



**DEPARTMENT OF  
FIBRES AND  
TEXTILE  
PROCESSING  
TECHNOLOGY**

## ABOUT THE DEPARTMENT



### **PROFESSOR (DR.) RAVINDRA V. ADIVAREKAR**

*B.Sc., B.Sc. (Tech.), M. Sc. (Tech.), Ph. D. (Tech)*

Professor in Fibre Chemistry

Head, Dept. of Fibres and Textile Processing Technology

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It was about 81 years ago that the Textile Industry was progressing in-full swing in city like Mumbai, and Ahmedabad. Many other industries were not even born, in that pre-independence era. It was the time, Sir Vitthal Chandavarkar was V.C. of University of Mumbai and also the Chairman of Mill Owners' Association. He and his industrialists friends donated 200 lakhs for creation of an educational and research institute catering to the need of Textile industry and that's how this UDCT, then called as University Department of Chemical Technology, under the wings of Mumbai University, was established with two disciplines: Textile Chemistry and Chemical Engineering offering a 2 year Degree course post B.Sc. chemistry, called as B.Sc.Tech. A number of new disciplines of chemical technology, pharmacy, and biotechnology were opened up

over the years as per the need of the nation and all these various technological disciplines have played a paramount role in building the respective industry in the country. Most of the Professional Bodies of the Technocrats of these disciplines, even today operate from the portals of excellence of UDCT.

Thus the Department of Fibres and Textile Processing Technology (FTPT), formerly known as Textile Chemistry section has the unique distinction of being one of the two disciplines (other being Chemical Engineering), with which this institution- ICT (formerly UDCT) started in the year 1933. The Department conducts B.Tech. course with an intake capacity of 34, which is highest among all the B.Tech. courses of ICT. The course involves study of chemistry and manufacture of Fibres, their chemical processing such as bleaching,

dyeing, printing and finishing. It further encompasses the study of chemistry as well as application of various kinds of chemicals, dyes, thickeners, and finishing auxiliaries which are used in chemical processing of textile fabrics and garments. Textile chemistry also involves knowledge of green chemistry, biotechnology and nanotechnology with special reference to chemical processing of textiles.

The post graduate courses of M. Tech., M.Sc. in Textile Chemistry and Ph.D. (Tech.), Ph.D. (Textile Chemistry) attract a large number of students and so far more than 2309 graduates and 554 post graduates have passed out from this Department. The faculty of the Department has good interaction with the industry. A number of industries have been benefited by the technical advice given by the faculty. There have been a number of industrial and governmental research

projects in which problems of mutual interest are investigated and the students as well as the Department have been benefitting by this interaction. The department is recognized as Centre of Advanced studies in “Physicochemical aspects of Textile, Fibres, Polymers and Dyes” presently in Phase VII, since 1962. The department also received a grant of Rs. 1.55 crores recently under DST-FIST programme which is highest so far for the department. The department has played an important role in evaluating TUFs under Ministry of Textiles, GOI. The faculty is engaged in high quality fundamental as well as applied research and they have got over 1000 publications in Indian and International journals as well as reputed fellowships to the credit from recognized institutions in India and abroad.

It gives us immense pleasure to put on record that in the month of August 2013, all the Textile

department faculty were invited to Ethiopia by Textile Ministry of Ethiopia to do the GAP analysis of Ethiopian Textile Industry and Universities and submit a proposal to make them internationally competitive. The project is being successfully implemented. So far 13 M Tech, 1 M Sc and 1 Ph D fellow from ETIDI has been admitted in ICT. The dept faculty along with industry expert has conducted 6 Refresher courses, 1 Technical Awareness seminar and 4 International Conference in Ethiopia.

After the globalization of the markets with border less trade, textile manufacturing activities are shifted to country like India which is fast developing economy. Today Textile being one of the fundamental needs of human being, it is a mother industry, next to only agriculture sector, involving over 60 million people. The business is fast growing and will soon touch around US\$ 100

Billion. However, in the border less trade many multinational brands are competing and the critical area of chemical processing of textile fabrics and garments requires tremendous amount of consolidation in terms of well trained manpower which can keep pace with latest technological operations and demand of stringent quality parameters in shortest delivery time giving competitive edge to the manufacturers. There is a huge shortage of Textile Processing graduates in the core textile industry as well as in multinational and reputed Indian manufacturers of dyes, chemical and auxiliaries. Thus the scope for graduates and postgraduates of this department is enormous and such a demand with every passing day will only be rising given that consumption of apparels and technical textiles in India and abroad is increasing at galloping rate.

# FACULTY



## PROFESSOR (DR.) RAVINDRA V. ADIVAREKAR

B.Sc., B.Sc. (Tech.), M. Sc. (Tech.), Ph. D. (Tech)

Professor in Fibre Chemistry

Head, Dept. of Fibres and Textile Processing Technology

### PROFILE AND ACCOMPLISHMENTS SO FAR

#### FELLOWSHIPS/ MEMBERSHIPS OF PROFESSIONAL BODIES:

- Life Member of Textile Association (India)
- Life Member of Indian Fibre Society
- Life member of Natural Fibre Society
- Editor of Journal of Textile Association
- Visiting faculty for Sophia Polytechnic, Mumbai.
- Member of selection committee, College of Home Science, Nirmala Niketan, Mumbai.
- Member of Technical/ Research advisory committee of Wool Research Association
- Member of Board of studies and faculties of The Maharaja Sayajirao University of Baroda in Textile chemistry
- Member of General Advisory Committee for Research and Liason of BTRA for the period 2011-

2014

- Member of 'Core Group' to function as a Sub-committee of the Council for COE in Sportech at WRA
- Member as Expert in Department Research Committee at Textile Manufacturers Department, Veermata Jijabai Technological Institute
- Member of RRC, Department of Physics, ICT
- Member of Editorial Board, IJFTR

#### HIGHLIGHTS OF RESEARCH WORK AND ITS IMPACT (MAXIMUM TWO SINGLE-SPACED PAGES WITH FIGURES/DIAGRAMS ETC.):

##### a. Enzyme Manufacturing and Application

- Microbial proteases are an important group of enzymes that can have application in various industries. The feasibility of the use of proteases in textile application depends on these factors. There has been an increased interest all over the world to utilize

the waste for the production of value added products. This results in reduced environmental pollution and improved economics of processing. In this project sincere attempt was made to screen microorganisms from abattoir waste, poultry waste, fishery waste, etc which are rich sources of protease producing microorganisms. The further purification of enzyme and its application in various steps involved in textile wet processing such as enzymatic treatment of wool, degumming of silk and in detergent industry etc will be studied.

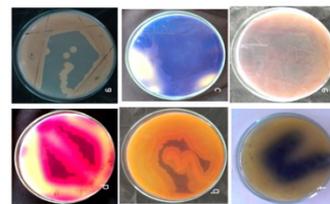


Fig.1 Enzyme manufacturing

##### b. Natural Dyes for Textiles and Cosmetics

The current research work focused on the modification of natural dyes with azo chromophoric system and other possi-

ble substituents (auxochromes) to modify its substantivity and tinctorial capacity to overcome inherent limitations of natural dyes. The synthesized dyes will be applied on polyester, cotton, polyester/cotton blend to yield level dyeing, good build-up, complete colour gamut.



Fig.2 Dyeing and Printing of Textile

The currently used colorants are almost exclusively made from nonrenewable resources such as fossil oils. The production of the synthetic colorants is economically efficient and technically advanced with colors covering a wide range. However synthetic colorants are facing challenges such as dependence on non renewable and environmentally friendly resources for production of natural colorants before synthetic dyes were invented, but in very low efficiency. The current research work focus on the Isolation, Extraction & characterization of new Biocolorants from natural sources like plants, animals and microorganisms, to study their unique properties like Anti-UV, Anti-Microbial, Anti-oxidant Activity etc and their application as colorant in different industries will be studied.

### c. Medical textile

Studies in Blood Clotting Materials

The work is going on to develop a solution for clotting of blood

in economical way comparable to the other materials available in commercial market without leading to any side effects such as skin irritations, damage the healthy skin etc.



Fig.3 Blood clotting material and Scaffolds

Studies in biopolymers

The work is being carried out in order to contribute to the development of novel biomaterial and their blends for the application as temporary scaffolds in health care or wound healing mechanisms. The addition of herbal products as a drug for curative purpose can also be new and imminent contribution to field of drug delivery through scaffolds. This can be achieved through imparting functional groups in the bio-materials used in scaffold engineering. It can open new prospects in this multidisciplinary field.

### d. Non-conventional natural fibres for composites

Glass, carbon and aramid fibres are conventional fibres which are generally used in composite. Composite reinforced with these fibres are having high mechanical and thermal properties. But these fibres are not completely environment friendly and have very high cost. Industry is searching for alternatives to overcome the short comings of these fibres. One such alter-

native which has never been sought before is fibres extracted from Saccharum Munja Grass. From the experiments, it can be inferred that this fibre has good potential to r Studies in Medical Textiles place glass fibre as reinforcement in composite. Limitations of this fibre can be overcome by its modification. Some unexplored fields of application for this fibre need to be studied.



Fig.4 Composite made from natural fibre

### e. Green Processing of Textiles Selective Treatment and Recycling of Textile Effluent

Attempt is made to carry out segregation of waste streams and waste recovery, recycle and reuse for waste reduction application. A simple approach is being followed to treat the wastewater after each process itself by means of simple purification techniques, to avoid complexities on compounding of effluent for its treatment at ETP (Effluent Treatment Plant). The waste water can also be utilized in the same process flow to create a closed loop system. There are two main agenda of this research project, to save the water in textile industry and to minimize the effluent load produced in processing treatments. Eco friendly processing of textile materials

The present application is directed to a method of waterless processing of textile materials using solvents. Dyeing of textile material can be done by using

solvents. The properties of the solvent are closely related to the design/operation of a solvent based separation technique that is employed to perform a specified separation task. Separation involves removal of one or more of the constituent parts from a mixture. There are two main agenda of this research project, first is to save the water in textile industry which can be solved by the solvent mechanism dyeing and second is to minimize the effluent load produced in processing treatments which can be solved by the solvent separation technique.

#### f. Fabric conditioners

This was a consultancy project done under industry affiliation with one of the leading Industry. It was done in two parts; Various types of actives (conditioners) supplied were applied on 100% cotton and polyester fabric by exhaust method. The samples were evaluated for whiteness/yellowness index, fabric feel (softness), water repellence,

crease recovery test. Application of active (SDBS, sodium dodecyl benzene sulphonate) on 100 % cotton and polyester woven fabric was also carried out and their adsorption was measured.

h. Novel Processing Techniques Studies in Graphite for Textiles An approach has been made of synthesising graphene from graphite as well as its application on textile relating to its unique characteristics that can give a value addition to the field of textiles. The performance properties of textile materials is thought to be enhanced by the graphite based materials whose technology is still thought to be a wonder one in the current research of science and technology.

#### g. Novel flame retardancy

In present study we focus on the biodegradable and eco-friendly flame retardant. The main important factor for flame retardant property is to have element like Nitrogen and Phosphorous. In nature proteins are the main

source of nitrogenous compounds. To have more effect proteins could be incorporated with phosphorous compounds. The main goal in this study to extract biodegradable material from natural origin substances and their chemical modification for better flame retardant property.

