FARHAT IQBAL

ASSOCIATE PROFESSOR

Personal Data

Nationality | **Pakistani**

Date of Birth | **25 November 1976**

Department | **Mathematics**

Official UoD Email | fsmuhammad@iau.edu.sa

Office Phone No. |

Language Proficiency

Language	Read	Write	Speak
English	X	X	X
Urdu	X	X	X
Pashto			X

Academic Qualifications (Beginning with the most recent)

Date	Academic Degree	Place of Issue	Address
2010	PhD	Lancaster University	United Kingdom
1999	MSc	University of Balochistan	Pakistan

PhD, Master or Fellowship Research Title: (Academic Honors or Distinctions)

PhD	Contributions to Conditional Heteroscedastic Models: M-estimation and other methods
Post-Doc Fellowship	Volatility and Risk Modelling Using Robust Univariate and Multivariate GARCH Models With Application to Pakistan Stock Market from Sheffield University, UK.

Professional Record: (Beginning with the most recent)

Job Rank	Place and Address of Work	Date
Associate Professor	Imam Abulrahman Bin Faisal University, Saudi Arabia	April 2023 – to date

Professor	University of Balochistan, Quetta, Pakistan	March 2023 – April 2023
Associate Professor	University of Balochistan, Quetta, Pakistan	April 2016 – March 2023
Assistant Professor	University of Balochistan, Quetta, Pakistan	March 2010 – April 2016
Lecturer	University of Balochistan, Quetta, Pakistan	August 2003 – March 2010

Administrative Positions Held: (Beginning with the most recent)

Administrative Position	Office	Date
Registrar	University of Balochistan, Quetta, Pakistan	November 01, 2021, to March 02, 2023
Chairperson	Department of Statistics, University of Balochistan, Quetta, Pakistan	October 14, 2020, to November 10, 2021

Scientific Achievements

Published Refereed Scientific Research
(In Chronological Order Beginning with the Most Recent)

#	Name of Investigator(s)	Research Title	Publisher and Date of Publication
47	Shabir, M., Chand, S., and Iqbal, F.	A novel hybrid approach based on outlier and error correction methods to predict river discharge using meteorological variables	*Environmental and Ecological Statistics, (2024). https://doi.org/10.1007/s10651-024-00628-4.*
46	Shabir, M., Chand, S., Iqbal, F., and Ozgur Kisi.	Hybrid Approach for Streamflow Prediction: LASSO-Hampel Filter Integration with Support Vector Machines, Artificial Neural Networks, and Autoregressive Distributed Lag Models.	*Water Resource Management. (2024) https://doi.org/10.1007/s11269-024-03858-0*
45	Shabir, M., Chand, S., and Iqbal, F.	Novel hybrid and weighted ensemble models to predict river discharge series with outliers	*Kuwait Journal of Science. (2024) https://doi.org/10.1016/j.kjs.2024.100188*
44	Mahmood, Q., Iqbal, F., Flemban, T.H., Algrafy, E., Althib, H., Asihq, M.G.B., et al.	Study of ferromagnetism, and thermoelectric behavior of double perovskites K2Z(Cl/Br)6 (Z = Ta, W, Re) for spintronic, and energy application	*Journal of Physics and Chemistry for Solids. (2024). 186(56):111816*
43	Kausar, R., Iqbal, F., Raziq, A., and Sheikh, N.	A Hybrid Approach for Accurate Forecasting of Exchange Rate Prices Using Vmd-Ceemdan-Gru-Atcn Model.	*Sains Malaysiana. (2023). 52(11): 3279-3292.*
42	Iqbal, F., Zahid, M., and Koutmos, D.	Cryptocurrency Trading and Downside Risk.	*Risks. (2023). 11(7), 122*

