

Muhammad Ali

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EDUCATION

PhD 'Preparation, characterization and application of printed electronic textile assemblies' Department of Colour Science, School of Chemistry, University of Leeds, UK. Supervisor: Prof. Long Lin	Jan 2010 – Oct 2013
Masters in Textile Engineering (CGPA 4.0), NED University of Engineering and Technology, Karachi.	Jun 2007 – Jun 2008
Bachelors in Textile Engineering (79.6%) NED University of Engineering and Technology, Karachi.	Jan 2003 – Dec 2006

WORK EXPERIENCE

Associate Professor - Department of Textile Engineering, NED University of Engineering and Technology, Karachi.	Aug 2020 – to- date
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Job Roles

- Preparing and delivering lectures and tutorial sessions at undergraduate, masters and PhD levels
 - Undergraduate courses taught: Engineering Mechanics, Basic Mechanical Engineering, Mechanics of materials, Machine Design, Textile Chemical Processes - II, Textile Printing
 - Postgraduate courses include: Total Quality Management, Research Methodologies, Compliance in Apparel Industry, Sustainable Denim Product Manufacturing
- Supervision of projects for undergraduate, Masters and PhD students
- Development of laboratory manuals
- Conduction of laboratory sessions
- Conducting examination (paper setting, marking and grading) of the courses assigned in a given semester
- Conducting scientific research and produce scholarly publications
- Providing consultancy services to the industry
- Curriculum review and development within the institution and for other institutions as well
- Conducting student counselling sessions
- Organising and attending conferences and seminars

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- Training of peers
 - Miscellaneous administrative tasks (class advisor, committee work for extracurricular activities, implementation of Outcome Based Education system as per the framework of Washington accord)
 - Working as a board member in the departmental Board of Studies
 - Working as a board member in the Board of faculty of National Textile University, Karachi Campus

Assistant Professor - Department of Textile Engineering, NED University of Engineering and Technology, Karachi. Dec 2012 – Aug 2020

Lecturer - Department of Textile Engineering, NED University of Engineering and Technology, Karachi. Mar 2007 – Dec 2012

AWARDS

1. Best Teacher Award 2022 (PENDING) awarded by NED Alumni Association of Southern California (NEDAASC)
2. Best Researcher Award 2022 (PENDING) awarded by NED University of Engineering & Technology, Karachi
3. Best Researcher Award 2021 awarded by NED University of Engineering & Technology, Karachi
4. Best Researcher Award 2019 awarded by NED University of Engineering & Technology, Karachi
5. Best Publication Award 2019 awarded by NED Alumni Association of Southern California (NEDAASC)
6. Best Teacher Award 2018 awarded by NED Alumni Association of Southern California (NEDAASC)
7. Best Publication Award 2018 awarded by NED Alumni Association of Southern California (NEDAASC)
8. Grand prize in 'Teaching Skills Competition', Textile & Fashion Campus of Korea Polytechnic, 2017

RESEARCH WORK

A. Journal papers

1. Siddique SH, **Ali M**, Siddiqui MOR, Sun D. Hybrid composites based on textile hard waste: use as sunshades. *Industria Textila*. 2022;73(6):680-6.
2. **Ali M**, Zubair M, Siddiqui MOR, Lin L. A study of the functionality of conventional pigmented inks in furnishing electrical conductivity to textiles. *Industria Textila*. 2022;73(6):602-6.
3. Faisal S, Naqvi S, **Ali M**, Lin L. Comparative study of multifunctional properties of synthesised ZnO and MgO NPs for textiles applications. *Pigment & Resin Technology*. 2022;51(3):301-8.