**PUBLICATIONS (PEER REVIEWED) SO FAR: 97**

**PATENTS: 02**

**CONFERENCE PROCEEDINGS/PAPERS: 52**

**SEMINARS/LECTURES/ ORATIONS DELIVERED : 11**

**PH.D.S AWARDED AS SINGLE/ CO-GUIDE: 06**

**INTEGRATED PH.D.S AWARDED AS SINGLE/ CO-GUIDE : 02**

**MASTERS AWARDED AS SINGLE/ CO-GUIDE: 39**

**H-INDEX- 08, CITATIONS: 261**



#### **PROFESSOR (DR.) S. R. SHUKLA**

*B.Sc. (Hons.), B.Sc. (Tech.), Ph. D. (Tech.)*

Professor of Technology of Dyeing & Printing

**PUBLICATIONS (PEER REVIEWED) SO FAR: 156**

**PATENTS: 03**

**CONFERENCE PROCEEDINGS/PAPERS:**

**PAPERS- 58; POSTERS- 18**

**SEMINARS/LECTURES/ ORATIONS DELIVERED: 0**

**PH.D.S AWARDED AS**

**SINGLE GUIDE: 28**

**MASTERS AWARDED AS SINGLE GUIDE: 72**

**H-INDEX: 25, CITATIONS: 2668**

**RESEARCH STUDENTS**

### CURRENTLY WORKING :

P.D.F.- Nil RA - Nil  
Ph.D. (Tech.) 02  
Ph.D.(Sci) – 01  
M.Tech. – Nil  
M.Chem.Eng - Nil  
M.Sc - Nil  
Others (if any) - Nil

### RESEARCH PUBLICATIONS\*:

International- 10  
National- 0

Peer-reviewed- 0  
Conference proceedings- 0  
Books- 0  
(\*list with impact factor,  
citation number, DOI, average  
impact factor)

### PATENTS:

International -Nil Indian - Nil  
(List with appropriate proof)

### SPONSORED PROJECTS:

Government- 0  
Private- 0  
(List with appropriate proof of  
sanction letter)

### PROFESSIONAL ACTIVITIES (MEMBERSHIP OF IMPORTANT COMMITTEES):

SPECIAL AWARDS/  
HONOURS: Nil



### PROFESSOR DR. MANGESH D. TELI

*B.Sc., B.Sc. (Tech.), M.Sc. (Tech.), Ph.D. (Tech.),*

- Professor of Textile Chemistry
- Member of Board of Management, ICT
- Ex-Dean, Student Affairs & HRD
- Served earlier as Head of Dept. of Fibres and Textile Processing Technology,

### PROFILE AND ACCOMPLISHMENTS SO FAR:

#### EDUCATIONAL QUALIFICATIONS:

- B.Sc. (Hons.), (1973) Mumbai University
- B.Sc. (Tech.), Textile Chemistry, University Topper:First Class Firstwith Distinction (1976);
- M.Sc. Tech Part I (University Topper in both Semesters) 1978. Registration Converted to Ph.D.Tech
- Ph.D. (Tech.), Modification of Synthetic Fibre, Mumbai University, (1981).
- Undergone Sr. Management workshops for formulating Vision and Corporate Governance.
- Certificate Course

on “Education for Development” and Conceptual Frame work for Social Action” from FUNDAEC, Colombia

#### FELLOWSHIPS/ MEMBERSHIPS OF PROFESSIONAL BODIES:

- F.T.A. (Hon. Fellow of Textile Association),
- F. M. A. Sc.(Fellow of Maharashtra Academy of Sciences)
- Fellowship for CSIR-CNRS (France) International Scientific Exchange Programme under which carried out research work on Plasma in France.(1993)
- German Democratic Republic (GDR) Academic Exchange Fellowship

#### HIGHLIGHTS OF

#### RESEARCH WORK DONE AND ITS IMPACT (MAXIMUM TWO SINGLE- SPACED PAGES WITH FIGURES/DIAGRAMS ETC.):

- Chemical Processing of almost all Natural and Synthetic Fibres and their modifications:
- It involves all types of fibres: Cotton, wool, silk , bamboo, modal, viscose, polyester, PP and mainly the modification of various natural and synthetic fibres by graft copolymerization in order to impart them enhanced dye ability, water absorption or oil absorption characteristics, increased electrical conductivity as well as changes in electro kinetic properties such as zeta potential etc.

- Immobilization of nano materials on the fibre surface for antibacterial properties is also studied.
- Melt blending and polymer alloy formation is used to produce fibres like Polypropylene as well as polyester with enhanced Dyeability, flame retardancy, mosquito repellence, aroma etc. These properties including antibacterial properties in case of nano composites fibres making use of nano silica, nano clay and nano silver etc. were also studied.
- Modification of biopolymers like various starches obtained from waste materials like germinated cereals –Jowar, Wheat, Bajra, Ragee and Amaranthus etc into textile printing thickeners to substitute the virgin biopolymers is being actively researched.
- Very effective superabsorbent of such biopolymers were also obtained and one such superabsorbent is filed for patent.
- Synthesis of acrylic based thickeners for substitution of kerosene or many other printing thickeners such as sodium alginate etc in order to make the operation more eco friendly and also economical has been carried out.
- Speciality finishing of textile fabrics of various origins making use of eco-friendly chemicals and finishes for enhanced performance, in terms of antibacterial property, dyeability, water repellence, stain repellence, protection from UV rays, mosquito repellence etc is actively researched. These finishes are obtained by modifying the dyestuffs or by synthesis and application of nano materials or making use of micro encapsulation techniques.
- Simultaneously dyeing and antibacterial finishing concept was also pursued where in water and energy conservation is done and also the durable performance is achieved.
- Natural dye application for dyeing as well as printing of natural fibres mainly cotton, wool and silk is being investigated. Newer concept of using natural Mordants and natural medicinal herbs is also being tried to attain fully eco-friendly concept. Natural dyes on synthetic textiles are also being investigated.
- Technical Textiles where in work relating to medical and protective and sport textiles is undertaken. Hemostats, or slow release compounds using chitosan were attempted for band aids.
- Coated textiles having multiple finishing effects as well as material development as sound barriers/absorbers were also studied.

**PUBLICATIONS (PEER REVIEWED) SO FAR:** 299

**PATENTS:** 3

**CONFERENCE PROCEEDINGS/PAPERS:** 150

**SEMINARS/LECTURES/ ORATIONS DELIVERED:** 55

**PH.D.S AWARDED AS SINGLE/ CO-GUIDE:** 21

**MASTERS AWARDED AS SINGLE/ CO-GUIDE:** 96

**H-INDEX:** 13, **CITATIONS:** 561



**(DR.) (MRS.) USHA SAYED**

*B.Sc., B.Sc. (Tech.), M.Sc (Tech.), Ph. D. (Tech.)*

Associate Professor

**PROFILE AND ACCOMPLISHMENTS SO FAR**

**EDUCATIONAL QUALIFICATIONS:**

- Ph.D Tech from Institute of chemical technology [UICT aka UDCT] Matunga, University of Mumbai, India. Title of thesis: Studies in dyeing .1997. Grade I
- M.Sc Tech From Institute of chemical technology [UICT aka UDCT] Matunga, University of Mumbai, India. Partly by papers and partly by research.1983. I class
- B.sc Tech In textile chemistry 1980 I class with Honours From Institute of chemical technology [UICT aka UDCT] Matunga , University of Mumbai,
- B.sc Chemistry Physics I class honourswith Distinction {1977} From Mumbai University SIES college Sion, Mumbai
- SSC Pune board with I class distinction from Auxilium convent ,Mumbai

**FELLOWSHIPS/ MEMBERSHIPS OF PROFESSIONAL BODIES:**

- Fibers society of America
- Member of Alumni Association
- Member of the Committee for Women's Welfare, Mumbai University.
- Member of board of studies Baroda university textile department.
- Member of AATCC
- Life member of Natural Fibre society, Culcutta

**HIGHLIGHTS OF RESEARCH WORK DONE AND ITS IMPACT (MAXIMUM TWO SINGLE-SPACED PAGES WITH FIGURES/DIAGRAMS ETC.)**

**STUDIES IN FINISHING**

- Antibacterial garments and fabrics are in demand in the present scenario. Thus innovative methods products and machineries continue to dominate the textile market.
- The present work was undertaken to add functional value namely antibacterial property by tangentially different approach.
- Tetracycline hydrochloride was chosen for its cost effectiveness and it

possesses a wide range of antibacterial property against Gram-positive and Gram-negative bacteria, Tetracycline hydrochloride was applied on Silk, Wool and Nylon by the exhaust process and optimization was carried out. The performance properties of the above treated silk were very encouraging and a wide range of shades were simultaneously obtained along with the good fastness properties.

- This is a novel technique introduced for imparting antimicrobial property which is non-leaching type, easy to apply, compatible with existing dyeing process, cost effective and require less effluent treatment.
- Tetracycline Hydrochloride being a non-toxic in nature can be worn next to skin. The end-use can be in various sectors in apparels, kid's garments, technical textile, medical textile etc.

**STUDIES IN SYNTHESIS OF AND FORMULATIONS OF SPECIALTY CHEMICALS AND THEIR APPLICATIONS:**

- The process modification

in manufacturing and synthesis of chitosan and its derivatives have been carried out. The purity of the products obtained by such modification of pH, ash content, % insoluble and solubility are comparable with commercial chitosan. The reproducibility was successful and negligible variable from batch to batch. Water soluble chitosan has also been successfully prepared using acetic anhydride as a reagent.

- The water-soluble derivative using succinic anhydride and the third derivative using benzyl amine have been confirmed by FTIR analysis and have very successful applications as metal scavengers. Thus, by using this process, the energy and time consumption is very low, indicating that the developed process is highly efficient in terms of yield, quality, time saving and energy. By this, optimized process it was possible to manufacture chitosan which is comparable with that of commercial and economical with lower molecular weight which implies greater application in textiles and consumer care products.
- The wipes have been developed by treating with different chemicals for different end uses by simple and cost-effective ways. The formulations and the synthesis of a variety of chemicals for the purpose of making antimicrobial,

moisturizing and mosquito repellent wipes having good water absorbency and fragrance retention have been evaluated. This is done by incorporating effective ingredients and perfumes into products that suits consumer needs, especially for wipes that can be used during travel. Further wipes have been prepared using value added formulations such as plant extracts, moisturizers, and perfumes for the babies and general personal care markets. The result indicates that, retention of moisture for viscose was highest among all the four types of selected nonwovens. Whereas for polyester the Moisture regain is very negligible i.e. 0.04% which proves that the viscose is more suitable for retaining the wet formulated solution for longer period of time.

- Preparation of wet wipes using chitosan and its derivatives and others specialty chemicals for obtaining wipes such as antibacterial, antifungal moisturizing and mosquito repellent wipes has been successfully carried out.

#### STUDIES OF NANO-SILICONE

- Nano silicone emulsions, as we have seen can be easily applied in the diluted form. The chemicals required are easily available and the procedure is also less time consuming. These softeners can be used for denim

washing that can replace the conventional method which requires a huge amount of water. Excellent softness can be achieved using a small amount of chemical and water with comparatively less wastage of energy and resources. Thus, extensive research has to be carried out in this area keeping in mind the cost factor of nano silicone softeners.

- The future prospects of nano finishing which are Eco friendly are innumerable since it has many adventitious functional perspectives.