41	Shabir, M., Chand, S., and Iqbal, F.	A new ridge estimator for linear regression model with some challenging behaviour of error term.	*Communications in Statistics – Simulation and Computation. (2023).*
40	Urooj, M., Iqbal, F., and Huma, Z.E.	An Ensemble Machine Learning Approach For the Prediction of Body Weight of Chickens from Body Measurements.	*The Journal of Animal and Plant Sciences. (2023). 3(4).*
39	Shabir, M., Chand, S., and Iqbal, F.	Prediction of river inflow of the major tributaries of Indus River Basin using hybrids of EEMD and LMD methods.	*Arabian Journal of Geosciences. (2023). 16:257*
38	Iqbal, F., Raziq, A., Huma, Z.E., Tirnik, C., Fatih, A., and Yaqoob, M.	Using the artificial bee colony technique to optimize machine learning algorithms in estimating the mature weight of camels.	*Tropical Animal Health and Production. (2023). 55:86*
37	Zahid, M., Iqbal, F., and Koutmos, D.	Forecasting Bitcoin Volatility Using Hybrid GARCH Models with Machine Learning.	*Risks. (2023). 10, 237.*
36	Shabir, M., Chand, S., and Iqbal, F.	Bagging-based ridge estimators for linear regression model with non-normal and heteroscedastic errors.	*Communications in Statistics – Simulation and Computation. (2022).*
35	Zahid, M., Iqbal, F., Raziq, A., and Sheikh, N.	Modeling and Forecasting the Realized Volatility of Bitcoin Using Realized HAR-GARCH-type Models with Jumps and Inverse Leverage Effect.	*Sains Malaysiana. (2022). 51(3): 929-942.*
34	Shabir, M., Chand, S., and Iqbal, F.	A Novel Hybrid Method for River Discharge Prediction.	*Water Resources Management. (2022). 36: 253-272*
33	Iqbal, F., Raziq, A., Huma, ZE., and Khan, M.A.	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. (2021). 45.*
32	Faraz, A., Waheed, A., Tauqir, N.A., Ishaq, H.M., Iqbal, F., and Huma, Z.E.	Feedlot Performance and Serum Profile of Buffalo (Bubalus Bubalis) Calves Under High Input Feeding Systems.	*Buffalo Bulletin. (2021). 40(2): 325-333.*
31	Iqbal, F., Eyduran, E., Ali, M., Raziq, A., Huma, ZE., Tirnik, C., and Sevgenler, H.	Modeling and Predicting the Growth of Indigenous Harnai Sheep in Pakistan: Non-linear Functions and MARS Algorithm.	*Tropical Animal Health and Production. (2021). 53:248.*
30	Iqbal F., Waheed, A., Huma, ZE. and Faraz, A.	Comparing the predictive ability of machine learning methods in predicting the live body weight of Beetal goats of Pakistan.	*Pakistan Journal of Zoology. (2021). 54(1):1-8.*
29	Iqbal, F. and Triantafyllopoulos, K.	Bayesian inference of multivariate rotated GARCH models with skew returns.	*Communications in Statistics – Simulation and Computation. (2021). 50(10): 3105-3123.*
28	Yaqoob, M., Iqbal, F. and Zahir, S.	Comparing predictive performance of k-nearest neighbors and support vector machine for predicting ischemic heart disease.	*Research Journal in Advanced Sciences (2020). 1(2).*
27	Sengul, T., Celik, S., Eyduran, E. and Iqbal, F.	Predicting egg production in Chukar partridges using nonlinear models and multivariate adaptive regression splines (MARS) algorithm.	*European Poultry Sciences. (2020). 84:1 – 12.*
26	Zahid, M. and Iqbal, F.	Modeling the Volatility of Cryptocurrencies: An Empirical Application of Stochastic Volatility Models.	*Sains Malaysiana. (2020). 49(3): 703 – 712.*

