

# Department of Materials & Testing

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## Annual Progress Report

**Dr. Sheraz Ahmad, Chairman**

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# Department of Materials & Testing

## Introduction

The Department of Materials and Testing is committed to provide full support to the undergraduate and postgraduate students of the University for gaining in-depth knowledge of conventional and high-performance textile materials, the methods to evaluate their physical and chemical properties to ensure quality of intermediate and end products in textile processes. In totality, it endeavors to make it a center of excellence for textile related research and development.

## Faculty

<b>Dr. Sheraz Ahmad</b>	Chairman/ Assistant Professor	PhD Textiles, France.
<b>Dr. Muhammad Ali Afzal</b>	Assistant Professor	PhD in Mechanical Engineering, France.
<b>Khurram Shehzad Akhtar</b>	Lecturer	MS Textile Engineering, NTU, Pakistan.

## Student Strength

Currently 82 students are enrolled in 3 batches.

## Students Jobs

1<sup>st</sup> batch will pass out in 2019

## **Society of Textile Technologists**

It is a on the interest of student body in Textile Engineering Technology and particularly in deployment, this is about what Technologist's society is. The main goal of this society is to provide entertainment, exploration, to have savoir-faire, nurture their enterprising skills, opportunity for students to broaden their knowledge and to interact with other students who have a common shared interest in the field of modern Textile Engineering Technology and other technologies.

### **Aims & Objectives of Society of Textile Technologists**

- To develop students, focus on technology, quality education, innovation and research.
- To educate and train students of (spinning, Knitting, Weaving, Garments Manufacturing and Processing Technology) to become the leaders, and to take part in their career planning.
- Technologist's Society continuously remains in contact with donors, market and business sponsors, alumni and partners for contributing to making us realize the dream of creating an excellence society of lyceum.
- Society would urge eagerly to hold informative seminars, workshops off and on.
- Behavior of being socially and ecologically responsible, and ethical in decision making.
- Attitude of being a lifelong learner in the practical life.
- To provide a platform where students can hone their management skills while unifying all textile departments under one roof.

## Industrial tours by Society of Textile Technologists

### 1- STT had arranged an industrial tour to Ibrahim Fibers Limited for the students of BS Textile Engg. & Technology.

Society of Textile Technologists had arranged an industrial tour to **Ibrahim Fibers Limited** Sheikhupura Road, Faisalabad on **May 20, 2017 (Saturday)** for **4th & 2nd semester** students of BS Textile Engineering & Technology under the supervision of Dr. Ali Afzal. **Ibrahim Fibers Limited** is one of the largest manufacturer of Polyester staple and filament in Pakistan with a production capacity of 1250 tons per day. The administration of Ibrahim Fibers Limited briefly presented the company profile, portfolio and their impact on Pakistan's local market and export sector. The plant visit starting from the raw material up to the finished product was carried out with detailed explanation at every step. Society of Textile Technologists is highly thankful to the management of Ibrahim Fibers Limited for giving them opportunity to closely understand the production facility and hospitality during the whole visit.



## **2- STT had arranged an industrial tour to Crescent Textile Mills Faisalabad**

On 12th May 2017, the Society of Textile Technologists had arranged an industrial tour to Crescent Textile Mills Faisalabad. The students of 2nd and 4th semesters of BS Textile Engineering Technology under the supervision of Mr. Khurram Shehzad, Lecturer of Department of Materials & Testing had visited Spinning, Processing and Home Textile units. It was the very first experience for the students of 2nd semester to get familiar with the textile industry and they learnt some practical knowledge there. We are highly thankful to the management of Crescent Textile Mills Faisalabad for their hospitality.



## Seminars/workshops

### 1- A Seminar on Compliance's Required for Textile Industry

On 22<sup>nd</sup> May 2017, the Society of Textile Technologists (16-17) under the supervision of Department of Materials and Testing had arranged a seminar on "Compliances Required for Textile Industry". The seminar was organized to familiarize students and Faculty members with environmental and social compliances required for textile industry. The speaker of the lecture was Mr. Muhammad Ramzan, Manager H.R. (Compliances & systems) from Sapphire Textile Mills Pvt. Ltd. The speaker discussed different compliances like ISO, BCI, OEKO-TEX, GOTS, SA-8000, Fair-trade, Eco-Label and C2C.





## Participation in DICE Textiles 2017

Department of Materials and Testing participated in DICE Textile event 2017 held at National Textile University Faisalabad.



## MoUs signed

### 1- Department of Material & Testing, NTU signs an MoU with WWF, Pakistan

In a ceremony held here at National Textile University on November 2, 2017, an MoU was signed between WWF-Pakistan and the Department of Materials & Testing, NTU.

ILO and EU have entered into a partnership under the Project “International Labour and Environmental Standards Application in Pakistan’s SMEs” aiming to promote sustainable and inclusive growth in Pakistan by supporting the economic integration of Pakistan into the global and regional economy by improving compliance with labour and environmental standards and increased competitiveness.

The project has two components; the labour component is being led by International Labour Organization (ILO). To implement the environmental component of the project, ILO has entered into a partnership with the World Wide Fund for Nature-Pakistan (WWF-Pakistan). To achieve the project objectives, WWF-Pakistan and Department of Materials & Testing, NTU signed an MoU to foster the cooperation.



## BS Final Year Thesis 2017-18

- Senior most session is in 3<sup>rd</sup> year.