#### PROCESSING OF DENIM FABRIC:

Nano ZnO particles synthesized by Sol-gel method and Precipitation method was applied on denim fabric for imparting antimicrobial property. The denim fabric used for this work showed significant increases in physical properties after treatment by the nano zinc oxide used along with the polyurethane, DMDHEU resin and Softener and also separately. These resulted in increased tensile strength and elongation. Bleaching and printing of Denim fabric by novel process was also carried out.

#### PIGMENT DYEING AND FINISHING OF TEXTILE SUBSTRATE:

Raw pigment was synthesized in laboratory and dyeing of various fabrics like cotton, khadi, jute wool, denim was carried out by using this pigment in a new modified process and compared

with commercial pigment which made it economical in terms of thickener used and also efficient. Novel effect on printing was also obtained using the above pigment.

#### **SYNTHESIS AND APPLICATION OF SURFACTANTS ON TEXTILES:**

Three cationic surfactants were synthesized and studied for their application on textile as antibacterial agents, coagulating agent and as a softener finish and imparting soil releasing properties.

#### **WET WIPES:**

Wet wipes were tested for tensile strength, wicking power, rate of evaporation and absorption by the stack test. Various formulations were used to

prepare wet wipes.

#### **STUDIES IN SUPERABSORBENT:**

Successful preparation of superabsorbent from Jute, coir, newspaper waste and food waste have been carried out.

#### **PROCESSING OF JUTE:**

- Successful pretreatment of jute with laccase enzyme followed by bleaching. Flame retardancy was imparted to jute fabric by synthesizing two polymers which are non-halogen in nature. Simultaneous dyeing and finishing was also carried out successfully when synthesized products were used.
- Testing of free formaldehyde on garments finished with resin finish have also been

carried out in order to meet international standards for kid's garments and apparels.

- Dyeing, printing and finishing of tent fabrics was also carried out for the first time.

**RESEARCH PUBLICATIONS SO FAR : 82**

**PATENTS: NIL**

**CONFERENCE PROCEEDINGS/PAPERS: 6**

**SEMINARS/LECTURES/ ORATIONS DELIVERED: 2**

**PH.D.S AWARDED AS SINGLE GUIDE: 1**

**MASTERS AWARDED AS SINGLE GUIDE: 2**

**H-INDEX : NIL CITATIONS: NIL**



#### **PROFESSOR (DR.) RAVINDRA D. KALE**

*B.Sc., B.Sc. (Tech.), M.Tech., Ph. D.Tech.*

Associate Professor in Textile Chemistry

#### **PROFILE AND ACCOMPLISHMENTS SO FAR:**

##### **FELLOWSHIPS/ MEMBERSHIPS OF PROFESSIONAL BODIES:**

- Life Member of Indian Fibre Society
- Life Member of Indian Natural Fibre Society
- UDCT Alumni Association

##### **HIGHLIGHTS OF RESEARCH WORK DONE AND ITS IMPACT (MAXIMUM TWO SINGLE-SPACED PAGES WITH FIGURES/DIAGRAMS ETC.):**

##### **A. Application of nanoparticles for Effluent treatment**

The effluent discharged from textile process houses consist highly concentrated dyes wastewater. Most of the colorants

are complex aromatic structures, which are difficult to dispose off by natural methods. Azo dyes in particular are resistant to biodegradation. Reactive dyes are the most popular dyes used for dyeing cellulosic fibres and consequently their removal from wastewater is difficult due to their high solubility. At present different physical, chemical and biological methods are

tried for dye removal or their decolorization but most of these methods have their own limitations. In our research work, we are investigating the efficacy of nanoparticles to decolorize coloured effluent obtained from textile wastewater.

### **B. Use of Nano emulsions in dyeing of synthetic fibres and its blends**

In this study three types of nanodisperse dyes were prepared using oil in water nanoemulsions and applied on polyester and its blend. Nanoemulsions were prepared by three methods: ultrasonication, phase inversion composition and spontaneous emulsification process. Nano scale emulsion was obtained by all the three methods as evidenced by Dynamic Light Scattering method. Dyeing characteristics of fabric dyed with crude disperse dyes using these nanoemulsions and that dyed with commercial form of same disperse dyes was compared. Dyeing of very high color depth was thus eliminating the requirement of milling of the crude disperse dye with the dispersing agent resulting in cost, time and energy savings.

### **D. Novel Technique to Develop Mosquito Repellent Fabric using Essential Oils**

Mosquitoes are not only a nuisance as biting insects, but are also involved in transmitting disease to humans and animals. To ensure our security and safety from the future hazards, we need to develop the mosquito repellent finished textiles which is a part of protective textiles [2]. Mosquito repellent textile will

protect the human beings from the bite of mosquitoes thereby protecting from mosquito – borne diseases such as malaria, dengue fever and yellow fever. This study focused on developing mosquito repellent nylon net fabric using essential oils. Fabrics were treated with oil nanoemulsion using a novel technology which is a room temperature finishing technique. The oil nano emulsion was synthesized using high speed homogeniser. The particle size was analysed using dynamic laser diffraction particle size analyser. The finished fabrics were analyzed for their mosquito repellent activity using modified WHO excito repellency test and mosquito mortality using WHO cone test. The treated fabrics showed 95% mosquito repellent efficiency and 90% mortality rate and retained their activity until 25 washes. SEM analysis of the treated and washed samples was also done. These types of textiles can protect the human beings from the bite of mosquitoes there by promising safety from the mosquito borne diseases.

### **E. Surface Modification of Synthetic Fabrics for enhancing its hydrophilicity using Natural Polymers**

Different kinds of fibres are available now-a-days. These fibres are mainly divided into two categories natural and synthetic. Synthetic fibres being cheap and possessing all the desirable physical as well as chemical properties lack the hydrophilicity that is present in the natural fibres. The use of

micro denier fabrics and hollow fibres in sports textile makes the products very costly and the production cycle longer. We are working on surface modification of synthetic fabrics using natural polymers to enhance its hydrophilicity. The durability of this natural polymer onto synthetic fibres like polyester and polypropylene will be achieved through the use of coupling agent. The concentration of coupling agent will be kept to minimum level and that of cellulose polymer would be maximum so as to achieve the desirable effect at lower cost. The process will be very much easier and cheaper as compared to the available techniques. This hydrophilic modified synthetic fabric will find use in sports textile, diapers, sleeping bags and the products will be available at lower costs making it within the reach of the common man. This process can be carried out in conventional machines therefore all these products can be produced in India as presently companies producing goods of this kinds are all foreign MNCs.

### **F. Synthesis of Biodegradable Polymeric Films**

Plastics have become the inseparable part of human life since its evolution to its vast expansion in day to day life. Irrespective of its good durability, light weight and low cost, plastics have become problematic considering its disposal problem. Biodegradable polymer is an alternative to plastic materials but problem still arises regarding its cost and

dependence on food crops for raw material. So, the problem has been addressed in the research work using non-food source material natural polymer for developing low cost bio-composite film for packaging application.

The strength of these films is more due the addition of reinforcement material which is very cheap and readily available.

The Bio-composite films have low moisture regain less WVTR (Water Vapour Transmission Rate), enough tensile strength (TS), low Water solubility (WS) and Swelling ratio (SR). Then optimised bio-composite films have good rot resistance and biodegradability.

These films have promising potential to serve as Packaging material in various fields such as agriculture, day to day life and storage of goods. It can serve the purpose of an emerging and sustainable option for replacement of conventional non eco-friendly plastic based packaging materials.

### **G. Use of Natural Polymers in Green Composites**

Various commercially available petroleum based plastics and composites pose a serious environment threat due to their extremely slow degradation characteristics. While a small fraction of these products are incinerated, most others end up in landfills at the end of their useful life and pose serious ecological concerns. Environment friendly "green" composites are increasingly being explored as alternative to the conventional plastics to

improve the environmental sustainability. As a result natural biopolymers are fast becoming viable alternative to petroleum based polymers. Hence there has been a growing trend in utilizing the vegetable oils extensively as a raw material in making bio-composite by reinforcing them with nonconventional fibres in various applications due to their inherent biodegradability, low cost, societal favourably advantage and availability. Thus utilization of these green composites will help reduce the consumption of petroleum based composites. Green composites cannot cope with rapid rise in global demand for industrial purposes. However, realizing the long term problem of petroleum based composites, the potential for green composites is required to be exploited as they are likely to play a key role in emerging "green" economy. Producing green composites on a large scale will help in fulfilling the industrial sectors like automotive, constructions, furniture's etc. on a large scale. Pursuing this quest the current research work is aimed at manufacturing green composites. Both the matrix and reinforcement materials that are being used are of natural origin. The current work carried in this direction will give a better understanding of their behaviour during its test performance which itself will decide its end applications.

### **H. Biodegradable foams**

In this work, the conventional polystyrene foam products have been attempted to be replaced

with promising biodegradable polymer based on carbohydrate compounds. The tensile strengths are almost comparable with the polystyrene foam. Also these sheets are completely biodegradable in soil. From the BOD tests, it was evident that it can be degraded by microbial action. Moreover by addition of hydrophobic formulation its water sensitivity is found to be reduced giving it requisite durability.

Hence such foams find promising applications in packaging; the water sensitive ones could be used in medical fields for application in bandages with drug delivery actions. The packaging fields could be electronic packaging; food packaging etc. These foams can also be made stiff and used in geological applications as superabsorbent by introducing this property.

### **I. Nanotechnology using LBL Technique**

Polyelectrolytes have been utilized in the formation of new types of functional materials through film formation of nanometric scale on the fibre surface. These thin films are constructed using layer-by-layer (LbL) technique. Polyelectrolytes, either cationic or anionic are adsorbed on the surface of the fibre and the surface charge is reversed, allowing the gradual and controlled build-up of electrostatic films of polycation-polyanion layers. The polyelectrolyte multilayer (PEM) film thus built by this method can be subjected to further modification to impart

new functional properties to the fabrics onto which it is applied such as antimicrobial, super hydrophobic surface, mosquito repellent, optical anti-reflective coatings etc. In our research lab, we have been successful to incorporate ZnO nanoparticles on Nylon fabric by this method. The resultant fabric found to have antimicrobial properties. We are currently attempting to impart mosquito repellent properties to the fabrics by this technique using naturally occurring oils.

#### **J. New Synthetic Fibre Processing technique through solvent crazing**

Synthetic fibres can be modified at room temperature using solvent crazing technique. Solvent crazing permits us to add any additive into the yarn of synthetic fibres using so called active absorption media (AAM). The advantage of this method is, it combines the best of finishing method and the melt additive method which is normally used to incorporate any compound in the fiber without having any demerits of the above two methods. Process

modifications are being carried out to dye and incorporate additives into the synthetic fibres at room temperature on continuous production line without having to modify the process sequence or addition of any new machinery. This will avoid the processing of these fibres being done at higher temperature which require higher temperature and energy.

