

## Dr.FARHANA NAEEM

PhD (Textile), M.Engg. (Textile Engineering), B.E. (Textile Engineering)  
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## EDUCATION

### **NED University of Engineering and Technology, Karachi, Pakistan.**

Doctor of Philosophy (PhD), Textile, August 2014 – December 2019

### **NED University of Engineering and Technology, Karachi, Pakistan.**

Master of Engineering (M.Engg.), Textile Engineering, 2008

### **NED University of Engineering and Technology, Karachi, Pakistan.**

Bachelor of Engineering (B.E.), Textile Engineering, 2002

### **St. Joseph Govt. College for women. Karachi, Pakistan.**

Higher Secondary School Certificate (H.S.C.), Pre-Engineering, 1997

### **Dastagir Govt. Girls School, Karachi, Pakistan.**

Secondary School Certificate (S.S.C.), Science, 1995

## EXPERIENCE

### **NED University of Engineering & Technology (December2008 –continued)**

Working as **Assistant Professor** in Textile Engineering Department

- ❖ **Courses Taught:** Textile Fabric Manufacturing Processes, Textile Product Evaluation-I, Textile Product Evaluation-II, Solid Mechanics-I, Automation and Control in Textile, Textile Dyeing, Textile Testing II, Textile Finishing, Machine design etc.
- ❖ **Class Advisor** B.E -2010, T.E -2011(Spring & Fall Term), TS (2014, 2016 and 2019), B.E -2019-23, spring-2024
- ❖ **Developed Physical and Wet testing laboratory** of Textile Engineering Department
- ❖ **Commercial Testing** : Member of the technical Committee for commercial testing, Prepared price List and Scope for commercial testing (Physical and Wet Testing)
- ❖ **Others**
  - Member of final year design project 2021 and 2022
  - Member BOS of Textile Engineering Department 2010
  - Member BOR of Library 2011
  - Lab Incharge of Fiber, Yarn & Fabric Laboratories till march 2020
  - Member of technical committee for the purchase of Testing Equipment's
  - Member of Organizing Committee of International Textile Conference (ITC) 1<sup>st</sup>-5<sup>th</sup>.

- Co-Chair of one session in 5<sup>th</sup> International Textile Conference (ITC) 2023
- Committee member in designing of new courses

### **SGS-Pakistan (June2006- December2008)**

Worked as **Assistant Manager** Customer Services & Responsible for

- All customer services activities.
- Managing work force
- Responsible for Technical Visits of client
- Responsible for technical session/seminars for client
- Responsible for the Evaluation of subcontract labs
- Responsible for Complains handling regarding testing
- Actively participating in the New Business development program.

### **AI- ABID SILK MILLS (September 2005-May2006)**

Worked as **Lab application in charge**

- All the physical testing of on line production & development both R & D lab & QC Lab
- Managing work force
- Worked as in charge in the development of new QC lab
- Responsible for the inspection of incoming dyes & chemical for production
- Responsible for the Buyer Audits (Like JC Penny, Ikea etc.)
- Responsible in the development of the samples for OKEO TEX certification
- Responsible for all the testing of the customer done at outside lab
- (SGS,ITS,BVQI etc)
- Studying, purchasing, Installation, maintenance of all new equipment related with testing.

### **Nakshbandi Textile Industries (June 2002-July2005)**

Worked as senior Quality controller, responsible for

- Managing work force
- All the physical testing of on line production & development
- Responsible of development sample as per client protocol
- Responsible in the development of the samples for OKEO TEX certification
- Study, purchasing, Installation, maintenance of all new equipment related with testing.
- Responsible for all the testing of the customer done at outside lab (SGS,ITS,BVQI etc)
- On hand experience on Tensile strength (TITAN), Elma tear strength tester, Ci -300 light fastener tester, Dupont apparatus for lycra testing, crease recovery, wrinkle recovery, crock meter etc.

### **Alkaram Textile Mills (Apprenticeship 2002)**

Worked as **System Assistant on** the implementation of ISO 14000

### **Environmental Management consultant (EMC) (June-August 2003)**

Worked as **a Consultant** with EMC on the project of Environmental Impact Assessment of Artistic

# RESEARCH PROJECTS

## 1. PhD Project

- **Title:** Investigation to improve the pilling resistance of bamboo/cotton woven fabrics
- 1 Million Funding by **NED UET**
- 7 research paper and 3 conference paper were published from the thesis

## PhD RESEARCH SUMMARY

In this research, experimental design technique (Design of Experiments-DOE) was used to explore the effect of different mechanical and chemical finishes, applied for the improvement of pilling of 100% bamboo and 50:50 bamboo/cotton plain and satin fabrics. The research involved five screening sets that evaluate the performance of different chemical and mechanical finishes. The screening test results revealed that compared to other finishing processes the application of acrylic copolymer binder produced the substantial improvement in pilling of 100% bamboo and 50:50 bamboo/cotton plain and satin fabrics. The impact of acrylic copolymer binder was analysed in detailed experiments. The Multi-response optimization technique was used for the optimized recipes for 100% bamboo and 50:50 bamboo/cotton fabrics.