## Publications Journal

1. Zuhaib Ahmad & Brigita Kolčavová Sirková, "Tensile behavior of Basalt and Glass single layer and multilayer woven fabrics", The Journal of The Textile Institute, Vol. , No. , (2017), pp.
2. Shoaib Iqbal, Moaz Eldeeb, Zuhaib Ahmad , Adnan Mazari, "Comparative study on yarn and knitted fabric made from Open end and Rieter airjet spun system", Tekstil ve Konfeksiyon, Vol. 27, No. 3, (2017), pp.3
3. Asif Elahi Mangat, Lubos Hes, Vladimir Bajzik, Zuhaib Ahmad, "Influence of air flow direction on thermal resistance and water vapor permeability of Rib knit fabrics", TEKSTİL ve KONFEKSİYON, Vol. 27, No. 1, (2017), pp.1
4. A. Ali , N.H.A. Nguyen, V. Baheti, M. Ashraf, J. Militky, T. Mansoor, M.T. Noman S. Ahmad, Electrical Conductivity and Physiological Comfort of Silver Coated Cotton Fabrics, The Journal of the Textile Institute, Vol. 109, No. 5 (2018), pp. 620-628.
5. F. Ahmad, M. H. Malik, Z. Chohan, S. Ahmad. M. Tausif, Mechanical and Comfort Properties of Hydroentangled Nonwovens from Comber Noil, Journal of Industrial Textiles, Volume 47 Issue 8, 2018, Page 2014-2028.
6. Z. Masood, S. Ahmad, M. Umair, K. Shaker, Y. Nawab, M. Karahan, Mechanical behaviour of hybrid composites developed from textile waste, Fibres and Textiles in Eastern Europe, 26, 1(127): 46-52.
7. S. Ahmad , M. Ashraf, A. Ali, K. Shaker, M. Umair, A. Afzal, Y. Nawab, A. Rasheed, Preparation of Conductive Polyethylene Terephthalate Yarns by Deposition of Silver & Copper Nanoparticles, Fibres and Textiles in Eastern Europe, 25, 5(125): 25-29.
8. M. Haris, K. Shaker, M. Ashraf, M. Karahan, S. Ahmad, M.A. Nasir, Y.Nawab, Interdependence of moisture, mechanical properties and hydrophobic treatment of jute fibre reinforced composite materials, The Journal of the Textile Institute, Volume 108, Issue 10, 2017, 1768-1776.
9. M. Umair, K. Shaker, Y. Nawab, A. Rasheed, S. Ahmad, A Study on the Twist Loss in Weft Yarn During Air Jet Weaving, Journal of Engineered Fibre and Fabrics, Vol.12, Issue 4 1-6. 2017.
10. Ahsan Nazir, Tanveer Hussain, Ali Afzal, Sajid Faheem, Waseem Ibrahim, Muhammad Bilal, Prediction and correlation of air permeability and light transmission properties of woven cotton fabrics, AUTEX Research Journal, Vol. 17, Issue 1, pp. 61-66, 2017, DOI: 10.1515/aut-2015-0053.

11. Ali Afzal, Sheraz Ahmad, Abher Rasheed, Faheem Ahmad, Fatima Iftikhar, Yasir Nawab, Influence of fabric parameters on thermal comfort performance of double layer knitted interlock fabrics, AUTEX Research Journal, Vol. 17, Issue 1, pp. 20-26, 2017, DOI: 10.1515/aut-2015-0037.
12. Ali Afzal, Sheraz Ahmad, Abher Rasheed, Muhammad Mohsin, Faheem Ahmad, Yasir Nawab, Characterization and statistical modelling of thermal resistance of cotton/polyester blended double layer interlock knitted fabrics, Thermal Science, Vol. 21, Issue. 6A, pp. 2393-2403, 2017, DOI: 10.2298/TSCI150520201A

## Conference

- 1- Muhammad Zubair, Zuhaib Ahmad, Muhammad Usman Javaid, Jean-Yves Drean, Decrette Mathieu, "Influence of fabric architecture and material on physical properties of 3D multilayer woven fabrics", 9th Central European Conference, Venue: Technical University of Liberec, Liberec, Czech Republic, (2017)

## Books/Book chapters

- An International “Advanced Textile Testing Techniques” edited by Sheraz Ahmad, Abher Rasheed, Ali Afzal, Faheem Ahmad (CRC Press, USA) 2017.

## Research Funding

Sr. #	Title of Project	Amount (million Rs.)	Funding source(s)
1	Development of Modified Nano-Webs for Technical Application	5.6	HEC

## Trainings

- Participated in workshop for the Technology Programs Evaluators arrange by National Technology Council Islamabad. (23<sup>rd</sup> -25<sup>th</sup> May 2017)

## MS Projects Supervised

- Influence of Spinning Techniques on Mechanical and Comfort Properties of PC Blended Woven Fabrics.
- Investigation of Dyeing Behavior and Handle Properties of Fabrics Made from Ring, Rotor and MVS Yarns.

- Development of Green Composite Support Plate for Bone Fracture.
- Development and Characterization of 2D Woven Auxetic Fabric for Advance Applications.
- Effect of Dyeing Routes and Softener Treatments on the Sensorial Properties of Woven Fabrics.

## **Departmental Board of Studies 2017**

2nd meeting of the Departmental Board of Studies of Department of Materials and Testing was held in the University. The meeting was chaired by Dr. Sheraz Ahmad, Chairman of the department.

Educational experts include Dr. Asad Farooq, Assistant Professor / Chairman, Department of Textile & Fibre Technology, University of Agriculture, Faisalabad and Dr. Muhammad Mohsin, Associate Professor / Chairman, Department of Textile Engineering and Technology, University of Engineering and Technology, Lahore participated and gave their valuable suggestions for programs improvements.

The expert from Industry was Mr. Asif Mahmood, Mills Manager from Dewan Farooque Spinning Mills. The industrial expert highlighted current deficiencies to improve in future graduates.