25	Iqbal, F., Ali, M., Huma, ZE., and Raziq, A.	Predicting the live weight of Harnai sheep through penalized regression models.	*The Journal of Animal & Plant Sciences. (2019). 29(6): 1541 – 1548.*
24	Iqbal, F., Eyduran, E., Mikail, N., Sariyel, V., Huma, ZE., Aygun, A. and Keskin, I.	A Bayesian Approach for Describing the Growth of Chukar Partridges.	*European Poultry Sciences. (2019). 83:1 – 10.*
23	Huma, ZE, and Iqbal, F.	Predicting the body weight of Balochi sheep using machine learning approach.	*Turkish Journal of Veterinary and Animal Sciences. (2019). 43: 500 – 506.*
23	Iqbal, F., Waheed, A. Huma, ZE. and Faraz, A.	Nonlinear Growth Functions for Body Weight of Thalli Sheep Using Bayesian Inference.	*Pakistan Journal of Zoology. (2019). 51(4): 1421 – 1428.*
21	Iqbal, F., Tariq, M.M., Eyduran, E., Huma, ZE., Waheed, A., Bukhari, F.A., Ali, M., Rashid, N., Rafeeq, M., Ullah, A. and Mustafa, Z.	Fitting Nonlinear Growth Models on Weight in Mengali Sheep Through Bayesian Inference.	*Pakistan Journal of Zoology. (2019). 51(2): 459 – 466*
20	Iqbal, F. and Raziq, A.	Crude oil price-exchange rate nexus in Pakistan.	*Financial Statistical Journal. (2018). 1(2): 1 – 7.*
19	Karadas, K., Celik, S., Hopoğlu, S., Eyduran, E. and Iqbal, F.	New Agricultural Politics in Turkey: The Econometric Assessment of Cotton Production and Yield 1925 – 2015.	*The Journal of Animal and Plant Sciences. (2017). 27(3): 1005 – 1014.*
18	Ullah, H., Nafees, M., Iqbal, F., Awan, M.S., Shah, A. and Waseem, A.	Absorption Kinetics of Malachite Green and Methylene Blue from Aqueous Solutions Using Surfactant-modified Organoclays.	*Acta Chimica Slovenica. (2017). 64(2):449 – 460.*
17	Raziq, A., Iqbal, F. and Talpur, G.H.	Effects of Additive Outliers on Asymmetric GARCH Models.	*Pakistan Journal of Statistics. (2017). 33(1): 63 – 74.*
16	Iqbal, F.	Risk Forecasting of Karachi Stock Exchange: A Comparison of Classical and Bayesian GARCH Models.	*Pakistan Journal of Statistics and Operations Research. (2016). XII(3): 453 – 465.*
15	Faheem, N., Sajad, A., Mehmood, Z., Iqbal, F., Mehmood, Q., Munsif, S. and Waseem, A.	The Pesticide Exposure Through Fruits and Meat in Pakistan.	*Fresenius Environmental Bulletin. (2015). 24(12): 4555 – 4566.*
14	Asmatullah-Kakar., Anwar, M., Kamran, K. and Iqbal, F.	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. (2015). 47(2): 297 – 305.*
13	Waseem, A., Arshad, J. Iqbal, F., Sajjad, A., Mehmood, Z. and Murtaza, G.	Pollution Status of Pakistan: A retrospective review on heavy metal contamination of water, soil and vegetables.	*BioMed Research International. (2014).*
12	Iqbal, F. and Chand, S.	Modelling the monthly and Annual Temperature Series of Quetta, Pakistan.	*Pakistan Journal of Statistics and Operation Research. (2014). 10(4): 361 – 368*
11	Iqbal, F., Jafri, Y.Z., Siddiqi, A.R. and Sabir, M.A.	Determining Risk Factors for Ischemic Heart Disease using Logistic Regression and Classification Tree.	*SYLWAN. (2014). 158(6): 69 – 87.*
10	Iqbal, F.	Robust Estimation of the Simplified Multivariate GARCH Model.	*Empirical Economics. (2013). 44(3): 1353 – 1372.*

9	Iqbal, F.	Diagnostic Checking for GARCH-type Models.	*Communications in Statistics – Theory and Methods. (2013). 42(6): 934 – 953.*
8	Iqbal, F.	Robust Estimation for the Orthogonal GARCH model.	*The Manchester School. (2013). 81(6): 904 – 924.*
7	Eyduran, E., Waheed, A., Tariq, M.M., Iqbal, F. and Ahmad, S.	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. (2013). 23(6): 1532 – 1540.*
6	Iqbal, F.	Diagnostic Test for GARCH Models Based on Absolute Residual Autocorrelations.	*Pakistan Journal of Statistics and Operation Research. (2013). 9(2): 171 – 180.*
5	Tariq, M.M., Iqbal, F., Eyduran, E., Bajwa, M.A, Huma, ZE. and Waheed, A.	Comparison of Non-Linear Functions to Describe the Growth in Mengali Sheep Breed of Balochistan.	*Pakistan Journal of Zoology. (2013). 45(3): 661 – 665.*
4	Tariq, M.M., Eyduran, E., Bajwa, M.A., Waheed, A., Iqbal, F. and Javed, Y.	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. (2012). 14: 590 – 594.*
3	Iqbal, F. and Mukherjee, K.	A Study of Value-at-Risk Based on M-Estimators of the Conditional Heteroscedastic Models.	*Journal of Forecasting. (2012). 31: 377 – 390.*
2	Iqbal, F.	A Weighted Linear Estimator of Multivariate ARCH Parameters.	*Communications in Statistics – Simulation and Computation. (2011). 40(4): 544 – 560.*
1	Iqbal, F. and Mukherjee, K.	M-estimators for some GARCH-type models; Computation and application.	*Statistics and Computing. (2010). 20(4): 435 – 445.*