4. Faisal S, **Ali M**, Naqvi S, Lin L. Statistical Optimization and Bulk Scale Validation of the Effects of Cationic Pre-treatment of Cotton Fabric for Digital Printing with Reactive Dyes. *Journal of Natural Fibers*. 2022;19(13):6737-47.
5. **Ali M**, Faisal S, Naqvi S, Abdul Wahab K, Afreen R, Lin L. Electrically heated wearable textiles produced by conventional pigmented inks containing carbon black. *Pigment & Resin Technology*. 2022;51(4):390-6.
6. Siddique SH, Faisal S, Mohtashim Q, **Ali M**, Gong RH. Investigation of Fibre Orientation and Void Content in Bagasse Fibre Composites Using an Image Analysis Technique. *Fibers & Textiles in Eastern Europe*. 2021;29(3):26-32.
7. Siddique SH, Faisal S, **Ali M**, Gong RH. Optimization of process variables for tensile properties of bagasse fiber-reinforced composites using response surface methodology. *Polymer & Polymer Composites*. 2021;29(8):1304-12.
8. Faisal S, **Ali M**, Siddique SH, Lin L. Inkjet printing of silk: factors influencing ink penetration and ink spreading. *Pigment & Resin Technology*. 2021;50(4):285-92.
9. **Ali M**, Mahmood AH, Hussain S, Ahmed F. An Investigation into the Antibacterial Properties of Bamboo/Cotton Blended Fabric and Potential Limitations of the Test Method AATCC 147. *Journal of Natural Fibers*. 2021;18(1):51-8.
10. Zahid B, **Ali M**, Zubair M, Karim M. Effect of caustic treatment on cotton/modal blended fabric. *Industria Textila*. 2020;71(5):427-31.
11. Faisal S, Tronci A, **Ali M**, Lin L, Mao N. Pretreatment of silk for digital printing: identifying influential factors using fractional factorial experiments. *Pigment & Resin Technology*. 2020;49(2):145-53.
12. Akhtar Z, Ali SI, Abbas N, **Ali M**, Khan MY, Hasan SA, et al. Evaluation of Antibacterial Potential of New Acid Dyes Based on Substituted Aryl Amines and Amino Hydroxy Sulfonic Acid. *Journal of the Chemical Society of Pakistan*. 2020;42(5):783-8.
13. Saman Hina, **Muhammad Ali**, Raheela Asif, Ali KN. A framework for creation of designs of varying complexity for use in weaving/printing of textiles. *International Journal of Computer Science and Network Security*. 2019;19(5):218-22.
14. Faisal S, Tronci A, **Ali M**, Bashir E, Lin L. Right-first-time dyeing: a design of experiments approach for the optimisation of dyeing-processes using hard water. *Pigment & Resin Technology*. 2019;48(5):449-55.
15. **Ali M**, Lin L, Faisal S, Sahito IA, Ali SI. Optimisation of screen printing process for functional printing. *Pigment & Resin Technology*. 2019;48(5):456-63.
16. **Ali M**, Lin L, Faisal S, Ali SR, Ali SI. Let-down stability and screen printability of inks prepared using non-printing ink grades of carbon black pigment. *Pigment & Resin Technology*. 2019;48(6):523-32.
17. **Ali M**, Lin L, Cartridge D. High electrical conductivity waterborne dispersions of carbon black pigment. *Progress in Organic Coatings*. 2019;129:199-208.
18. **Ali M**, Lin L, Cartridge D. High electrical conductivity waterborne inks for textile printing. *Journal of Coatings Technology and Research*. 2019;16(5):1337-49.
19. Siddiqui MOR, **Ali M**, Zubair M, Danmei S. Prediction of air permeability of knitted fabric by using computational method. *Texstil ve Konfeksiyon*. 2018;28(4):273-9.
20. **Ali M**, Lin L. Optimisation and analysis of bead milling process for preparation of highly viscous, binder-free dispersions of carbon black pigment. *Progress in Organic Coatings*. 2018;119:1-7.
21. **Ali M**, Bysouth S. High throughput process of optimisation of pigment concentrates. *NED University Journal of Research - Applied Sciences*, 2014;11(4):15.