## 2. Independent Research Project (Worked as a SUPERVISOR)

- **Title:** Development of Personal Protective Equipment (PPE) using bamboo cotton knitted fabric.
- One Year Project
- 1 Million Funding by **NED UET**
- Published a research paper

## RESEARCH INTEREST

- Textile Wet processing
- Textile testing
- Quality control
- Sustainable textile
- Nanoparticles

# PUBLICATIONS

## JOURNAL PAPER

1. Beg, T., Farrukh, M. and Naeem, F., 2024. Salt-free-multifunctional dyeing approaches for cotton and CVC fabrics with direct and reactive dyes using chitosan and keratin. *Pigment & Resin Technology*.
2. ASIM, F. and NAEEM, F., UNMASKING THE POWER OF METAL OXIDE NANOPARTICLES FOR SELF-CLEANING HEAVY DENIM: INVESTIGATING AND OPTIMIZING PROCESS PARAMETERS. *Cellulose Chem. Technol.*, 58 (7-

8), 879-890 (2024)

3. Naeem, F., Asim, F., Naqvi, S. and Tufail, M., 2024. Investigation of mechanical properties of bio-finished regenerated bamboo fabrics using 23 31 mixed level factorial design. *Mehran University Research Journal of Engineering and Technology*, 43(1), pp.142-153.
4. Asim, F., Naeem, F. and Naqvi, S. (2023), "Harnessing the potential of regenerated bamboo knitted fabrics in development of eco-friendly masks", *Pigment & Resin Technology*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/PRT-05-2023-0036>
5. Amir M, Naqvi S, Naeem F. Investigation into shrinkage of stretchable denim fabric and its consumption in marker making by varying drying temperatures. *Mehran University Research Journal of Engineering and Technology*. 2023 Sep 29;42(4):41-9.
6. Irfan, H., Baig, T., Naeem, F., Irfan, M., Naqvi, S. and Shengyuan, Y., 2023. Sustainable technique of dyeing bio-degradable polyester using henna extract. *Pigment & Resin Technology*. <https://doi.org/10.1108/PRT-02-2023-0015>
7. MOHTASHIM Q, ASIM F, NAEEM F. INVESTIGATION INTO AN ECO-FRIENDLY REACTIVE DYEING PROCESS OF COTTON FABRICS USING AN ETHANOL-WATER MIXTURE THROUGH DESIGN OF EXPERIMENT. *Cellulose Chemistry & Technology*. 2023 May 1;57.
8. Naqvi, S., Amir, M., Naeem, F., Dias, T. and Lewis, P.S., 2023. An Investigation into Design of Blood Pressure Cuffs Using the Tekscan Pressure Sensing System. *AATCC Journal of Research*, 10(2), pp.80-88.
9. Naeem F, Hussain MD, Khan DR. Characterization of Water Repellent and Flame Retardant Finished Cotton Canvas Fabric for Bivouac Tents. *AATCC Journal of Research*. 2022. Volume 10, issue 1,pg 40-50 doi:10.1177/24723444221132310
10. Asim, F. and Naeem, F., 2023. Investigation of self-cleaning attributes of denim fabric modified with naturally synthesized ZnO nanoparticles. *Pigment & Resin Technology*, 52(6), pp.738-746.
11. Naeem, F., Asim, F. and Tufail, M., 2023. Investigation into the effect of resin finish on the functional characteristics of plain fabrics using different curing methods. *Pigment & Resin Technology*, 52(2), pp.192-202.
12. Naeem F, Asim F, Tufail M. Multi response optimization in the development of anti-pilling and easy care finished rayon from bamboo and bamboo/cotton fabrics using desirability function. *Mehran University Research Journal of Engineering and Technology*. 2022 Apr 1;41(2):116-26
13. Naeem F, Asim F, Tufail M. Effect of Crosslinking Agents on the Strength Characteristics of Cellulosic Fabrics Using 23 32 mixed level factorial Volume 50 · Number 4 · 2021 · 319–330 (<https://doi.org/10.1108/PRT-06-2020-0062>)
14. Naeem, F., Asim, F. and Tufail, M., 2022. Performance evaluation of anti pilling and easy-care finished rayon and rayon/cotton satin fabric. *Journal of Natural Fibers*, 19(3), pp.1033-1047.