Refereed Scientific Research Papers Accepted for Publication

#	Name of Investigator(s)	Research Title	Journal	Acceptance Date

Scientific Research Papers Presented to Refereed Specialized Scientific Conferences

#	Name of Investigator(s)	Research Title	Conference and Publication Date
	Farhat Iqbal	Robust Methods for ARCH/GARCH Models	The 32nd Annual Research Students' Conference in Probability and Statistics (RSC 2009) at Lancaster University, UK (2009).

Completed Research Projects

#	Name of Investigator(s) (Supported by)	Research Title	Report Date
	Sanaullah, Farhat Iqbal. UNDP	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

Current Researches

#	Research Title	Name of Investigator(s)
1	Modeling Currency Exchange Rates using Hybrid Data Decomposition based Deep Learning Models	Dr. Farhat Iqbal, Dr. Manal Alohali, Dr. Lulwah AL-Essa, Dr. Maram Alwohaibi, Dr. Eman Abdulazeem
2	Enhanced Foreign Exchange Volatility Forecasting Using CEEMDAN with OPTUNA-Optimized Ensemble Deep Learning Model	Dr. Farhat Iqbal, Rehan Kausar, Dr. Abdul Raziq, Dr. Naveed Sheikh, Dr. Abdul Rehman

Contribution to Scientific Conferences and Symposia

#	Conference Title	Place and Date of the Conference	Extent of Contribution
1	Diversities of Mathematics	Sardar Bahadur Khan Women's University, Quetta, Pakistan: April 25, 2019.	Presenter
2	International Conference on Pharmaceutical Sciences	University of Balochistan, Quetta, Pakistan: September 26 – 27, 2018	Participant
3	6th International and 15th National Conference on "Dynamic Trends in Plant Science-Fostering Environment and Food Security"	Sardar Bahadur Khan Women's University, Quetta, Pakistan: May 9 – 11, 2017.	Participant
4	The 32nd Annual Research Students' Conference in Probability and Statistics	Lancaster University, UK: March 23 – 26, 2009	Participant

5	Academy for Ph.D. Training in Statistics (APTS) Week 4	University of Glasgow, UK: September 1 – 5, 2008.	Participant
6	Academy for Ph.D. Training in Statistics (APTS) Week 3	Bristol University, UK: July 7 – 11, 2008.	Participant
7	Academy for Ph.D. Training in Statistics (APTS) Week 2	University of Oxford, UK: April 7 – 11, 2008.	Participant

Membership of Scientific and Professional Societies and Organizations

- Member, Asian Council of Science Editors (2021)

Teaching Activities

Undergraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
9	Demography	STAT452	60 CH
8	Statistical Quality Control	STAT 450	60 CH
7	Sampling Theory	STAT 512	45 CH
6	Probability Distributions – I		15 Lectures (45 Hrs)
5	Probability Distributions – II		15 Lectures (45 Hrs)
4	Statistical Inference – I		15 Lectures (45 Hrs)
3	Statistical Inference – II		15 Lectures (45 Hrs)
2	Introduction to Probability and Probability Distributions		15 Lectures (45 Hrs)
1	Introduction to Regression and Analysis of Variance		15 Lectures (45 Hrs)

Brief Description of Undergraduate Courses Taught: (Course Title – Code: Description)

Postgraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
1	Advanced Statistical Analysis using R		15 Lectures (45 Hrs)
2	Applied Spatial Statistics		15 Lectures (45 Hrs)
3	Computer Applications		15 Lectures (45 Hrs)
4	Biostatistics		15 Lectures (45 Hrs)
5	Time Series and Forecasting		15 Lectures (45 Hrs)
6	Applied Multivariate Analysis		15 Lectures (45 Hrs)
7	Financial Times Series Analysis		15 Lectures (45 Hrs)
8	Bayesian Statistical Methods		15 Lectures (45 Hrs)
9	Probability and Probability Distributions		15 Lectures (45 Hrs)
10	Statistical Inference		15 Lectures (45 Hrs)
11	Regression Analysis and Econometrics		15 Lectures (45 Hrs)
12	Data Processing and Statistical Computing		15 Lectures (45 Hrs)

Brief Description of Postgraduate Courses Taught: (Course Title – Code: Description)

1	
2	

Course Coordination

#	Course Title and Code	Coordination	Co-coordination	Undergrad.	Postgrad.	From	To
1	Demography (STAT452)	Yes		Yes		2023	2023
2	Statistical Quality Control (STAT450)	Yes		Yes		2023	2023
3	Sampling Theory (STAT512)	Yes		Yes		2024	2024

Guest/Invited Lectures for Undergraduate Students

#	Activity/Course Title and Code	Subject	College and University or Program	Date

Student Academic Supervision and Mentoring

#	Level	Number of Students	From	To
1	Master	More than 30	2010	2023

Supervision of Master and/or PhD Thesis

#	Degree Type	Title	Institution	Date
1	PhD	Essays on Empirical Analysis of Volatility and Risk of Cryptocurrencies	University of Balochistan, Quetta, Pakistan	2023
2	PhD	Estimation Problems in Supervised Machine Learning: Development of Novel Hybrid Methods and Ridge Estimators	University of Punjab, Pakistan	2024

3	M.Phil	Determining Risk Factors for Ischemic Heart Disease: A Comparison of Various Classification Methods in Machine Learning	University of Balochistan, Quetta, Pakistan	2022
4	M.Phil	Estimation of GARCH-type Models Using Robust Estimators	University of Balochistan, Quetta, Pakistan	2018
5	M.Phil	Bootstrapping the Portmanteau Tests for GARCH-Type Models	University of Balochistan, Quetta, Pakistan	2018
6	M.Phil	Statistical Analysis of Rainfall Trend for the Nari River Basin of Balochistan.	University of Balochistan, Quetta, Pakistan	2018
7	M.Phil	Volatility and Risk Modelling Using Generalized Autoregressive Conditional Heteroscedastic Models	University of Balochistan, Quetta, Pakistan	2017
8	M.Phil	Outliers and their effects on Conditional Heteroscedastic Models	University of Balochistan, Quetta, Pakistan	2011

Ongoing Research Supervision

#	Degree Type	Title	Institution	Date
1	PhD	Forecasting the Price, Volatility and Risk of Pakistan Exchange Rate Using Hybrid Deep Learning Methods.	University of Balochistan, Quetta, Pakistan	2023

Administrative Responsibilities, Committee and Community Service **(Beginning with the most recent)**

Administrative Responsibilities

#	From	To	Position	Organization
1	2021	2023	Registrar	University of Balochistan, Quetta, Pakistan

2	2020	2021	Head of Department	University of Balochistan, Quetta, Pakistan
3	2015	2016	Director, Quality Assurance Directorate	University of Balochistan, Quetta, Pakistan

Committee Membership

#	From	To	Position	Organization
1	2013	2015	Advanced Studies and Research Board	University of Balochistan, Quetta, Pakistan
2	2018	2023	Tenure Track Statutes Committee	University of Balochistan, Quetta, Pakistan

Scientific Consultations

#	From	To	Institute	Full-time or Part-time

Volunteer Work

#	From	To	Type of Volunteer	Organization
1	2010	2023	Coordinator, Quality Enhancement Cell	University of Balochistan, Quetta, Pakistan
2	2021	2023	Graduate Studies Monitoring Committee	University of Balochistan, Quetta, Pakistan
3	2016	2023	Coordinator, M.Phil/PhD Research	University of Balochistan, Quetta, Pakistan
4	2017	2018	Coordinator, M.Sc Program	University of Balochistan, Quetta, Pakistan

Personal Key Competencies and Skills: (Computer, Information technology, technical, etc.)

1	**Computer Languages:** FORTRAN, C++, JAVA, MATLAB, Python
2	**Statistical Packages:** SPSS, Minitab, EViews, R, Statistica,

Last Update

15/08/2024