CURRICULUM VITAE

Personal Data:

Name: Prof. Dr. Assad Farooq
Father Name: Dr. Sardar Ali
Date of Birth: 19.11.1977
Present Position: Associate Professor & Chairman
Official address: Department of Fibre & Textile Technology, University of Agriculture Faisalabad.
Home address: P-100, Street No.2 Sanatpura, Faisalabad.
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Marital status: Married

Academic Background:

2006 – 2010 **Ph.D.**: Institute of Textile Machinery and High Performance Material Technology, Technical University Dresden, Germany.

Thesis Title: *"Development of Prediction Systems using Artificial Neural Networks for Intelligent Spinning Machines".*

1997 - 2001: **M.Sc.**: Department of Fibre and Textile Technology, University of Agriculture, Faisalabad.

Thesis Title: *"Effect of Multiply S and Z spinning and folding twist upon double weft fabric quality".*

Distinctions:

2010 Achieved *Distinction with Highest Honors* "Summa cum Lauda" in Ph.D. from Germany

2005 Awarded HEC-DAAD Scholarship for Ph.D.

1995 Merit Scholarship Holder in Matriculation & Intermediate.

Job Experience:

2024 to date **Professor Tenured and Chairman** of Department of Fibre & Textile Technology, Faculty of Agricultural Engineering and Technology, University of Agriculture, Faisalabad, Pakistan.

2019 to 2024 **Associate Professor Tenured and Chairman** of Department of Fibre & Textile Technology, University of Agriculture, Faisalabad, Pakistan.

2011 to 2019 **Assistant Professor on TTS and Incharge** of Department of Fibre & Textile Technology, University of Agriculture, Faisalabad, Pakistan.

2002 – 2010: **Lecturer**, in Department of Fibre &Textile Technology, University of Agriculture, Faisalabad, Pakistan

2001 – 2002: **Assistant Spinning Manager**, Ibrahim Fibres Limited (AA Textiles) Faisalabad.

International Teaching Experience:

2008 – 2009: Lecturer for AUTEX (Association of Universities of Textiles) Taught "Technical Textiles Manufacturing Technology) European Masters Degree in Advanced Textile Engineering "E-TEAM", in Following Universities:

- Universitat Politècnica de Catalunya, Terrassa, **Spain**
- ENSISA Ecole Nationale Supérieure d'Ingénieurs Sud Alsace, Mulhouse, **France**
- Institute of Textile Machinery and High Performance Material Technology, Technical University Dresden, **Germany**

Research Projects

2024	Research Project worth 1.5 million entitled "Production of Medium to Short Staple Length Cottons with High Yielding Potential for Denim *Garments". Industry Funded Project by US Group Lahore.*
2023	***Research Project worth 2.35 million entitled "Cottonization of Hemp fiber for Application in Denim Garments". Industry Funded Project by US Group Lahore.***
2021	***Research Project worth 1.5 million entitled "Hemp fiber as a sustainable raw material for textile industry in Pakistan: selection of non-toxic and high yielding accessions." Industry Funded Project by US Group Lahore.***
2018-19	Research project worth 9.034 million entitled "Development of Artificial Intelligence Based Prediction System for Shade Change after Finishing Application" under Technology Development Fund (TDF) by Higher Education Commission Pakistan.
2018-19	Research project worth 2 million entitled" Best Cotton Picking Practices for Female Workers Using Mechanical Hand Picker" under Agriculture Innovation Program by USAID.
2014	Research Project worth 4.2 million entitled "Development of Prediction System for Intelligent Ring Spinning Machine using Artificial Neural Networks" by Higher Education Commission of Pakistan, under National Research Program for Universities (NRPU).
2011 Ongoing	project Manager of Semi Commercial Textile Testing Project, in which the Department of Fibre & Textile Technology has earned more than Rs. 25 million
2007 – 2009:	Project Investigator *"Artificial Neural Networks at Spinning Machines"* in Rieter, Ingolstadt, Germany, leading textile machine manufacturer of the world.
2007 – 2009:	Project Co-worker in the project "Early Fault Diagnosis at Spinning Machines" at ITM, Technical University Dresden, Germany.

