and Akin, M. (2018). Sample R codes on Goodness of fit criteria and the coefficients' significance test for Multivariate Adaptive Regression Splines.
3. **Iqbal, F.** (2008). 'Weighted Resampling for M-estimators'. Technical Report, Department of Mathematics and Statistics, Lancaster University, UK.
4. **Iqbal, F.** and K. Mukherjee (2007). 'Computation of M-Estimates in GARCH models'. Technical Report, Department of Mathematics and Statistics, University of Liverpool, UK.

## CONFERENCES / WORKSHOPS / TRAININGS (Attended)

1. International Conference on Pharmaceutical Sciences, at University of Balochistan, Quetta: September 26 – 27, 2018.
2. Applied Mathematics Seminar at Department of Mathematics, University of Balochistan, Quetta: November 16 – 17, 2017.
3. 6<sup>th</sup> International and 15<sup>th</sup> National Conference on "Dynamic Trends in Plant Science- Fostering Environment and Food Security", at SBK Women's University, Quetta: May 9 – 11, 2017.
4. Five (05) Day Training / Workshop on "Financial Management" Under Higher Education Commission Islamabad Modern University Governance Program, 4<sup>th</sup> Indigenous On-Campus Training (IOT) held at University of Balochistan, Quetta: November 18 – 22, 2014.
5. Online workshop on 'How to Write Scientific Manuscripts for High Impact Factor Journals?' organized by L.E.J National Science Information Center under the Virtual Education Project Pakistan (VEPP) and Higher Education Commission, Pakistan: July 23, 2011.
6. 'Workshop on Survey Data Analysis' at the Institute for Social and Environmental Research-Nepal, Fulbari, Chitwan, in collaboration with the Population Studies Center at the University of Michigan, USA: May 30 – June 03, 2011.
7. The 3<sup>rd</sup> Advanced Specified Course for Master Trainers Faculty Professional Development Program Alumni on Advanced Communication Skills at HEC Regional Centre, Lahore: June 21 – 25, 2010.
8. The 32<sup>nd</sup> Annual Research Students' Conference in Probability and Statistics (RSC 2009) at Lancaster University, UK: March 23 – 26, 2009.
9. Academy for PhD Training in Statistics (APTS) Week 4 at University of Glasgow, UK: September 1 – 5, 2008.
10. Academy for PhD Training in Statistics (APTS) Week 3 at Bristol University, UK: July 7 – 11, 2008.
11. Academy for PhD Training in Statistics (APTS) Week 2 at University of Oxford, UK: April 7 – 11, 2008.
12. International Computer Driving License (ICDL) at HEC Islamabad: October, 2005.
13. A Three months certificate course in Teaching & Learning in Higher Education organized by Learning Innovation Division, Higher Education Commission at HEC Islamabad: June 27 – September 24, 2005.
14. In-Service Training Course in Mathematics organized by The Training Section, Higher Education Commission at University of Balochistan, Quetta: November 22 – 27, 2004.

15. A course on “E-commerce for Developers” from Beacon-House Informatics, Islamabad: June, 2002.
16. A course on “Office Automation and Business Management Software Tools” from WAPDA Computer Training Institute, Quetta: 1998.

### WORKSHOPS / TRAININGS (Conducted)

1. Consultative Workshop on “Capacity Needs Assessment (CAN) of Bureau of Statistics (BoS) Balochistan & Statistical Cells in Line Departments for Implementation of 2030 Agenda (SDGs) in Balochistan” at University of Balochistan, Quetta: December 30, 2020.
2. Workshop on “Research Methodology” conducted by FTDC, University of Balochistan with the collaboration of HEC held at University of Balochistan, Quetta, from April 04 – 06, 2017.
3. “HEC Policy Guidelines For the Implementation of Uniform Semester Examination System” at University of Balochistan, Quetta, from June 03 – 04, 2015.
4. Professional Competency Enhancement Program For Teachers (PCEPT) at University of Balochistan, Quetta, Pakistan, from June 10 – July 02, 2013. Four days on ‘Research Methods and Skills’ module.
5. Workshop on “Research Methodology & Skills” organized by Directorate of Quality Assurance & Accreditation, Sardar Bahadur Khan Women’s University Quetta, Pakistan, from July 11 – 14, 2012.
6. Workshop on “Quantitative Data Analysis” held at Sardar Bahadur Khan Women’s University Quetta, Pakistan, from April 26 – 28, 2012.
7. “Workshop on SPSS for Research Development” held at Sardar Bahadur Khan Women’s University Quetta, Pakistan, from April 16 – 19, 2012.
8. Workshop on “Statistical Analysis Using SPSS” for researchers held at the University of Balochistan, Quetta, Pakistan, from April 12 – 14, 2011.
9. Workshop on “Research Methodology: Quantitative Research Methods” held at the University of Balochistan, Quetta, Pakistan, from March 29 – 31, 2011.
10. Workshop on “Statistical Analysis Using SPSS” for researchers held at the University of Balochistan, Quetta, Pakistan, from October 26 – 28, 2010.