#### **K. Selfreinforced composites**

Composites are composed of two chemically foreign components, so there should be an interface between the fibre and the matrix. The interface often brings serious problems such as poor adhesion and water uptake by the composites. Nowadays we can see that these composite material are used everywhere in our daily purpose hence create a lot of environment pollution and other related problems. Single-polymer composites are particularly important in biomaterials applications, since any additives composed of different chemicals could affect biocompatibility and biodegradation. In this study, self-reinforced cellulose films

were prepared by incomplete dissolution of commercial microcrystalline cellulose in LiCl/DMAc solvent and subsequent coagulation of regenerated cellulose in the presence of undissolved microcrystalline cellulose. This self-reinforcement composite were further investigated by using Fourier transform infrared spectroscopy (FTIR), thermo gravimetric analysis (TGA), Tensile strength, X-ray diffraction (XRD), visual assessment and scanning electron microscope (SEM).

**PUBLICATIONS (PEER REVIEWED) SO FAR:** 28

**PATENTS:** 02

**CONFERENCE PROCEEDINGS/PAPERS:** 27

**SEMINARS/LECTURES/ ORATIONS DELIVERED:** 22

**PH.D.S AWARDED AS SINGLE/ CO-GUIDE:** Nil

**MASTERS AWARDED AS SINGLE/ CO-GUIDE:** 17

**H-INDEX:** 05, **CITATIONS:** 67



## DR. ASFIYA Q. CONTRACTOR

B. Tech., M.S, Ph.D

Adjunct Professor

### PROFILE AND ACCOMPLISHMENTS SO FAR:

#### HIGHLIGHTS OF RESEARCH WORK DONE AND ITS IMPACT (MAXIMUM TWO SINGLE-SPACED PAGES WITH FIGURES/DIAGRAMS ETC.):

My PhD. research work was on 'Electrochemical characterization of conducting polyaniline films' using step-change voltammetry, steady-state and cyclic voltammetry. Intrinsically conducting polymers (ICP) are long chain molecules having a system of conjugated double bonds which enable them to conduct electric charge by resonance. A typical conducting polymer is polyaniline. ICPs find application in batteries, sensors, actuators and capacitors etc.

As part of my PhD. thesis, a novel technique to investigate charge storage characteristics of intrinsically conducting polymer films has been developed. A redox reaction is conducted on a polymer film on a rotating disk electrode under potentiostatic condition so that the rate of charging of the film equals the rate of removal of the charge by the reaction. The voltammogram obtained from

the experiment on polyaniline film using  $Fe^{2+}/Fe^{3+}$  in HCl as the redox system shows five distinct linear segments (bands) with discontinuity in the slope at specific transition potentials. These bands are the same as those indicated by electron spin resonance (ESR)/Raman spectroscopy with comparable transition potentials. From the dependence of the slopes of the bands on concentration of ferrous and ferric ions, it was possible to estimate the energies of the charge carriers in different bands. The film behaves as a redox capacitor and does not offer resistance to charge transfer and electronic conduction.

This work is useful in characterizing modes of charging of conducting polymers in different potential ranges and this would be useful in design and optimization of ICP electrodes in charge storage devices. Presently I am working on the dynamics of charging/discharging of conducting polyaniline films, as an extension of my PhD. work. Since we propose to use conducting polymer films as substrates and catalysts for electroless metal printing on fabrics, our present understanding of the charging/discharging behaviour of conducting polymers

will prove to be useful.

During Ph.D I also carried out some work on preparation of Janus beads by electroless copper coating on glass beads followed by peeling of copper from half of the bead by bipolar electrolysis. Thus one hemisphere of the bead is coated with copper and remains hydrophilic while the other hemisphere can be made hydrophobic by treating the glass surface with silane compounds. We had also attempted a model of the electroless deposition of copper using formaldehyde as reducing agent but we did not pursue it further and publish it. However we modeled and published the bipolar peeling of copper from the glass beads.

**PUBLICATIONS (PEER REVIEWED) SO FAR: 4**

**PATENTS: Nil**

**REFEREED CONFERENCE PROCEEDINGS/PAPERS: 3**

**SEMINARS/LECTURES/ ORATIONS DELIVERED: Nil**

**PH.D.S AWARDED AS SINGLE/ CO-GUIDE: Nil**

**MASTERS AWARDED AS SINGLE/ CO-GUIDE: Nil**

**H-INDEX : -, CITATIONS: 6**

## SUBJECTS TAUGHT DURING 2015-16:

- Technology of Textile Pretreatments
- Technology of Dyeing
- Textile Finishing Lab
- Bulk Colouration Lab
- Textile Pretreatments Lab

## RESEARCH INTERESTS:

Metal plating of textiles for EMI shielding, wearable electronics and decorative printing.

## RESEARCH STUDENTS CURRENTLY WORKING:

P.D.F.- Nil RA- Nil  
Ph.D. (Tech.) -Nil  
Ph.D.(Sc) - Nil  
M.Tech. -Nil  
M.Chem.Engg.-Nil  
M.Sc-Nil  
Others (if any) – Nil

## RESEARCH PUBLICATIONS:

International- 04  
National-Nil  
Peer-reviewed- Conference proceeding- 03  
Books-Nil

**PATENTS:** International - Nil  
Indian - Nil

## SPONSORED PROJECTS :

Government-Nil  
Private-Nil

## PROFESSIONAL ACTIVITIES (MEMBERSHIP OF IMPORTANT COMMITTEES):

- Examiner for Practical Exam in SASMIRA, Worli

## SPECIAL AWARDS/HONOURS: Nil



### (DR.) SANDEEP P MORE

B. Sc., M.Sc., Ph.D

DST-INSPIRE Faculty Fellow

## PROFILE AND ACCOMPLISHMENTS SO FAR

### FELLOWSHIPS/ MEMBERSHIPS OF PROFESSIONAL BODIES:

- DST INSPIRE Faculty Fellowship

### HIGHLIGHTS OF RESEARCH WORK DONE AND ITS IMPACT (MAXIMUM TWO SINGLE-SPACED PAGES WITH FIGURES/DIAGRAMS ETC.):

#### A. Molecular Machines

The molecular machines in nature are result of evolution of bil-

lions of years which made it irresistible for scientists to imitate at different levels and applications. The selectivity, precision and accuracy of the biological process and the ensemble so formed at cellular and sub cellular level was the motivation behind the creation of molecular machines.

We are dealing with synthesis of self assembled Molecular Machines and it's fabrication on textile surface.

#### B. Singlet Fission

The limited maximum efficiency of solar cells may be dramatically enhanced by multi-exciton generation (MEG). This process

creates multiple charge carrier pairs from single photons, where as conventional solar cells produce one exciton per photon. In molecular systems we are dealing with, produces two triplet pairs by a process known as singlet fission and these molecules shows around 180% of internal conversion efficiency.

#### C. Organic Electronics

The Organic Electronic devices such as OPVs, OLEDs, etc. have proved their performance in market as well as in the scientific world.

Taking in to consideration the scope of these devices and fu-

ture needs, we are engaged in the synthesis of various types of molecules as potential material for Organic Electronic devices.

**PUBLICATIONS (PEER REVIEWED) SO FAR:** 10

**PATENTS:** 00

**CONFERENCE**

**PROCEEDINGS/PAPERS:** 07

**SEMINARS/LECTURES/  
ORATIONS DELIVERED:** 03

**PH.D.S AWARDED AS**

**SINGLE/ CO-GUIDE:** Nil

**MASTERS AWARDED AS**

**SINGLE/ CO-GUIDE:** Nil

**H-INDEX:** 07, **CITATIONS:**

184

**SUBJECTS TAUGHT**

**DURING 2015-16:**

- Chemistry and Applications of Textile Auxiliaries

**RESEARCH INTERESTS :**

- Molecular Machines
- Singlet Fission
- Organic Electronics
- Smart Textile
- Novel Auxiliaries

**NUMBER OF RESEARCH STUDENTS CURRENTLY WORKING :**

P.D.F- Nil RA- 01

Ph.D.(Tech) -Nil

Ph.D.(Sci.) -01

M.Tech. -04 M.Sc – 02

Others-(If Any)

**RESEARCH**

**PUBLICATIONS:**

International- 11

Peer-reviewed- Nil

National- 00

Conference proceeding- 09

Books-Nil

**PATENTS:**

International - Nil

Indian - Nil

**SPONSORED PROJECTS:**

Government-03

Private-Nil

**PROFESSIONAL ACTIVITIES (MEMBERSHIP OF IMPORTANT COMMITTEES):**

**SPECIAL AWARDS/  
HONOURS:** Nil

## LIST OF NON-TEACHING STAFF IN THE TEXTILE DEPT



**V. G. Phalke**

Dye house Assistant



**J. I. Rana**

Lab Assistant



**S. S. Chavan**

Lab Assistant



**S. B. Gaikwad**

Lab Assistant



**P. M. Khot**

Lab Attendant



**A. P. Ghadge**

Lab Attendant



**N. J. Rajam**

Mechanic

## AWARDS OF VARIOUS FELLOWSHIPS

Sr. No.	Name of Fellowship	Number of fellowships
1.	UGC-SAP	32
2.	AICTE (M Tech)	19
3.	TEQIP for M Tech and PhD	10
4.	Others (DBT/Tutorship/Industry sponsored)	12

3. INSTITUTIONAL AWARDS TO FACULTY AND SUPPORT STAFF: None

### SPONSORED PROJECTS:

#### GOVERNMENT AGENCIES:

Sponsor	Title	Duration	Principal Investigator	Total Amount	Research Fellows
FIST, DST, New Delhi		5 Years (2013-18)	Prof. R. V. Advarekar	Rs.150 lakhs	
TEQIP-II			Prof. R. V. Advarekar	Rs. 80,55,730 /-	
Ethiopian Textile Industry Development Institute (ETIDI) of The Federal Democratic Republic of Ethiopia		3 Years (2014-17)	Prof. R. V. Advarekar	USD 19,98,665 /-	
TEQIP	Development of mosquito repellent textiles	9 months	Prof. Dr.M.D.Teli	13,14,000/-	Pravin Chavan

#### I. GOVERNMENT AGENCIES:

Sponsor	Title	Duration	Principal Investigator	Total Amount	Research Fellows
Centre of Excellence- Process Intensification- TEQIP-II (World Bank Sponsored)	Dyeing of Polyester and its blend using nano emulsions	2013-2017	Principle Investigator	Rs. 16, 40,000/-	Mr. Vikrant Gorade – Ph.D. (Textile Chemistry) & Ms. Prerana Kane (Ph.D.Tech.)

Innovation Networking -TEQIP-II (World Bank Sponsored)	Development of Mosquito-repellent textiles	2013-2017	Principle Investigator	Rs. 13, 14,000/-	Mrs. Latika Bhatt -Ph.D. (Textile Chemistry)
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## B) INDUSTRIES: Nil

### NATIONAL AND INTERNATIONAL COLLABORATIONS:

#### Professor RVA

- DyStar India Pvt. Ltd
- Veermata Jijabai Technological Institute (VJTI)
- Bombay Textile Research Association (BTRA)
- Wool Research Association (WRA)
- Central Institute for Research on Cotton Technology (CIRCOT)
- Ethiopian Textile Industry

- Development Institute (TIDI)
- School of Fashion and Textiles of RMIT, Australia (RMIT)
- Addis Ababa Science & Technology University (AASTU), Addis Ababa, Ethiopia
- WELSPUN INDIA LTD, India.
- University of Manchester, UK.
- Novozyme
- SASMIRA, Mumbai

#### Professor M. D. Teli

- Joint project has been submitted for Indo-British council fellowship with Dr. Prasad Potluri of University of Manchester, U.K
- SNTD Universities two faculties are doing Ph.D work under my guidance.
- Students Name: Armaity Shukla and Pradnya Ambre.