Publications and Presentations

Book "*Development of Prediction Systems using Artificial Neural Networks for Intelligent Spinning Machines"* **ISBN 978-3-00-031274-8**
53 Publications in Research Journals of International and National repute (List Attached)
Impact Factor Publications =26, Other Publications = 29, Oral Presentations = 24

Languages:

English, German, Urdu, Punjabi

Patents /Technologies Developed

1. Development of Artificial Neural Network based Prediction System for Shade change after finishing (Patented Granted)
2. ***Development of Novel Method for the Processing of Hemp Fibers Blended with Cotton (Patent Submitted)***
3. ***Development of Banana Fiber Decorticator Machine (Patent Submitted)***
4. ***Development of Novel Method for the Cottonization of Banana Fibers (Patent Submitted)***

Consultancies

1. ***Resource efficiency gap assessment of recycling process of fabric waste and conversion into recycled yarn (2023-2024)***
2. Assessment of adaptation level of harvest and postharvest practices among supply chain actors (farm to gin) (2022-2023)
3. Scoping and assessment of power looms and sizing sector for the project "Decarbonizing the Textile Manufacturing Sector of Pakistan". (2022-2023)
4. ***Technology Demonstration of Banana/Sisal fiber extraction (2022)***
5. ***Harvest and post-harvest potential of alternate fibers (banana fiber) (2021-2022)***
6. ***Life Cycle Assessment of Textile Recycling and Reuse of Denim Jeans (2021)***
7. Field level assessment of harvest and post-harvest operational standards of cotton value chain (2019-2020).
8. Field level Assessment for Harvest and Post-Harvest Operational Standards of Cotton Value chain (2019)
9. Development of Standards for harvest and post-harvest operations of cotton value chain (2019)
10. ***The study to harness the potential of textile and leather recycling in Pakistan and its role in achieving sustainability in textile value chain through reduction of environmental footprint. (2018)***
11. Vulnerability risk assessment to gauge impacts of inefficient and unsustainable practices in the leather and textile sectors. (2017).
12. Study on Determination of Optimum Working Life of Gin Saws for Preservation of Fiber Quality (2014).
13. Gap analysis regarding ginning processing and machinery for fibre quality and productivity (2012).

Students Supervision

1. PhD Student supervised as Co-supervisor = 03
2. Post Graduate Students (M.Sc. Fibre Technology) Supervised = 10
3. Post Graduate Students (Textile Engineering) Co-Supervised = 03
4. Post Graduate Students (M.Sc. Hons. Clothing & Textile) Supervised = 25
5. BS Textile Engineering Technology Students Supervised = 36

List of Research Papers in International & National Journals

Research Papers in Impact Factor Journals

1. Irshad, F., Ashraf, M., Farooq, A., Ashraf, M. A., & Khan, N. (2023). Development of Prediction System for Shade Change Variations in Dyed Cotton Fabric After Application of Water Repellent Finishes. Journal of Natural Fibers, 20(1), 2154302.
2. Farooq, A., Nayab, K. H. A. N., Irshad, F., & Nasir, U. (2023). Predictive Modeling of Yarn Quality at Ring Spinning Machine using Resilient Back Propagation Neural Networks. Textile and Apparel, 33(1), 9-14.
3. Khan, N., Vik, M., Irshad, F., Yildirim, B., Farooq, A., & Ashraf, M. A. (2023). Development of a 3D Color Diagram for Improved Visual Grading System of Cotton. Fibers and Polymers, 24(1), 73-82.
4. Tareen, M. H. K., Hussain, F., Zubair, Z., Aslam, S., Saleem, T., Awais, M., Farooq, A. & Goda, I. (2022). Effects of carbon black on epoxidized natural rubber composites: Rheological, abrasion, and mechanical study. Journal of Composite Materials, 56(29), 4473-4485.
5. Hussain, A., Sajid, M., Iqbal, D., Sarwar, M. I., Farooq, A., Siddique, A., ... & Kim, I. S. (2022). Impact of Novel Varietal and Regional Differences on Cotton Fiber Quality Characteristics. Materials, 15(9), 3242.
6. Khan, N., VIK, M., Irshad, F., Farooq, A., & Ashraf, M. A. (2022). Development of a novel method for trash segmentation of cotton fibre color measurement. Turkish Journal of Agriculture and Forestry, 46(6), 919-932. IF (3.7)
7. Farooq, A., Irshad, F., Azeemi, R., Nadeem, & Nasir, U. (2021). Development of Shade prediction system to quantity the shade change after crease recovery finish application using artificial neural networks. The Journal of Textile Institute 112(8), 1287-1294.
8. Farooq, A., Irshad, F., Azeemi, R., Iqbal, N. (2021). Prognosticating the shade change

after softener application using artificial neural networks. AUTEX Research Journal.