B. Conference papers

1. Title: Preparation, characterization and application of printed electronic textile assemblies
Conference details: December 6th, 2012. Institute of Physics, London
2. Title: E-textiles fabrication by screen printing.
Conference details: International Istanbul Textile Congress 2013, Istanbul, May 30th, 2013.
3. Title: Use of a New Closed Vial Milling System in Investigations of Carbon Black Ink Formulations: its Advantages and Disadvantages
Conference details: 1st NED International Textile Conference (NEDITC) March 13th, 2014, NED University of Engineering & Technology, Karachi.
4. Title: Prospects of developing Smart Textiles in Pakistan
5. Conference details: Textile Asia Conference 2017, March 29th 2017, Karachi Expo Centre, Karachi.
6. Title: Low cost techniques for textile effluent treatment
Conference details: 3rd NED International Textile Conference (NEDITC), January 10th – 11th 2018, NED University of Engineering & Technology, Karachi.
7. Title: ‘Enabling technologies for embedding interconnections in textiles’,
Conference details: International Conference on Innovation & Entrepreneurship in Textiles (IETEX), March 6th – 7th 2018, National Textile University, Faisalabad, Pakistan.

C. Patents

1. Granted Patent 139652. Title: ‘Straightener to remove compound distortions in weft threads and printed designs’. IPO-Pakistan
2. Granted Patent 143422: A washing machine for delicate and efficient washing of a broad range of laundry loads
3. Granted Patent 143423: A washing machine for efficient and crease-free washing of tubular or stiff articles such as rugs, floor mats and carpets
4. Patent Pending 262/2017: Edge sealing device for webs of threads and fibres (Examination report enclosed in set of publications)
5. Patent Pending 175/2018: Electrically conductive carbon black dispersions and printing inks thereof
6. Patent Pending 176/2018: Telescopic diversion/warning light system for service vehicles on road
7. Patent Pending 177/2018: Placing and Leveling holder for tiles

D. Grants

1. Pakistan Science Foundation
Dr. Muhammad Ali (PI), “Electrically heated textile articles of clothing produced by printing of resistive inks”, 01/12/2021 to 30/11/2023, Grant amount: PKR 6.86 million
Higher Education Commission
2. Dr. Muhammad Ali (Co-PI), “Development of Experimental Setup for thermal conductivity measurement”, 24-05-2016 to 24-04-2017, Grant amount: PKR 0.485 million
3. NED University of Engineering & Technology
Dr. Muhammad Ali (Co-PI), “Urea-less digital printing of cotton with reactive ink for cleaner production”, 01-05-2022 to 30-04-2023, Grant amount: PKR 0.985 million

E. Research Projects

1. Ongoing PhD projects

- a. 'Sustainable Denim Manufacturing', PhD Scholar: Ms. Sehrish Naveed
- b. 'Characterisation of Microplastic pollution from textiles and development of various mitigation techniques', PhD Scholar: Ms. Sarah Jaweed

2. Ongoing Masters projects

- a. 'Analysis and optimization of thermal performance of electrically heated textiles'
- b. 'A study of development of sustainable and water efficient processes in denim fabric manufacturing'

PROFESSIONAL ASSOCIATIONS

- Institute of Engineers, Pakistan
- NEDAN
- Pakistan Engineering Council
- Oil and Colour Chemists Association, UK
- World Intellectual Property Organisation (WIPO)
- American Association of Textile Chemists & Colorists (AATCC)
- International Association of Engineers (IAENG)
- Reviewer in the following Journals
 - a. Journal of Industrial Textiles
 - b. Textile Research Journal
 - c. Progress in Organic Coatings
 - d. Journal of Natural Fibres
 - e. Mehran University Research Journal of Engineering & Technology

REFERENCES

- Professor Long Lin – School of Materials and Chemical Engineering, Ningbo University of Technology, China, linlongprofessor@outlook.com
- Dr. Stephen Bysouth – Automaxion SARL, France, stephen.bysouth@automaxionltd.com
- Dr. Khalid Pasha – National Textile University (Karachi Campus), drpasha@ntu.edu.pk