#### Dr. Usha Sayed

- All the faculties are involved in Ethiopian Textiles Industries, sponsored by Ethiopian government

### PUBLICATIONS (INTERNATIONAL JOURNALS, BOOKS, BOOK CHAPTERS, PATENTS)

No.	Title and authors	Journal	Vol. No.	Pages	Year
<b>Prof. (Dr.) R.V. Adivarekar</b>					
1.	Use of Mustard Oil Cake for Protease Production by Bacillus subtilis Pallavi S. Badhe, Manasi A. Damale and Ravindra Adivarekar	Int.J.Curr.Microbiol. App.Sci	5(7)	pp. 845-853	July 2016
2.	Dispersant-free disperse dyes for polyester an ecofriendly C. R. Meena, Saptarshi Maiti, N. Sekar, Sandeep More & R. V. Adivarekar	The Journal of The Textile Institute	108(7)	1144-1149	Aug-2016
3.	Synthesis of glycinamides using protease immobilized magnetic nanoparticles Abha Sahu, Pallavi Sharad Badhe, Ravindra Adivarekar, Mayur Ramrao Ladole, Aniruddha Bhalchandra Pandit	Biotechnology Reports	12	13-25	Sept-2016

4.	Dry scouring of wool Girish Kherdekar, R V Adivarekar	International Journal of Exploring Emerging Trends in Engineering (IJEETE)	Vol. 03, Issue 06,	pp. 343 - 345	Nov-Dec-16
5.	Bioscouring of wool using protease from bacillus subtilis isolated from abattoir waste Pallavi Badhe, Manasi Damale, Ravindra Adivarekar	Journal of microbiology, biotechnology and food sciences	6 (4)	pp. 1012-1018	
6.	A frugal way of reusing wastewater in textile pre-treatment process Rachana Harne, R. V. Adivarekar	Journal of water process engineering	16	163-169	April-2017
7.	Electrospinning of chitosan/PVA nanofibrous membrane at ultralow solvent concentration Biranje S., Madiwale P, Adivarekar R.V.	Journal of Polymer Research	24(6)	pp. 1-10	May-2017
8.	Effect of different wool scouring techniques on physical properties of wool fiber Girish Kherdekar and R V Adivarekar	International Journal of Modern Trends in Engineering and Research (IJMTER)	4(3):115-119	pp. 163-167	May-2017
9.	Girish Kherdekar and R V Adivarekar Wool scouring by ultrasound technology	International Journal of Exploring Emerging Trends in Engineering (IJEETE)	4(3)	pp. 115-119	May-2017
10.	Finishing of Canvas Fabric using natural plant source Geetal Mahajan, R V Adivarekar	Journal of The Textile association	Vol. 77	181-184	Sept-Oct 2016
11.	Topping of sulphur dyed cotton with basic dye Ravi Yadav, Girendra Pal Singh, Chetram meena, R.V.Adivarekar	Asian dyer	-	61-64	Oct-Nov 2016
12.	Clays: Perspective in Textiles Saptarshi Maiti, Debarghya Mukherjee, Geetal Mahajan, R. V. Adivarekar	Journal of The Textile association	-	pg-327-331	Jan-Feb-2017
13.	Chapter- 1 Graphene a wonder material: History Saptarshi Maiti, Pintu Pandit, Geetal Mahajan, R. V. Adivarekar, M.D Teli	Journal of The Textile association	-	pg-414-416	March-april-2017

14.	Chapter- 2 Graphene a wonder material: Introduction Saptarshi Maiti, Pintu Pandit, Geetal Mahajan, R. V. Adivarekar, M.D Teli	Journal of The Textile association	-	pg 34-38	May-June-2017
<b>Prof. (Dr.) M.D.Teli</b>					
1.	Encapsulation of Aroma and its application on cotton to impart mosquito repellency. M.D. Teli and Pravin Chavan	Asian Dyer	Vol.12 No. 3	45-49	June-July 2015
2.	Effect of compatibilizer on the dyeability of Polypropylene / Polytrimethylene Terephthalatepolyblend fibres M.D.Teli and P.V.Desai	International Research Journal of Engineering and Technology	Vol.2, Issue 04	396-402	July 2015
3.	Disperse and acid dyeable polypropylene polyblend fibers M.D.Teli and P.V.Desai	International Journal of Current Engineering and Technology	Vol.5, No.4	2567-2571	Aug 2015
4.	Grafting of Butyll Acrylate on to Banana Fibres for improved Oil Absorption M.D. Teli and Sanket P. Valia	Journal of Natural Fibres	Vol 13(4)	470-476	Aug 2016
5.	Utilization of Sorghum grains for textile printing M.D.Teli , P. Shitole, A. Mallick	Asian Dyer	Vol.12 No. 4	41-46	Aug-Sept 2015
6.	Application of chemically grafted biopolymer composites in printing of cotton fabric. M D Teli, AbhilashaRangi, SanketValia	Asian Dyer	Vol.12 No. 5	36-40	Oct-Nov 2015
7.	Continuous grafting of acrylic acid on mulberry silk for multifunctional effect. M. D. Teli, Dharmendra Gupta, SanketValia	International Journal of Engineering and Applied Sciences	Volume-2, Issue-7,	287-294	Oct 2015
8.	Low temperature dyeing of silk fabric using atmospheric pressure Helium/ Nitrogen Plasma. M.D.Teli, Kartick K. Samanta, PintuPandit, S. Basak and S.K. Chattopadhyay	Fibres and Polymers	Vol. 16 No.11	2375-2383	Nov 2015
9.	Effect of alkalization on the properties of AbelmoschusManihot lignocellulosic fibre M. D. Teli, Akshay C. Jadhav	International Journal of Current Engineering and Technology	Vol.5, No.6	3848-3855	Dec 2015

10.	Sustainability based upcycling and value addition of Textile Apparels M.D.Teli , SanketValia, ShaileshMaurya, P. Shitole,	International Journal of applied and Physical Sciences	Vol.1, No.3	61-66	2015
11.	Development of hygienic cotton using onion peels. M.D. Teli, Amol Jangle, PrasunMathur	Asian Dyer	Feb- Mar	31-38	Mar-16
12.	Synthesis of reactive dye to impart mosquito repellency to nylon	The journal of Textile Institute	Accepted		Mar-16
13.	Superhydrophobic and ultraviolet protective nylon fabrics by modified nano silica coating M. D. Teli, BhagyashriKondurwar	The journal of Textile Institute	Accepted		Apr-16
14.	Effect of nanoclay loading on zeta potential of polyester nanocomposite fibre. M D Teli, Ravindra D Kale, Latika Bhatt	Indian Journal of Fibre & Textile Research	Accepted		
15.	Low temperature dyeing of PET / PTT blend fibers M. D. Teli, R. D. Kale and Latika Bhatt	Pelagia Research Library; Advances in Applied Science Research,	7(3)	13-19	2016
16.	Multifunctional polyurethane coated cotton fabric for protective textiles M D Teli, Kumar Manish and Sanket P Valia	Asian Dyer	30-34		April May 2016
17.	Short and efficient desizing and scouring process of cotton Textile Materials M.D. Teli and TesfayeTolessaAdere	International journal of Engineering Trends and Technology	35(6)	256-268	May 2016
18.	Effect of alkali treatment on the properties of Agavaugustifolia v. marginatafibre Mangesh D. Teli and Akshay C. Jadhav	International research journal of Engineering and Technology	3(5)	2754-2761	May 2016
19.	Colouration of Wool Fibre with Natural Dyes M.D. Teli, Sanket P. Valia	Journal of Textile Association	VOL.76 (2)	73-77	July- Aug 2015
20.	Online Shopping v/s Onsite Shopping M.D.Teli, PrateetiUgale& Sanket Valia	Journal of Textile Association	VOL.76 (3)	172-184	Sept- Oct 2015

21.	Parameters of choice of Sanitary napkin - a techno- commercial survey	Journal of Textile Association	VOL.76 (4)	235-242	Nov-Dec 2015
22.	A novel natural source Sterculia foetida Fruit shell waste as colourant and antibacterial agent for cotton. M.D. Teli, PintuPandit	Journal of Textile Association	VOL.76 (5)	293-297	Jan-Feb 2016
23.	Effect of nanoclay loading on zeta potential of polyester nanocomposite fibre. M D Teli, Ravindra D Kale, Latika Bhatt	Indian Journal of Fibre & Textile Research			
24.	Effect of substrate geometry on oil sorption capacity of raw and chemically modified jute fibre M.D. Teli, Sanket P Valia	International Journal of Technology & Engineering	VOL. 03 (3)	138-147	2016
25.	Development of Solid and Compound Shades on Wool Fabric using Natural Dyes M. D. Teli*, Sanket P. Valia, MarutiKamble	Journal of Textile Association	VOL.76 (6)	367-371	March –April 2016
<b>Prof. (Dr.) S. R Shukla</b>					
1.	Low temperature plasma processing for the enchancement of surface properties and dyeability of wool fabric Pankaj Mendhe, Gauree Arolkar, Sanjeev R. Shukla RajendraDes hmukh	The journal of applied science	133	43097 (1-8)	2016
2.	Adsorptive removal of naphthalenes ulfonic acids using wild almond shell activated carbon from aqueous solution Prasad V. Thitame and Sanjeev R. Shukla	Environmental progress and sustainable energy	36	38-44	2016
3.	Remediation of metal containing dye solutions by combined ozonation absorption process Prasad V. Thitame and Sanjeev R. Shukla	Desalination & Water treatment	72	243-248	2016
4.	Ionic liquid assisted mediated application of nano zinc oxide on cotton fabric for multifunctional properties A. Arputhraj, virendra Prasad, Sujata saxena, Vigneshwaran Nadanathangam& Sanjeev R. Shukla	The Journal of Textile Institute	108	1189-1197	2016

5.	Removal of Cd (II) ions using oxidized coconut coir. Sachin Gondhalekar, Saurabhkumar Singh & Sanjeev R. Shukla	Journal of Natural Fibre	Accepted		2016
6.	Theoretical studies on adsorption of Ni (II) from aqueous solution using citrus limetta peels. Saurabhkumar Singh & Sanjeev R. Shukla	Environmental progress and sustainable energy	36	864-872	2016
7.	Biodegradative decolorization of reactive red 195-A by an isolated bacteria Staphylococcus sp: studies on metabolites and toxicity and toxicity Neha Parmar & Sanjeev R. Shukla	Desalination & Water Treatment	63	241-253	2017
8.	Decolorisation by bacillus flexus of exhausted dyebaths containing CI Acid Red 249 and their reuse for wool dyeing Neha Parmar & Sanjeev R. Shukla	Coloration Technology	133	218-222	2017
9.	Ionic-liquid- assisted mixed alkali system for reactive dye fixation in a bath process- optimization through response surface methodology. Umesh B. Kore, Sanjeev R. Shukla	Coloration Technology	133	325-333	2017
10.	Removal of lead (II) from synthetic solution and industry waste water using almond shell activated carbon. Prasad V. Titame, S.R. Shukla	Environmental progress & sustainable energy	Accepted		2017