9. Naqvi, S., Arshad, M., Farooq, A., & Nadeem, F. (2020) implementation of sustainable practices in Textile processing mills of Lahore. Polish Journal of Environmental Science 29(1).
10. Ashraf, M. A., Wiener, J., Farooq, A., Saskova, A., & Noman, M. T. (2018). Development of Maghemite Glass Fibre Nanocomposite for Adsorptive Removal of Methylene Blue. Fibers and Polymers, 19(8), 1735-1746.
11. Farooq, A., Ashraf, M. A., Rasheed, A., Khan, J. U., & Irshad, F. (2018). Development of a novel method for natural dyeing of cotton fabrics using ultrasonic radiations and acacia bark. Journal of Natural Fibers, 15(5), 680-686. doi:10.1080/15440478.2017.1354743.
12. Farooq, A., Sarwar, M. I., Ashraf, M. A., Iqbal, D., Hussain, A., & Malik, S. A. (2018). Predicting Cotton Fibre Maturity by Using Artificial Neural Network. Autex Research Journal. doi:DOI: 10.1515/aut-2018-0024.
13. Malik, S. A., Gereke, T., Farooq, A., Aibibu, D., & Cherif, C. (2018). Prediction of yarn crimp in PES multifilament woven barrier fabrics using artificial neural network. Journal of the Textile Institute, 109(7), 942-951. doi:10.1080/00405000.2017.1393786.
14. Ashraf, M., Irshad, F., Umar, J., Farooq, A., & Ashraf, M. A. (2016). Development of a novel curing system for low temperature curing of resins with the aid of nanotechnology and ultraviolet radiation. RSC Advances, 6(84), 81069-81075. doi:10.1039/c6ra06591k
15. Malik, S. A., Farooq, A., Gereke, T., & Cherif, C. (2016). Prediction of blended yarn evenness and tensile properties by using artificial neural network and multiple linear regression. Autex Research Journal, 16(2), 43-50. doi:10.1515/aut-2015-0018.
16. Mohsin, M., Farooq, A., Abbas, N., Noreen, U., Sarwar, N., & khan, A. (2016). Environment Friendly Finishing for the Development of Oil and Water Repellent Cotton Fabric. Journal of Natural Fibers, 13(3), 261-267. doi:10.1080/15440478.2015.1005329
17. Mohsin, M., Farooq, A., Ashraf, U., Ashraf, M. A., Abbas, N., & Sarwar, N. (2016). Performance Enhancement of Natural Dyes Extracted from Acacia Bark Using Eco-Friendly Cross-Linker for Cotton. Journal of Natural Fibers, 13(3), 374-381. doi:10.1080/15440478.2015.1055031
18. Farooq, A. (2014). Predicting the dynamic cohesion in drafted slivers at draw frame using artificial neural networks. Tekstil ve Konfeksiyon, 24(3), 259-265.
19. Farooq, A., Ali, S., Abbas, N., Fatima, G. A., & Ashraf, M. A. (2013). Comparative

performance evaluation of conventional bleaching and enzymatic bleaching with glucose oxidase on knitted cotton fabric. Journal of Cleaner Production, 42, 167-171. doi:10.1016/j.jclepro.2012.10.021