### INVITED TALKS / CONFERENCES / SEMINARS

1. Seminar on “Diversities of Mathematics” at Sardar Bahadur Khan Women’s University, Quetta, April 25, 2019.
2. “Robust Methods for ARCH/GARCH Models” at The 32<sup>nd</sup> Annual Research Students’ Conference in Probability and Statistics (RSC 2009) at Lancaster University, UK (2009).

### PROJECTS

1. Technical Specialist: Capacity Needs Assessment (CNA) of Bureau of Statistics (BoS) Balochistan & Statistical Cells in Line Departments for Implementation of 2030 Agenda (SDGs) in Balochistan. September 2020 – January 2021. Donor: UNDP. Amount: Rs. 1.3M



## MEMBER/ HONORS / AWARDS

- Member, Asian Council of Science Editors.
- Member National Curriculum Review Committee for Statistics, Higher Education Commission, Pakistan.
- SATHA Innovation Award, 2<sup>nd</sup> Invention to Innovation Summit (2017), Balochistan.
- Best Teacher Award (2016), Academic Staff Association, University of Balochistan, Quetta.
- Higher Education Commission Fellowship for Post Doctorate in UK (2015).
- Approved Supervisor of Statistics by the Higher Education Commission, Pakistan.
- Member, Higher Education Commission Ranking Criteria Review Committee 2014.
- Member, Advanced Studies and Research Board, University of Balochistan, Quetta (2014).
- University of Balochistan Scholarship for Ph.D. studies in UK (2007-2010).
- First Position in MCS (2004).
- First Position in PGD-IT (2002).
- Government of Balochistan Scholarship for PGD-IT studies in COMSATS Institute of Information Technology Islamabad (2001).
- First Position in MSc Statistics (1999).

## SUPERVISION

### **Ph.D.**

#### *In Progress:*

1. Mamoona Zahid: *Essays on Empirical Analysis of Volatility and Risk of Cryptocurrencies.*
2. Maha Shabbir: *Estimation Problems in Supervised Machine Learning: Development of Novel Hybrid Methods and Ridge Estimators.* (Co-Supervisor)
3. Rehan Kausar: *Forecasting the Price, Volatility and Risk of Pakistan Exchange Rate Using Hybrid Deep Learning Methods.*

### **M.Phil.**

#### *Completed:*

1. Muhammad Yaqoob. (2020). *Determining Risk Factors for Ischemic Heart Disease: A Comparison of Various Classification Methods in Machine Learning.*
2. Nazih Noor. (2018). *Estimation of GARCH-type Models Using Robust Estimators.*
3. Gul Nisa. (2018). *Bootstrapping the Portmanteau Tests for GARCH-Type Models*
4. Maliha Samiullah. (2018). *Statistical Analysis of Rainfall Trend for the Nari River Basin of Balochistan.*
5. Rehan Kausar. (2017). *Volatility and Risk Modelling Using Generalized Autoregressive Conditional Heteroscedastic Models.*
6. Abdul Raziq. (2014). *Outliers and their effects on Conditional Heteroscedastic Models.*

#### *In Progress:*

1. Shakila Bibi: *Predicting the Prices of Used Cars Using Machine Learning Algorithms*
2. Sabiha Munir: *Applications of Time Series and Machine Learning Models for Drought Forecasting in Different Regions of Balochistan.*
3. Maha Urooj: *An Ensemble Machine Learning Approach for the Prediction of Body Weight of Chickens from Body Measurements.*
4. Sumreen Fatima: *Bayesian Analysis of Stochastic Volatility and GARCH Models: An Empirical Study of Volatility in Emerging Asian Stock Markets.*
5. Saima Iqbal: *Bootstrap Prediction Intervals for Rotated Autoregressive Conditional Heteroscedastic Models.*

6. Muhammad Rizwan: *Modeling of Extreme Rainfall for Pakistan Using Generalized Extreme Value Distributions.*
7. Saima Farid: *Multivariate Volatility Modeling Using Heavy-Tailed and Skewed Distributions.*

**M.Sc.**

- Supervised more than 20 students.