#### Dr. R. D. Kale

1.	Removal of Textile Dye C.I Reactive Blue 21 from Aqueous Solution by Using Clam Shell Biomass as Adsorbent: Kinetic Studies Ravindra D. Kale, Tejasvi Potdar and C.S. Mathpati	Current Applied Polymer Science	1	1-7	2017
2.	Paper Reinforced Sodium Alginate/ CMC Based Bio-Composite Films Ravindra D. Kale*, YashlokMaurya, TejasviPotdar	Journal of Plastic Film and Sheeting (SAGE Journal) doi.org/10.1177/8756087917715675			2017
3.	Extraction of Microcrystalline Cellulose from Cotton Sliver and Its Comparison with Commercial Microcrystalline Cellulose Ravindra D. Kale, Prabhat Shobha Bansal, Vikrant G. Gorade	Journal of Polymers and the Environment(Springer) v		1-10	2017

4.	Application of magnetic nanoparticles in textiles Ravindra D Kale, Akshay Vade	Asian Dyer ISSN 0972-9488	v	48-50	June - July 2016
5.	Optimization study for Waterproof Breathable Polyester fabric Ravindra D.Kale, Akshay Vade, TejasviPotdar	INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH IN TECHNOLOGY (ISSN: 2349-6002)	3 (3)	16-24	August 2016
6.	One Bath Dyeing and Water Repellent Finishing Of Textile by Sol-Gel Technique Dr. Ravindra Kale, ArunabhAgnihotri, PriyankaJagtap, Mrs.Alka Ali	IOSR Journal of Polymer and Textile Engineering e-ISSN: 2348-019X, p-ISSN: 2348-0181	Volume 3, Issue 2	19-25	Mar. - Apr. 2016
7.	Application of magnetic nanoparticles in textiles Ravindra D Kale, Akshay Vade	Asian Dyer ISSN 0972-9488	Vol 13 No 3	48-50	June - July 2016
Dr. Usha Sayed					
1.	Application of Silicone Surfactant Along with Hydrocarbon Surfactants to Textile Washing for the Removal of Different Complex Stains Dipak D. Pukale, Archana S. Bansode, Rahul R. Kulkarn, Usha Sayed	Journal of Surfactants and Detergents			2016
2.	Application of Essential Oils for Finishing of Textile Substrates Usha Sayed*, Kanchan Sharma and Sneha Parte	Journal of Textile Engineering & Fashion Technology			2017
3.	Dyeing and anti-microbial finishing of jute using Natural bio-polymer and pharmaceutical drugs Usha sayed, Ravikant Sharma	International Journal of Advances in Science Engineering and Technology			2016
4.	Surface Modification of Cellulosic Fabric Ravikant Sharma, Usha Sayed	Int'l Journal of Advances in Chemical Engg., & Biological Sciences (IJACEBS) Vol. 3			2016
5.	Effect of Wet-Spinning Parameters and Spin-Finish Application on Production of Polyacrylonitrile Precursor for Carbon Fibre Production Dr. U. Sayed, Adhiraj Shinde, Ashwariya Lahariya, Abhishek Shirsat	International Journal of Advanced Science and Engineering			2016

6.	Manufacturing of Acrylic Fibres with Desirable Properties to Make Carbon Fibres - Review Dr. U. Sayed, Adhiraj Shinde, Ashwariya Lahariya, Abhishek Shirsat	International Journal of Advanced Science and Engineering			2016
7.	Oxidised polyacrylonitrile fibre as a flame retardant material. Harshit Jain, SairohitRaghupathy	International Journal of Advanced Science and Engineering			2016

#### BOOKS/ BOOK CHAPTERS

No.	Author(s)	Title of the chapter	Editor	Publisher	Year
1	Prof. Dr. M. D. Teli	Finishing of Carpets for Value addition	Dr. K.K. Goswami	Elsevier	2016
2	Prof. Dr. M. D. Teli	Graphene and CNT based EMI shielding materials	Prof. Dr. Sabu Thomas	John Wiley and Sons	2016

#### PATENTS :

No.	Inventors	Title	Country	Funding agency
Prof. Dr. M. D. Teli				
1	M.D. Teli and Pravin Chavan 1622/MUM/2015	Mosquito repellent dye and its process of dyeing	India	TEQIP
Dr. Ravindra Kale				
1.	Kale Ravindra, Katre Gaurav, Jagtap Priyanka, Garje Ambadas 281/MUM/2015	Biodegradable Foam Composition and Process thereof (product & process)	India	TEQIP-II
2.	Kale Ravindra, Gotmare V D, Bhatt Latika 2201/MUM/2015	A process for the preparation of mosquito repellent fabric using herbal formulation and composition thereof	India	TEQIP-II

OUTSIDE PARTICIPATION (LECTURES DELIVERED, SEMINARS / WORKSHOPS \ CONFERENCES, ORAL/POSTER PRESENTATION, VISITS)

Sr. No	Title	Conferences	Place	Month and Year
<b>Prof. (Dr.) Ravindra V. Adivarekar</b>				
1.	Awareness seminar II on topic, "Dawn of Ethiopian Textile Industries on Global Horizon"	ETIDI, Addis Ababa under Twining Partnership between ETIDI and ICT	Ethiopia	15th to 18th August 2016
2.	G.M. Nabar Endowment Lecture on "Application of new Textile Fibers and new Dyeing Technologies"	ICT, Mumbai	Mumbai	28th Sept 2016
3.	TexSummit-2016 International Conference on "Frontiers in Fibres, Textile & Apparel Processing"	TexSummit-2016, ICT, Mumbai	Bombay Exhibition Centre, Goregaon, Mumbai	December 05, 2016
4.	Texpression	ICT, Mumbai	Mumbai	1st April 2017
5.	Texquest	ICT, Mumbai	Mumbai	1st April 2017
6.	TECHNICAL SEMINAR 5 - "Selection, Evaluation, Application and Disposal of Dyes and Chemicals"	ETIDI, Addis Ababa under Twining Partnership between ETIDI and ICT	Ethiopia	21st - 22nd April 2017
7.	Key Performance Indicators in Textile Processing: Global Norms vis-à-vis Ethiopian Status	ETIDI, Addis Ababa under Twining Partnership between ETIDI and ICT	Ethiopia	June 2017
<b>Prof. (Dr.) Mangesh D. Teli</b>				
1.	Development of hygienic cotton using cotton peels M.D. Teli and Prasun Mathur	International conference on Redefining Textiles: Cutting Edge technology of the future	NIT Jalandhar	8-10 Nov 2016
2.	M.D.Teli & Pintu Pandit	The impact of up cycle and low cost textile apparels to meet the needs of poor aspirants-A study	Panchgani	11-13 June 2016
3.	M.D.Teli & Sanket Valia	Low Cost Sustainable Modified Natural Fibre Sorbent for Combating Oil Spills	Panchgani	11-13 June 2016

4	M.D.Teli & Aranya Mallick	Value based biopolymeric absorbent for low cost sanitary napkins	Panchgani	11-13 June 2016
5	M.D.Teli & Tesfaye	Application of enzyme to textile wet processing for sustainability	Panchgani	11-13 June 2016
6	M.D.Teli & Armati Shukla	Pomegranate Rind- A sustainable avenue for employment generation in arid or draught prone regions of India	Panchgani	11-13 June 2016
7	M.D. Teli, Sanket Valia & Jelalu Mifta	World Textile Conference-2	Mumbai	11-13 June 2016
Dr. Ravindra D. Kale				
1.	Advances in the field of Health, Safety, fire, Environment , Allied Sciences and Engineering (HSFEA 2016)”	International Conference	University of Petroleum and Energy Studies (UPES)	18-19 November 2016.
2.	Preparation of Self-Reinforced Cellulose Composite Using Microcrystalline Cellulose”	International Conference on Contemporary issues in Science, Engineering & Management” (ICCI-SEM-2K17)	Gandhi Institute For Technology (GIFT) Campus, Bhubaneswar, Odisha, India	18th - 19th February, 2017
3.	Dyeing of Nylon Fabric using Nanoemulsion	International Conference on Contemporary issues in Science, Engineering & Management” (ICCI-SEM-2K17)	Gandhi Institute For Technology (GIFT) Campus, Bhubaneswar, Odisha, India	18th - 19th February, 2017
4.	“Novel Catalysts for Industrial Use”	TEQIP-II Sponsored Short Term Course	IIT, Guwahati	August 24 to 28, 2016
5.	APPLICATION OF NEW TEXTILE FIBRES AND NEW DYEING TECHNOLOGIES”	G M Nabar lecture	K.V. Auditorium, I.C.T., Mumbai	28th September, 2016
6.	"Preparative Processing and Analysis of Biochemicals & Bio/ Pharmaceuticals"	TEQIP-II sponsored Finishing School cum Training program	ICT, Mumbai	14th to 18th March 2017
7.	"Developing Interpersonal Skills and Effective Communications"	TEQIP-II sponsored Short term training program	Sardar Patel College of Engineering, Andheri, Mumbai	2nd to 5th January 2017

Dr. Asfiya Q. Contractor				
1.	“Conducting polymer-textile composites: Effect of aniline adsorption on uniformity of polymer coating and electrical conductivity of the composite”	International Conference on Macromolecules (ICM), 2016	Kottayam, Kerala	9 Aug 2016 to 11 Aug 2016

### SEMINARS/WORKSHOPS ORGANIZED:

#### Prof. (Dr.) Ravindra V. Adivarekar

- Texquest 2017, Annual National Level Inter collage Technical Competition
- Texpression 2017, Annual Cultural Event of the Department
- Organized Awareness Seminar 2 on topic, “Dawn of Ethiopian Textile Industries on Global Horizon” at ETIDI, Addis Ababa under Twining Partnership between ETIDI and ICT on 16th and 17th August 2016.
- Guest Lecture under G.M. Nabar Endowment Lecture on the topic, “Application of new Textile Fibers and new Dyeing”, 28th Sept 2016.
- Organized four day workshop from 14-17 September 2016 At Dept of Fibres and Textile Processing Tech., ICT on “Value addition to Textile products” for the 22 handloom weavers from Assam, Mumbai.
- Organized lecture on “Listening Skills”, delivered by Mr. Milind Amerkar from Alpha Oxygen, Mumbai, September 8th,

2016.

- Organized lecture on “Importance of Soft Skills”, delivered by Mr. Lalit Khurana from Tech Process Solutions Ltd., Mumbai, September 8th, 2016.
- Organized workshop on, “Embroidery and Fabric Painting” from 21st to 23rd September, 2016.
- Organized workshop on “Development in Textile Processing” under Intensification-TEQIP-II 22th -24th September, 2016.
- Organized TexSummit-2016 International Conference on “Frontiers in Fibres, Textile & Apparel Processing”, Bombay Exhibition Centre, Goregaon, Mumbai, 5th Dec 2016.
- Organized TECHNICAL SEMINAR 5 – “Selection, Evaluation, Application and Disposal of Dyes and Chemicals” at ETIDI, Addis Ababa under Twining Partnership between ETIDI and ICT on 21 and 22th April 2017.
- Organized seminar on topic “Key Performance Indicators in Textile Processing: Global Norms vis-à-vis Ethiopian Status” at ETIDI, Addis Ababa under Twining

Partnership between ETIDI and ICT on June 2017.