20. Farooq, A., Ali, S., Abbas, N., Zahoor, N., & Ashraf, M. A. (2013). Optimization of extraction and dyeing parameters for natural dyeing of cotton fabric using marigold (tagetes erecta). Asian Journal of Chemistry, 25(11), 5955-5959.
21. Farooq, A., & Ashraf, M. A. (2013). Comparative performance evaluation of conventional and ultrasonic assisted bleaching of cotton fabric. Journal of the Chemical Society of Pakistan, 35(1), 82-88.
22. Farooq, A., Ashraf, M. A., & Mohsin, M. (2013). Effect of conventional and ultrasonic assisted bleaching on colour fastness properties of reactive dyed cotton fabric. Asian Journal of Chemistry, 25(11), 5960-5964.
23. Mohsin, M., Rasheed, A., Farooq, A., Ashraf, M., & Shah, A. (2013). Environment friendly finishing of sulphur, vat, direct and reactive dyed cotton fabric. Journal of Cleaner Production, 53, 341-347. doi:10.1016/j.jclepro.2013.04.018
24. Farid, H., Bakhsh, A., Ahmad, N., Ahmad, A., & Farroq, A. (2013). Spatial relationships of landscape attributes and wheat yield patterns. Journal of Agricultural Science, 5(1), 275-294.
25. Farooq, A., & Cherif, C. (2012). Development of prediction system using artificial neural networks for the optimization of spinning process. Fibers and Polymers, 13(2), 253-257. doi:10.1007/s12221-012-0253-2
26. Farooq, A., & Cherif, C. (2008). Use of Artificial Neural Networks for Determining the Leveling Action Point at the Auto-leveling Draw Frame. Textile Research Journal, 78(6), 502-509. doi:10.1177/0040517507087677
27. Shahbaz, B., Farooq, A., Asgher, M., & Hassan, K. (2005). Performance evaluation of exotic and indigenous neutral cellulolytic enzymes as denim stone wash substitute. Journal of the Chemical Society of Pakistan, 27(6), 662-666.

Research Papers in Other Journals

1. Ashraf, M.A., Amjad, A., Farooq, A., Khan, JU. (2019). Pre-treatment of Cotton with different radiations to improve colour strength and fastness properties in Reactive Dyeing. Pakistan Journal of Scientific & Industrial Research. 62(3), 174-180.
2. Ahmad, T., Irshad, F., Farooq, A., Ashraf, M. A., & Mahmood, N. (2018). Effect of Cross Linker Treatment on Dimensional and Mechanical Properties of Knitted Fabrics. Pakistan Journal of Scientific and Industrial Research, (Accepted for Publication).

3. Farooq, A., Imtiaz, K., Irshad, F., & Ashraf, M. A. (2017). An Experimental Study to Evaluate the Shade Change of Reactive Dyed Woven Fabric after Application of Water Repellent Finish and Cross Linker. Journal of Textile Engineering & Fashion Technology, 3(2), 1-4.
4. Iqbal, D., Farooq, A., Sarwar, M. I., Hussain, K., Mian, M. A., Hussain, A., & Ahmad, K. (2017). Fibre Traits Analysis for Different Planting Times Under Diverse Incidence Levels of Cotton Leaf Curl Disease. Sindh University Research Journal, 49(4), 679-684.
5. Farid, H., Bakhsh, A., Ahmad, N., Ahmad, A., & Farroq, A. (2013). Spatial relationships of landscape attributes and wheat yield patterns. Journal of Agricultural Science, 5(1), 275-294.
6. Ahmad, I., Farooq, A., Baig, S., & Rashid, M. (2012). Quality parameters analysis of ring spun yarns made from different blends of bamboo and cotton fibres. Journal of Quality and Technology Management, 8(1), 1-12.
7. Assad, F., & Cherif, C. (2011). Intelligent Settings Using Artificial Intelligence at Auto-leveling Drawing Frame. Research Journal of Textile and Apparel, 15(3), 86-93.
8. Farooq, A., & Shakir, M. (2011). Linear regression analysis of yarn characteristics by using the spinning parameters. Textalks.
9. Pusch, T., Cherif, C., Farooq, A., Wittenberg, S., Wolff, M., Hoffmann, R., & Tschöpe, C. (2009). Fehlerfrüherkennung an Textilmaschinen mit Hilfe der Körperschallanalyse. Melliand Textilberichte(3), 113-115.
10. Pusch, T., Cherif, C., Farooq, A., Wittenberg, S., Hoffmann, R., & Tschöpe, C. (2008). Early fault detection at textile machines with the help of structure-borne sound analysis. Melliand Textilberichte, 89(11-12), E144-E145.
11. Nawaz, M., Shahbaz, B., Farooq, A., & N, A. (2006). How blending affects OE yarn? Indian Textile Journal, 116, 17-21.
12. Muhammad Nawaz, S., Farooq, A., Shahbaz, B., & Murtza, G. (2005). Factors affecting the geometric and tensile properties of stretch-knitted cotton fabrics. Pakistan Journal of Scientific and Industrial Research, 48(2), 135-142.
13. Nawaz, M., Farooq, A., Tosief, M., & Shahbaz, B. (2005). Effect of Some Splicing Variables upon Strength Characteristics of Polyester/Cotton Blended Yarns. Journal of Agriculture & Social Sciences, 1(1), 35-37.
14. Shahbaz, B., Jamil, N. A., Farooq, A., & Saleem, F. (2005). Comparative Study of Quality Parameters of Knitted Fabric from Air-jet and Ring Spun Yarn. Journal of

Applied Sciences, 5(2), 277-280.

