

# **FACULTY ANNUAL REPORT**

**DEPARTMENT OF TEXTILE PROCESSING**

**2017**

**National Textile University, Faisalabad**

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## 1 Academic

### 1.1 Full-time faculty members

Sr. #	Name	Designation	Qualification
1	Dr. Tanveer Hussain	Professor	PhD Textile Engineering
2	Dr. Munir Ashraf	Assistant Professor	PhD Textile Engineering
3	Dr. Waseem Ibrahim	Assistant Professor	PhD Textile Engineering
4	Dr. Rashid Masood	Assistant Professor	PhD Textile Engineering
5	Dr. Abdul Rehman	Assistant Professor	PhD Textile Engineering
6	Dr. Kashif Iqbal	Assistant Professor	PhD Textile Engineering
7	Dr. Ahsan Nazir	Assistant Professor	PhD Textile Engineering
8	Dr. Amjed Javid	Assistant Professor	PhD Advanced Materials Science & Engineering
9	Mr. Saif Maqsood	Lecturer	MSc Textile Engineering
10	Mr. Hafiz Affan	Lecturer	MSc Textile Engineering

### 1.2 Faculty on Higher study

Sr. #	Name	Designation	Qualification
1	Mr. Syed shahzad zaidi	Assistant Professor	MS Environmental Engineering
2	Mr. qummer zia gilani	Lecturer	MSc Textile Engineering

## **2 Research product development and commercialization**

### **2.1 Research articles**

1. Naseer Ahmad, Shahid Kamal, Zulfiqar Ali Raza, Tanveer Hussain, "Multi-objective optimization in the development of oil and water repellent cellulose fabric based on response surface methodology and the desirability function", *Materials Research Express*, Vol. 4, No. , (2017), pp.
2. Manish Kumar, Amjed Javid and Jeon Geon Han, "Surface Energy in Nanocrystalline Carbon Thin Films: Effect of Size Dependence and Atmospheric Exposure", *Langmuir*, Vol. , No. , (2017), pp.
3. Amjed Javid, Manish Kumar, Seokyoung Yoon, Jung Heon Lee and Jeon Geon Han, "Size-controlled growth and antibacterial mechanism for Cu:C nanocomposite thin films", *Physical Chemistry Chemical Physics*, Vol. 19, No. , (2017), pp.
4. Amjed Javid, Manish Kumar and Jeon Geon Hana, "Study of sterilization-treatment in pure and N- doped carbon thin films synthesized by inductively coupled plasma assisted pulsed-DC magnetron sputtering", *Applied Surface Science*, Vol. 392, No. , (2017), pp.
5. Amna Siddique, Tanveer Hussain, Waseem Ibrahim , Zulfiqar Ali Raza, Sharjeel Abid and Ahsan Nazir, "Response Surface Optimization in Discharge Printing of Denim Using Potassium Permanganate as Oxidative Agent", *Clothing and Textiles Research Journal*, Vol. , No. , (2017), pp.
6. Sharjeel Abid, Tanveer Hussain, Ahsan Nazir, Zulfiqar Ali Raza, Amna Siddique, Abdul Azeem, and Shagufta Riaz, "Simultaneous Fixation of Wrinkle-Free Finish and Reactive Dye on Cotton Using Response Surface Methodology", *Clothing and Textiles Research Journal*, Vol. , No. , (2017), pp.
7. Shagufta Riaz, Abdur Rehman, Munir Ashraf, Tanveer Hussain, Muhammad Tahir Hussain, "Development of functional alginate fibers for medical applications", *The Journal of The Textile Institute*, Vol. 108, No. 12, (2017), pp.12
8. Amjed Javid, Khurram Iftikhar, Munir Ashraf, Abdur Rehman, Kashif Iqbal, Tanveer Hussain, Abdul basit, "Development and performance optimization of polyurethane-

based multifunctional coatings using Taguchi method", *Journal of Industrial Textiles*, Vol. , No. , (2017), pp.