#### Prof. (Dr.) Ravindra D. Kale

- Organized Industry visits to Garware Wall Ropes, Wai and Atul Industries, Kusumgar Corporations & Alok Industries, Vapi for the four managers of ETIDI, Ethiopia from 7th to 14th April 2016
- Organized four day workshop from 14th -17th September, 2016, at Dept of Fibres and Textile Processing Tech. on “VALUE ADDITION TO HANDLOOM PRODUCTS” for hand loom weavers, Guwahati, Assam under CoE in Process Intensification-TEQIP-II.
- Organized G.M. Nabar Endowment Lecture on “Application of new Textile Fibers and new Dyeing Technologies” by Dr. N. N. Mahapatra, Vice-President, Colorant Ltd., Ahmedabad in K.V. Auditorium, ICT on Wednesday, September 28th, 2016.

#### Dr. Asfiya Q. Contractor

- a. Organized a conference on Sportech on 15th March 2016 in collaboration with WRA, Thane and ICT, Mumbai at ICT, Mumbai.

## INDUSTRIAL CONSULTANCY

Name of Company	Period
<b>Prof. (Dr.) Mangesh D. Teli</b>	
Adiv Nature Pure	1 year
Satguru Agro Industries	1 month
Birla Cellulose	1 month
<b>Dr. Ravindra Kale</b>	
Up gradation, Expansion and Accreditation of Dadar Laboratory	
Sewerage Operations Department of MCGM	18 Months
Dyeing of Polyester and its blends using nano-emulsion in fiber, top and fabric form	One year

### IN-HOUSE RESPONSIBILITIES

#### Prof. (Dr.) Ravindra V. Adiva-rekar

- Looking after Students Sports Activities.
- Member of Examination committee
- Member of Academic Activities committee

#### Prof. (Dr.) Mangesh D. Teli

- Member, Board of Management, ICT
- TEQIP, students, staff and faculty development Activity coordinator
- Member of TEQIP performance monitoring committee on behalf of

Board of Management.

- PG admission committee
- Chairman, Selection committee for best Ph.D. Tech and Ph.D. Sci thesis in ICT
- Member, Research recognition committee of Textiles.
- Chairman, Board of advisory council for Textile Department.
- In addition, time to time I have served as a member of number of committees entrusted with the responsibility of scrutiny of applications, enquiry committee, etc.

#### Prof. (Dr.) Sanjeev R. Shukla

- ETIDI-ICT Programme Coordinator (Academic)

#### Dr. (Mrs.) Usha Sayed

- Helping the departments or its problems (Trouble shooting)

#### Prof. (Dr.) Ravindra D. Kale

- TEQIP Dept coordinator
- Syllabus Revision Committee
- Departmental Advisory Committee
- Cultural Committee
- Institute MIS Committee
- Member of the project of the Dept. with ETIDI, Govt. of Ethiopia

## UNDERGRADUATE SEMINARS / PROJECTS / HOME PAPERS

### Undergraduate students' B.Tech Seminars

No.	Name of the Student(Beginning with Last name)	Topics	Guide
1.	Dhurve Dhiraj	Printing By Natural Dyes	RVA
2.	Banait Dhanashree	Electrochemical Methods For The Reduction Of Vat Dyes And For Effluent Treatment	RVA
3.	Gawde Kaustubh	Green Processing Of Textiles	RVA
4.	Chaudhari Sharayu	Polybenzimidazole Fibres	RVA
5.	Padale Vaibhav	Luxury Fashion Branding	RVA
6	Dahale Monali	Studies in pressure garments	MDT
7	Mahajan Jignesh	Modification of natural fibres	MDT
8	Kadu Kavita	Application of Natural dyes for hair colouration	MDT
9	Joshi Prutha	Application of biopolymers in textile	MDT
10	Aman Choudhary	Auxetic Textiles	MDT
11	Gurusha Pramod	Electrospinning And Its Technical Applications	MDT
12	Kavita Kadu	Micro & Nano Crystalline Materials In Textile Origin & Its Application	MDT
13	Raman Kumar	Textiles For Well-Being	MDT
14	Vinay Yadav	Carbon Manufacturing	MDT
15	Ugale Prateeti	Studies in printing	MDT
16	Ms. Bal Shruti	Nanomaterials obtained from natural resources	SRS
17	Mr. Ramesh Nimish	Electrospinning and its application in the field of textiles	SRS
18	Mr. Borkar Prathamesh	Enzymatic treatment of wastewater	SRS
19	Bindra Sanket	Pharmaceutical drugs in textile processing	US
20	Gupta Ayush	Computer simulation of textile based quarternary ammonium compound	US
21	Newrekar Ruchita	Recent advances in textile for defence	US
22	Shinde Priyanka	Filtration of heavy metals by nonoven technology	US
23	Bhor Sneha	Synthesis and Application of Magnetic composites	RDK
24	Patel Amit	Effluent Treatment by Modification of MCC/NCC	RDK
25	Kela Sadiccha	Synthesis of Nanoparticles by Microbial Methods	RDK
26	Lahariya Ashwariya	Manufacturing of hollow fibres	RDK
29	Amar Sharma	Mercerization Of Cotton	AQC
30	Charchit Tailong	Smart Textiles And Its Applications	AQC
31	Shraddha Yadav	Use Of Chitosan And Its Derivative In Textile Finishing	AQC

32	Shreyas Shelke	Medical Textiles	AQC
33	Nirul Rahangdale	Effluent Treatment Methods In Textile Industry	AQC
34	Saumya Tripathi	Moisture Management In Sports Textiles	AQC

## UNDERGRADUATE STUDENTS' B. TECH PROJECTS

### B.TECH PROJECT

No.	Name of the Student(Beginning with Last name)	Topics	Guide
1.	Abhishek Shirsat	Solid shades on denim using knife coater	RVA
2.	Lesha Manish Daga	Tailor-made nonwovens to meet poresize requirements	RVA
3.	Vidhya Ramesh Kurri	Disperse Dyeing of Polyester Sheets	RVA
4.	DahaleMonali	Studies in pressure garments	MDT
5.	Mahajan Jignesh	Modification of natural fibres for making composites	MDT
6.	KaduKavita	Studies in Natural dyes	MDT
7.	Joshi Prutha	Application of biopolymers in textile	MDT
8.	UgalePrateeti	Utilization of waste for colouration of textiles	RDK
9.	Patel Amit	Optimization of extraction of fibre from sugarcane leaves and its characterization	RDK
10.	Kela Sadiccha	Synthesis of Nanoparticles using microorganisms	RDK
11.	Lahariya Ashwariya	SALT-FREE DYEING OF COTTON WITH REACTIVE DYE USING NANOEMULSION	RDK

### POSTGRADUATE STUDENTS' M.SC. -TEXTILE CHEMISTRY - SEMINARS

No.	Research Scholar (Beginning with Last name)	Previous Institution	Seminar	Supervisor
1.	Wodaje Markos	Ethiopia	Application of nanotechnology for multifunctional finishing of textile	MDT
2.	Ebba Oliyad	Ethiopia	Chemical modification of cotton and polyester for property enhancement	MDT
3.	Ranjan Rahul		Melt Spinning	MDT
4.	Upadhyay Darshil	Ramniranjan Jhunjunwala College	Solvent crazing	RDK
5.	Babita Chaudhary		Mechanical Finishing of textiles	US

### POSTGRADUATE STUDENTS' M.SC. -TEXTILE CHEMISTRY - PROJECTS

No.	Research Scholar	Previous Institution	Project	Supervisor
1.	Sameer Ansari	VESASC - College of Arts, Science and commerce, Chembur Mumbai.	Application of agro waste in composite	RVA

2.	Upadhyay Darshil	Ramniranjan Jhunjhunwala College	Flame Retardant finish to polyester fabric using solvent crazing technique	RDK
3.	Babita Chaudhary		Application of Banana Pseudo-stem Sap in textile processing	US

### POSTGRADUATE STUDENTS' M. TECH. SEMINAR

No.	Research scholar	Previous Institution	Seminar	Supervisor
1.	Agmas Azmeraw	Bahir Dar University	Green textile finishing	RVA
2.	Miss. Biruktawit Worku	Bahir Dar University	Green process and textile	RVA
3.	Temesgen Zereabruk	Bahir Dar University	Development of reactive dyes and its application	RVA
4.	Akansha Panda	College of engg. and tech, Bhubaneswar	Aramid fibres and its dyeing characteristics	RVA
5.	Mahesh Mali	DKTE, Ichalkaranji	Natural composite	RVA
6.	Jay Shah		Innovation in technical textiles	US
7.	Vicky Kumar Gupta		Sports Textile	US
8.	Archana Bansode		Phase Change Textile	US

### POSTGRADUATE STUDENTS' M. TECH. PROJECT

No.	Research scholar	Previous Institution	Project	Supervisor
1.	Mukherjee Debarghya	Jute and fibre technology, Calcutta university	Textile processing with clay	RVA
2.	Abhishek Vhanbatte	DKTE, Ichalkaranji	Fibre embedded films and its application	RVA
3.	Alemayehu Leta Senbeta	Bahir Dar University	Textile processing intensification through natural products	RVA
4.	Jay Shah	ICT, Mumbai	Application of specialty chemicals in textile processing	US

5.	Archana Bansode	ICT, Mumbai	Surfactants and their application in textile processing	US
6.	Vicky Kumar Gupta	DKTE, Kolhapur	Synthesis and application to obtain combine effect of flame retardant and easy clean finishes on various textiles	US

## DOCTORAL / POST-DOCTORAL RESEARCH PROJECTS

### POSTGRADUATE STUDENTS' PH.D. (TECH)

SR. No.	Research Scholar	Previous Institution	Project	Supervisor
1.	Katode Sanjay	UICT	Sustainable Approach towards Garment Processing	RVA
2.	Kherdekar Girish	TITS, Bhiwani	Natural Eco-Friendly Alternatives to the Existing Scouring & Dyeing of Wool & Woolens	RVA
3.	Harane Rachana	ICT, Mumbai.	Selective Treatment and Recycling of Textile Effluent	RVA
4.	Madiwale Pallavi	ICT, Mumbai.	Studies in Medical Textiles	RVA
5.	Singh Girendra Pal	ICT, Mumbai.	Studies in Natural Fibre Composite	RVA
6.	Biranje Santosh	ICT, Mumbai.	Extraction of Biopolymers and their Modification for Application in Medical Textile	RVA
7.	Maiti Saptarshi	ICT, Mumbai.	Studies in graphite for textiles	RVA
8.	Mahajan Geetal	ICT, Mumbai.	Fermentation Technology in Textile Wet processing	RVA
9.	Valia Sanket	ICT	Functionalization of Fibres for Speciality Applications	MDT
10.	Mallick Aranya	ICT	Modification of Polymers for Enhancement of Functional Properties	MDT
11.	Shukla Aramity	SVT	Studies of Antimicrobial Properties of Naturally dyed cellulosic Nonwovens.	MDT