15. Nawaz, M., Shahbaz, B., Farooq, A., & Sami, A. (2004). Effect of stone washing treatment at variant stone brands on tear strength of denim fabric. Pakistan Journal of Science, 56(3-4), 113-119.
16. Nawaz, S. M., Farooq, A., Shahbaz, B., & Mahmood, M. A. (2004). Response to Ambient Atmosphere on Pre and Post Autoclaved P/C Yarn Cones. International Journal of Agriculture and Biology, 6(6), 1136-1139.
17. Shahbaz, B., Nawaz, S., Farooq, A., & Ahmed, S. (2004). Effect of jute cutting percentage and flyer speed on quality ratio and endbreakage of jute yarn. Journal of Agricultural Research, 42(2), 209-216.
18. Impact of carding and drawing process upon cotton sliver quality. The Pakistan Cottons, 48(2004)1-2, January 2004, pp. 19-27.
19. Comparative performance of fabrics knitted from air-jet and ring spun yarn. Textile Today 14 (2004)4, April 2004, pp. 13-16.
20. Comparative performance analysis of blowroom cleaning machinery for cotton fibre length characteristics, Journal of Applied Sciences, 3(2003)10-12, October 2003, pp. 637-643.
21. Effect of single end strength of various doubled yarns on tearing strength of double weft fabric. Journal of Applied Sciences, 2(2002)8, August 2002, pp. 800-803.
22. Effect of doubling twist direction and twist multiplier on the length contraction in doubled yarns. Pakistan Textile Journal, 51 (2002) 2, February 2002, pp. 43-45.
23. How a balanced ply structure can be achieved. Journal of Applied Sciences, 2 (2002) 6, June 2002, pp. 670-672.
24. Comparative Study of Shrinkage and Moisture Regain of Silk, Viscose Rayon and Polyester Filament Yarn. International Journal of Agriculture and Biology, 4(2002)4, April 2002, pp. 493-495.
25. Effect to condone draw frames passages upon open-end yarn quality. Pakistan Textile Journal, 51(2002)12, December 2002, pp. 35-38.
26. Effect of ginning of different cotton varieties at different ginning speeds on ginning turn out and fibre length characteristics. Indus Journal of Plant Sciences, (2002) 10, October 2002, pp. 421-427.

Recent Research Activities

I have been working extensively in the field of textile sustainability since last 7 years. The major areas of focus of research activities are

- Textile recycling of pre-consumer and post-consumer wastes
- Use of agro-waste and other bast fibers as sustainable substitute for textiles

Textile Recycling

Pakistan is one of the major textile exporter of the world and has to tackle huge quantities of pre-consumer or industrial waste. Moreover, Pakistan imports the post-consumer waste from EU countries in addition to its domestic wastes. Comprehensive studies in the following directions were conducted.

1. Exploring the potential of textile recycling in Pakistan and its role in achieving sustainability in textile value chain through reduction of environmental footprint.
2. Life Cycle Assessment of Textile Recycling and Reuse of Denim Jeans
3. Study of the present recycling set-up in the country and sustainability issues related to them.
4. Sustainable interventions in Recycling industries.

Sustainable Alternative Fibers

Sustainable Fashion is the new obligation of the world of textiles. Various sustainable fibers from agro waste like banana fiber, corn husk fibers and palm fibers were explored. Moreover, other sustainable bast fibers like hemp, flax and jute also have been researched. Innovative and sustainable procedures and methods have been developed for their conversion into valuable textile products. Some of the technologies developed in this direction are

1. Development of Banana Fiber Decorticator Machine (Patent Submitted)
2. Development of Novel Method for the Cottonization of Banana Fibers (Patent Submitted)
3. Development of Novel Method for the Processing of Hemp Fibers Blended with Cotton (Patent Submitted)