9. Umme Habibah Siddiqua, Shaukat Ali, Tanveer Hussain, Haq Nawaz Bhatti, Muhammad Asghar, "The Dyeing Process and the Environment: Enhanced Dye Fixation on Cellulosic Fabric Using Newly Synthesized Reactive Dye.", *Polish Journal of Environmental Studies*, Vol. 26, No. 5, (2017), pp.5
10. Umme Habibah Siddiqua, Shaukat Ali, Munawar Iqbal, Tanveer Hussain, "Relationship between structure and dyeing properties of reactive dyes for cotton dyeing", *Journal of Molecular Liquids*, Vol. 241, No. , (2017), pp.
11. Amna Siddique, Tanveer Hussain, Waseem Ibrahim, Zulfiqar Ali Raza, Sharjeel Abid, Ahsan Nazir, "Response surface optimization in discharge printing of denim using potassium permanganate as oxidative agent", *Clothing and Textiles Research Journal*, Vol. 35, No. 3, (2017), pp.3
12. R Masood, T Hussain, M Umar, Azeemullah, T Areeb, S Riaz, "In situ development and application of natural coatings on non-absorbable sutures to reduce incision site infections", *Journal of wound care*, Vol. 26, No. 3, (2017), pp.3
13. Sana Mahmood, Shaukat Ali, M Afzal Qamar, M Rizwan Ashraf, Muhammad Atif, Munawar Iqbal, Tanveer Hussain, "Hard Water and Dyeing Properties: Effect of Pre-and Post-Mordanting on Dyeing Using Eucalyptus globulus and Curcuma longa Extracts.", *Polish Journal of Environmental Studies*, Vol. 26, No. 2, (2017), pp.2
14. Javid A, Iftikhar K, Ashraf M, Rehman A, Iqbal K, Hussain T, basit A, "Development and performance optimization of polyurethane-based multifunctional coatings using Taguchi method. ", *Journal of Industrial Textiles*, Vol. , No. , (2017), pp.
15. Sun D, Iqbal K, " Synthesis of functional nanocapsules and their application to cotton fabric for thermal management24 (8):", *Cellulose*, Vol. 24, No. , (2017), pp.
16. S. Ahmad, M. Ashraf, A. Ali, k. Shaker, M. Umair, A. Afzal, Y. Nawab and A. Rasheed , "Preparation of Conductive Polyethylene Terephthalate Yarns by Deposition of Silver & Copper Nanoparticles", *FIBRES & TEXTILES in Eastern Europe*, Vol. 25, No. 125, (2017), pp.125

17. K. Shaker, Y. Nawab, A. Saouab, M. Ashraf and A. N. Khan, "Effect of silica particle loading on shape distortion in glass/vinyl ester-laminated composite plates", Journal of the Textile Institute, Vol. , No. , (2017), pp.
18. A. Ali, N. H. A. Nguyen, V. Baheti, M. Ashraf, J. Militky, T. Mansoor, M. T. Noman and S. Ahmad, "Electrical conductivity and physiological comfort of silver coated cotton fabrics", The Journal of The Textile Institute, Vol. , No. , (2017), pp.
19. M. H. Ameer, K. Shaker, M. Ashraf, M. Karahan, Y. Nawab, S. Ahmad and M. Ali Nasir, "Interdependence of moisture, mechanical properties and hydrophobic treatment of jute fibre reinforced composite materials", The Journal of The Textile Institute, Vol. 108, No. 10, (2017), pp.10

## 2.2 Conferences

1. S. Riaz, M. Ashraf, A. Rehman, K. Iqbal, A. Javid, A. Basit and T. Hussain, "A study to Develop and Characterize the Highly Absorbent Antimicrobial Alginate Fibers for Wound Dressings", ICTT -2017, Venue: Faisalabad, (2017)
2. M. J. Rehman, M. T. Hussain, M. Ashraf, A. Y. Khan and A. Rehman, "Dyeing of Wool Fabric with Natural Dye Extracted from Leaves and Stem Bark of Dalbergia Sisso", ICTT-2017, Venue: Faisalabad- Pakistan, (2017)
3. M. Ashraf, T. Hussain, M. Tabassum and A. Javid, "Preparation of stable dispersion of ZnO nanorods and its application on cotton fabric for functional properties", Autex-2017, Venue: Corfu, Greece, (2017)
4. Ahsan Nazir, Muhammad Bilal Qadir, Abdul Jabbar, Hafiz Affan Abid, Zubair Khaliq, Ali Afzal, "Combined Easy-Care and Water Repellent Finishing of Cotton Fabrics Using Plasma Treatment", 1st National Conference on Technical Textiles, Venue: Faisalabad, Pakistan, (2017)
5. Zulfiqar Ali, Bilal Qadir, Ahsan Nazir, Zubair Khaliq, and Abdul Jabbar and Ali Afzal, "Development of NIR Camouflage Fabric by using Carbon Black Polyester", 1st National Conference on Technical Textiles, Venue: Faisalabad, Pakistan, (2017)