15. Naeem, F.Asim and M.Tufail , anti-pilling & resin finishing of rayon and rayon /cotton fabrics, using 2332 mixed level factorial design”., AATCC Journal of Research, Volume 7, Number 5, September/October 2020, pp. 32-37.
16. Naeem, Farhana; Asim, Fareha; Tufail, Muhammad, “Pilling Performance Improvements of Fabrics made with Bamboo Rayon and Bamboo Rayon/Cotton Blends”., AATCC Journal of Research, Volume 5, Number 6, November/December 2018, pp. 8-16(9)

## CONFERENCE PAPER

1. F.Naeem, F.Asim and M.Tufail, Bio polishing Of Bamboo and Bamboo/Cotton Woven Fabrics Using Experimental Design Technique. Presented in 2nd International Forum of Textile for graduate students. **Tianjin Polytechnic University- CHINA**
2. F.Naeem, F.Asim and M.Tufail, Effect of Sanforizing on Pilling Resistance of Bamboo and Bamboo Cotton Fabric, Using 24 Factorial Design. Presented in 5th International Conference on Value Addition and Innovation in Textiles (COVITEX ) 20-21 March 2019 **National Textile University, Faisalabad**
3. F.Naeem, F.Asim and M.Tufail, Investigation to improve the pilling & wrinkle resistance properties of Bamboo and Bamboo/cotton fabrics. Presented on 3rd March 2020, in **4th NED International Textile Conference (ITC).**

## SKILLS

- Microsoft office
- Design Expert (DOE)
- MatLab
- Advanced Statistical Tools
- Laboratory Management System (LIMS)

## HONOURS & ACTIVITES

- Received Best Researcher award in 2020 , 2022 & 2023
- Financial Rewards for JCR papers
- Received independent Research grand (PKR 1.0million) in 2021 for the project titled.” Development of personal protective Equipment (PPE) using Bamboo cotton knitted fabric
- Cash price for good presenter in 2nd International Forum of Textile for graduate students. **Tianjin Polytechnic University- CHINA**
- HEC APPROVED SUPERVISOR Via letter Ref. HEC/HRD/ASA/2020/66597
- NED APPROVED SUPERVISOR Via letter Ref No. ASRB/NAPS/2025/002

- PEC certificate for program Evaluators for OBE System 2024
- Reviewer :Research paper reviewer in various textile research journals such as AATCC, Journal Exploration Of Foods And Foodomics, Textile & leather review, Journal CELLULOSE

## **COURSES AND TRAININGS**

- ❖ Managerial Courses Organized By PIQC  
Course on internal Auditing, Quality Circles and Kaizen, Decision Making and Problem Solving, Communication skills, IMAGE power, Conflict management etc.
- ❖ Manual of OBE system framework Arranged by PEC in NED UET from 18th to 20th September, 2023
- ❖ ISO 17025 Training arranged by SMA Rizvi Textile Institute 2009
- ❖ Attended Various Trainings Organized by N.E.D UNIVERSITY of Engineering & Technology.
- Academics and Industrial Linkages training by Mr Ali Zulqurnain on 31May2024
- Technical writing and research manuscripts training by Dr Tariq Jameel NED UET on 06-02-23 (one day)
- Work place safety training by Mr. Saud-ur-Rehman, Manager QHSE (NEBOSH Certified), Pakistan International Container Terminal (PICT) Limited on 02-06-23 (one day)
- Stress Management training by Trainer Mr. Adnan Ahmed Khan General Manager, SIT (SUPARCO) on 08-06-23
- Formulation, execution and assessment of complex engineering problem training by DR Sanghi on 19-06-23
- Maintenance of Equipment in Laboratories in Wifaqi Urdu university Karachi on 16-12-2023
- Health and Safety Management System training by Dr Sheraz Hussain Siddiqui on 15-12-2023
- FINAL YEAR DESIGN PROJECT (Mangement and assisment system) on 04-03-2022
- The psychomotor and affective domain Training by Dr sangi on 17-05-2022
- Awareness session on cognitive assessment on 31-05-2022
- Attended training on course file preparation as per OBE system on 6-January-2020
- management of online classes (Operation + security) 5th October,2020
- How to conduct online Assessment 10th December 2020