6. Ali Afzal, Zulfiqar Ali, Bilal Qadir, Amir Shahzad, Abdul Jabbar, and Ahsan Nazir, "Development of Spinneret Design for Composite Filament Fabrication: Part B", 1st National Conference on Technical Textiles, Venue: Faisalabad, Pakistan, (2017)
7. Ahsan Nazir, Muhammad Bilal Qadir, Zulfiqar Ali Malik, Abdul Jabbar, Affan Abid, Amir Shahzad, Zubair Khaliq, Muhammad Ali Afzal, "Filtration and Comfort Properties of Face Masks Containing Polyamide Electro-spun Nanowebs", 1st National Conference on Technical Textiles, Venue: Faisalabad, Pakistan, (2017)
8. Abdul Jabbar, Ali Afzal, Zulfiqar Ali Malik, Muhammad Bilal Qadir, Ahsan Nazir and Hafiz Affan Abid, "Mechanical Behavior of Nanocellulose Coated Jute/Green Epoxy Composites", 1st National Conference on Technical Textiles, Venue: Faisalabad, Pakistan, (2017)
9. Amir Shahzad, Zulfiqar Ali Malik, Muhammad Bilal Qadir, Abher Rasheed, and Ahsan Nazir, "Process of Functional Hybrid Spun Yarns Containing Metallic Fibers for EMI Shielding Fabrics", 1st National Conference on Technical Textiles, Venue: Faisalabad, Pakistan, (2017)
10. Zubair Khaliq, Z. A. Rehan, Zulfiqar Ali, Amir Shahzad, Ahsan Nazir, Ali Afzal, M. Bilal Qadir, "The Polyelectrolyte Behaviour of Cellulose Solutions in N,N-Dimethyl Acetamide and Lithium Chloride", 1st National Conference on Technical Textiles, Venue: Faisalabad, Pakistan, (2017)

### 2.3 Research grant

Sr #	Name of Faculty member	Funding Agency	Project/consultancy	Worth (Million)
1	Dr. Munir Ashraf	GIZ	Consultancy	9.27
		NESCOM	Project	1.4
2	Dr. Kashif Iqbal	HEC	SRGP	0.485
		Midas Safety	Project	0.695
3	Dr. Amjed Javid	HEC	SRGP	0.45



### 3 Meetings of Board of Studies

A meeting of departmental board of studies has been organized by Textile Processing Department on May 2, 2017. The following members participated;

Dr. Munir Ashraf	Asst. Professor	NTU Faisalabad
Dr. Waseem Ibrahim	Asst. Professor	NTU Faisalabad
Dr. Abdul Rehman	Asst. Professor	NTU Faisalabad
Dr. Kashif Iqbal	Asst. Professor	NTU Faisalabad
Dr. Amjed Javid	Lecturer	NTU Faisalabad
Engr. Hafiz Tayyab Faisalabad	GM	CHEMTECH,
Dr. Amir Abbas	Asst. Professor	BZU Multan
Dr. Muhammad Mohsin	Asst. Professor	UET Faisalabad

Various anomalies were highlighted in the present scheme of studies and their optimum solutions were proposed to make it more effective.

#### 4 BS Projects

Sr. #	Project Title	Supervisor and Co-supervisor
1	To improve overall equipment efficiency of textile processing mill.	Dr. Kashif Iqbal, Dr. Rashid Masood
2.	Electrochemical reduction of Vat dyes	Dr. Waseem Ibrahim, Dr. Munir Ashraf
3.	To print Nylon fabric with Acid dyes and Attaining High Performance Water Resistant Proficiency	Dr. Waseem Ibrahim, Mr. Hafiz Affan
4.	To reduce per meter processing cost of fabric.	Dr. Waseem Ibrahim, Mr. Saif Maqsood
5.	Dyeing of cotton package yarn with indigo dye	Dr. Abdul Rehman, Mr. Hafiz Affan
6.	Development of Antibacterial and UV protective cotton fibers/fabrics by treatment with zinc/zinc oxide system	Dr. Munir Ashraf, Miss Aisha Rehman
7.	Simultaneous dyeing and antibacterial finishing of cotton fabric	Dr. Munir Ashraf, Miss Aisha Rehman
8.	The behavior of cotton after dyeing with vat dyes	Dr. Abdul Rehman, Dr. Kashif Iqbal
9.	Dyeing of cotton fabric with reactive dyes using ecofriendly salts of magnesium	Dr. Kashif Iqbal, Dr. Abdul Rehman
10	Cationization of cotton for sulfur black dyeing without auxiliaries	Dr Kashif Iqbal, Dr. Abdul Rehman
11	Development of moisture management finishes and study of their performance	Dr. Ahsan Nazir, Dr. Abdul Rehman
12.	Combined easy care and water repellent finishing of cotton fabrics using plasma treatment	Dr. Ahsan Nazir, Mr. Hafiz Affan
13	Comparison of comfort and performance properties of selected product lines of leading Pakistani clothing brands	Dr. Ahsan Nazir, Mr. Sharjeel Abid and Dr. Kashif Iqbal
14	Development of plasma treated polyester and PC fabrics with improved comfort properties	Dr. Ahsan Nazir, Miss Aisha Rehman
15	Wrinkle free finishing of cotton fabric using formaldehyde free cross-linkers.	Dr. Munir Ashraf, Dr. Abdul Rehman
14	Cationic dyeable polyester	Dr. Ahsan Nazeer Dr. Waseem Ibrahim
15	Simultaneous antibacterial and water repellent finishing of cotton.	Dr. Munir Ashraf, Miss Shagufta

16	Study the flame retardant behavior of conventional and environmental friendly flame retardants.	Mr. Saif Maqsood, Dr Munir Ashraf
17	Development of flame retardant PU coated fabrics	Mr. Saif Maqsood, Dr. Munir Ashraf
18	Printing of conductive inks on cotton fabrics.	Mr. Saif Maqsood, Dr. Kashif Iqbal
19	Application of hydrolyzed chitosan on Jute fabric and its characterization	Dr. Waseem Ibrahim, Mr. Hafiz Affan
20	Optimization of process parameters for modal dyeing without fibrillation	Dr. Abdul Rehman, Dr. Kashif Iqbal

## 5 Seminars

Sr. No.	Topic	Speaker	Date
1.	Right first-time dyeing	Mr. Hafiz Muhammad Tayyab	14-03-2017
2.	OEKO TEX Compliance	Mr. Abdul Wahab	6-04-2017
3.	Marketing Vs Production	Mr. Amjad Baig	11-04-2017
4.	Confidence building. Stress Management. System of life.	Pakistan School of Motivation and Inspiration	17-04-2017
5.	Sustainability of Textiles in Pakistan	Dr. Munir Ashraf	20-10-2017
6.	Right first-time dyeing	Hafiz Muhammad Tayyab	07-11-2017
7.	Rope Dyeing Technical Consideration and future prospects of Denim in Pakistan	Engg. Nasir Sarwar	14-11-2017
8.	Entrepreneurship	Muhammad Amjad Baig	14-12-2017
9.	Colorants	Hafiz Muhammad Tayyab	19-12-2017
10.	Dye-sensitized Solar Cells: A brief introduction and current research trends	Dr. Hammad A. Cheema	26-12-2017

**Right first time dyeing**



**Confidence building, Stress Management, System of life**



## 6 Industrial tours

<b>Sr. No.</b>	<b>Industry</b>	<b>Semester</b>	<b>Date</b>
<b>1.</b>	Arshad Corporation, Faisalabad.	3 <sup>rd</sup>	7-01-2017
<b>2.</b>	Haris Dyestuff, Faisalabad.	5 <sup>th</sup>	14-01-2017
<b>3.</b>	Crescent Bahuman Ltd Pindhi Bhattian	5 <sup>th</sup>	30-01-2017
<b>4.</b>	Masood Textile Mills, Faisalabad	8 <sup>th</sup>	14-04-2017
<b>5.</b>	Kohinoor Mills, Lahore	8 <sup>th</sup>	13-05-2017
<b>6.</b>	Sapphire unit #5 Sheikhupura	5 <sup>th</sup>	21-10- 2017
<b>7.</b>	Crescent Bahuman Ltd. Pindhi Bhattian	7 <sup>th</sup>	02-11-2017

## 7 Memorandum of understanding

An MoU (Memorandum of Understanding) was signed between National Textile University, Faisalabad (NTU) and Society of Dyers and Colorist, UK (SDC, Pakistan Chapter) on 18th August 2017 at National Textile University, Faisalabad. On the occasion, Prof. Dr. Tanveer Hussain, Rector NTU and Mr. Hafiz Muhammad Tayyab, Head SDC, Pakistan Chapter signed the document of mutual partnership in presence of Chairman of Textile Processing Department, Dr. Munir Ashraf and faculty members.



## 8 Travel Grant

Grantee	Sponsor	Conference Name	Location
Dr. Munir Ashraf	HEC	AUTEX 2017	Corfu, Greece

## 9 MS projects

<b>Title</b>	<b>Supervisor</b>
To improve the adhesion of ZnO nanoparticles on cotton fabric	Dr. Abdur Rehman
Improving fastness properties of printed polypropylene nonwoven fabric using plasma treatment	Dr. Munir Ashraf
Development of alginate/PVA antibacterial nanofibers by incorporating essential oils	Dr. Tanveer Hussain
Development of socks with thermos-regulating and antimicrobial properties	Dr. Rashid Masood
Functionalization of ZnO nanoparticles and their application on textiles	Dr. Munir Ashraf
Development of fire retardant composites	Dr. Munir Ashraf
Natural fiber reinforced hydrophobic composite	Dr. Munir Ashraf
Crease recovery performance enhancement of cotton fabric by using metal oxide nanoparticles with ecofriendly crosslinkers	Dr. Munir Ashraf