12.	Pradnya Ambre	Dr.B.M.N college of Home Science	Studies in Natural Dyes	MDT
13.	Chavan Pravin	ICT	Functional modifications for specialty applications in textiles	MDT
14.	AnnaldewarBhagyashri	ICT	Studies in Speciality finishes	MDT
15.	MiftaJalaludin	ETIDI, Ethiopia	Studies in Fibrous polymers	MDT
16.	GayatriTheraniNadathur	Andhra University	Micro and nano structured constructions for functional materials of textile origin	MDT
17.	PintuPandit	ICT	Value Addition and Performance enhancement of textile Materials	MDT
18.	Ms. Kane Prerana	Institute of Chemical Technology, Mumbai	Studies in Non-Conventional Method for Effluent Treatment	RDK
19.	Mrs. Bhatt Latika	CCS Haryana Agriculture University, Haryana	Application of essential Oils on Textiles	RDK
20.	Mr. Gorade Vikrant	Institute of Chemical Technology, Mumbai	Application of Micro/Nano Cellulose in Textiles	RDK
21.	Mr. JadhavNilesh	Institute of Chemical Technology, Mumbai	Use of Natural Polymers in Green Composites	RDK
22.	Ms. Potdar Tejasvi Ajit	Institute of Chemical Technology, Mumbai	Effluent treatment by naturally occurring materials	RDK

**POSTGRADUATE STUDENTS' PH.D. (SCIENCE)**

No.	Research scholar	Previous Institution	Project	Supervisor
1.	Badhe Pallavi	ICT, Mumbai.	Protease Production and Application in Textile	RVA
2.	Pawar Ashitosh	ICT, Mumbai.	Synthesis of Colourants Form Natural Sources	RVA
3.	Patil Ashwini	ICT, Mumbai.	High Performance Auxillaries for Textile Substrates	RVA
4.	Sutar Trupti	ICT, Mumbai.	Studies in Blood Clotting Materials	RVA
5.	Shinde Suvidha	ICT, Mumbai.	Application of Fluorescent Dyes on Textile and Leather Substrates	Co-guide. RVA
6.	Ramagude Supriya	ICT, Mumbai	Synthesis and application of photo stable dyes on textile	Co-guide. RVA
7.	Pawar Sushant	ICT, Mumbai.	Novel Techniques of coloration	RVA
8.	Patankar Kaushtubh	Mumbai University, Kalina.	Ecofriendly Flame Retardents	RVA
9.	JadhavAkshay	ICT	Processing of Non-conventional fibres and their value addition	MDT
10	Sharma Ravikant ( DST- Inspire Fellow)	Institute of chemical technology, Mumbai	Studies in specialty chemicals for textile processing	US
11.	Parte Sneha	Institute of chemical technology, Mumbai	Studies in non-woven	US

**PH.D. SCI (BIOTECHNOLOGY) STUDENTS' RESEARCH PROJECTS**

No.	Research Scholar (Beginning with Last name)	Previous Institution	Project	Supervisor
1.	Joshi Mahesh	Mithibhai college, Mumbai	Study of melanin and applications	RVA
2.	Priyanka Sathe	Tamil Nadu Agricultural university	Role of Biochar to retain the micronutrient content for improving the Soil fertility	RVA

## DEGREES AWARDED

Sr. No.	Name	Course	Title	Guide
1.	Harane Rachana	Ph.D (Tech)	Selective Treatment and Recycling of Textile Effluent	RVA
2.	Badhe Pallavi	Ph.D Sci.(Textile Chemistry)	Protease Production and Application in Textile	RVA
3.	Pandey Sarweshwaranand	MTech	Application of natural proteins in textile wet processing	RVA
4.	Sigger Sanjay	MTech	Dyeing process intensification	RVA
5.	Basuk Mayur	MTech	Development of moisture management sport fabrics	RVA
6.	Marewad Dinesh	MTech	Natural fibre composite for automotive industry	RVA
7.	Bhagat Nikhil	MTech	Modification of natural fibres for oil spill clean up	RVA
8.	Sontakke Sneha	MTech	Concrete composite	RVA
9.	Ms. Shweta Vyas	Ph. D. (Tech)	Chemical processing of Eri silk for value addition	SRS
10.	Mr. Vinay Nadiger	Ph. D. (Tech)	Studies on finishing of silk	SRS
11.	Mr. Rakesh Musale	Ph.D (Sci)	Studies in depolymerization of waste poly(ethylene terephthalate) and utilization of the products obtained therefrom	SRS
12.	Ms. Neha D. Parmar	Ph. D. (Tech)	Microbial Decolourization of Dye Containing Wastewater	SRS
13.	Ms. Namrata Phulaware	M. Tech.	Synthesis and application of green surfactants in textile processing	SRS
14.	Mr. Aniket Mahadik	M. Tech.	Synthesis and application of activated carbon-chitosan composite beads	SRS
15.	Mr. Rohit Kamble	M. Tech.	Decolourization of textile dyes using ozonation and its reuse	SRS

## ABSTRACT

**Name - Rachana S. Harane**

**Ph.D (Tech)**

**Research Title - Selective Treatment and Recycling of Textile Effluent**

The textile waste occurs in a variety of forms throughout production process and when discharged, is harmful to the environment. The main difficulty in treating the effluent arises due to its complex nature; as it contains various chemicals of altogether different nature and composition which are difficult to treat. Segregation of waste streams and waste recovery, recycle and reuse should be considered for waste reduction application. We have taken trails to design a simple alternative route where the effluent was treated after each stage of the processing separately so as to reduce the load on ETP. To reuse water without treatment to a limit and then treating for further possible reuse in the same or different process. Finally to develop a simple, efficient and cost effective technique for minimum discharge of wastewater to the final effluent treatment plant through closed loop system.

**Name - Pallavi Badhe**

**Ph.D Sci (Textile Chemistry)**

**Research Title - Protease Production and Application in Textiles**

There is increasing demand of enzymes in various industrial processes as a substitute or alternate source to some traditional chemical processes to make them greener and economically viable. Microbes represent an excellent source of enzymes, in-

cluding protease, lipase, pectinases etc. because of their broad biochemical diversity. Microbial proteases are an important group of enzymes that can have application in various industries. The feasibility of the use of proteases in textile application depends on these factors. There has been an increased interest all over the world to utilize the waste for the production of value added products. This results in reduced environmental pollution and improved economics of processing. In this project sincere attempt was made to screen microorganisms from abattoir waste, poultry waste, fishery waste, etc which are rich sources of protease producing microorganisms. The further purification of enzyme and its application in various steps involved in textile wet processing such as enzymatic treatment of wool, degumming of silk and in detergent industry etc will be studied.

**Name- Pallavi Madiwale**

**Ph.D Tech**

**Research Title- Studies in Medical Textiles**

The world of technology has become wide spread and the merger of various disciplines of technology has given astounding results for benefit of human kind. One such union is of medical field and textiles. Textiles are used since stone-age in the form of wound dressings. Since then the advancement and sophistication in the usage of textiles has only evolved for the betterment of the medical world. This is termed to be as medical-textile discipline. This advancement has enabled us to engineer the

tissue, cartilages, bones, nerves, skin which are damaged or not reusable. These damages can be recovered by replacing them with artificially engineered tissues.

The work is being carried out in order to contribute to the development of novel biomaterial and their blends for the application as temporary scaffolds in health care or wound healing mechanisms. The addition of herbal products as a drug for curative purpose can also be new and imminent contribution to field of drug delivery through scaffolds. This can be achieved through imparting functional groups in the bio-materials used in scaffold engineering. It can open new prospects in this multidisciplinary field.

**Name- Girendra Pal Singh**

**Ph.D Tech**

**Research Title- Studies in Natural Fibre Composites**

As a result of a growing awareness of the global environmental factors, principles of sustainability, industrial ecology, eco-efficiency and green engineering are being integrated into the development of the next generation of materials, products, and processes. Conventional cellulosic fibres need specific land to grow as crops. To avoid the use of land for fibre production we need to explore available alternate sources for cellulosic fibres. These non-conventional fibres can be applied in various fields like fibres from Saccharum Munja grass and Pampass grass contain high amount of cellulose along with fibrous charac-

teristics which were used to prepare nonwovens for insulation and composites applications. Mustard seed husk and pearl millet husk are the two major agro wastes in India which are not explored till date for industrial applications. Mustard seed husk contains high amount of cellulose which was utilized to produce micro cellulose. Pearl millet husk is very light weight, low density and porous structure which were successfully implemented to prepare acoustic materials.

**Name- Santosh Biranje**

**Ph.D Tech**

**Research Title- Extraction of Biopolymers and their Modification for Application in Medical Textile**

In view of challenges of necrotic tissue and traumatic hemorrhage in wound healing process, we developed biopolymer based wound healing dressing materials with improved hemostatic properties that promote granulation, absorb exudates and biocompatible. Current research work is based on the extraction and development of properties of bio based material for their potential application in wound healing dressing. The functionalized biological and biochemical wound dressing materials is produced from biopolymers such as polysaccharides, protein and from synthetic biodegradable polymers. The work done also point out the acceleration of the wound healing by systematically designed dressing materials. By this direction, most efforts were made to utilize the biologically derived materials

such as chitin, chitosan, casein and carrageenan which are capable of accelerating the healing processes at molecular, cellular, and systemic levels, as materials to produce wound dressings.

**Name- Ashwini A Patil**

**Ph.D Sci (Textile Chemistry)**

**Research Title -High performance functional auxiliaries for textile substrates**

In textile industry there is a vast use of specialty chemicals in each and every step of process like pre-treatment, dyeing, printing and finishing chemicals etc. There are various classes of dyes and fibres. As every fibre doesn't have affinity for each and every class of dye and many limitations are observed, e.g. polyester has affinity for disperse dye and it cannot be dyed with reactive, basic or direct etc. Similar problem is seen while finishing process. So in this project main approach is to overcome such problems. The goal of this project is to prepare an auxiliary having affinity and reactivity for textile substrate and can modify the textile substrate by getting covalently linked. This auxiliary will have reactive sites or ionic charge for further adherence of desired dye or finish to impart functionality such as colour, fragrance, flame retardancy, water repellency, antimicrobial treatment and softness properties to the textile substrates. This auxiliary will provide economical and environment friendly solution for value addition of textiles. The synthesized auxiliary may look like; S----X----B--- --F

Where; S – Solubilising Group

X – Reactive Group to the substrate

B – Bridging Group

F – Reactive Group imparting different Finishing property

Till now three schemes are generated of above explained auxiliaries. They are used in as a functional auxiliary in two main processing treatments; i.e.

1. Dyeing of Cotton with acid dyes and salt-free reactive dyes.
2. Multifunctional finishing of textile (mainly cotton).

For auxiliary analysis spectroscopic methods were used and for auxiliary treated textiles various chemical and physical testing were done.

**Name- Ashitosh B. Pawar**

**Ph.D Sci (Textile Chemistry)**

**Project Title- Synthesis of colorants from natural source**

Synthetic colourants are used for commercial production of dyed textile materials almost exclusively. However, due to the stringent environmental standards imposed by many countries in response to the hazardous effluent generated during synthesis and toxic and allergic reactions associated with the synthetic dyes, the textile researchers have once again being enthralled by natural dyes. However, there is no natural dye containing azo group ( $-N=N-$ ) as a chromophoric system though commercially, the azo dyes are the largest and most versatile class of organic dyestuffs.

The chemical structures of the natural dyes reveal that they are amenable for introduction of azo group as an additional

chromophore which is likely to increase its tinctorial value. The possibility of introduction of other groups is also possible to take care of the substantivity part of the dye. Therefore the present study is focused on the modification of natural dye which blends the properties of azo group and natural dyes under consideration can lead to a new category of dyes "Modified Natural Dyes". These modified dyes are expected to achieve comparable performance properties vis-à-vis those of conventional established dyes.

**Name – Trupti Sutar**

**Ph.D Sci (Textile Chemistry)**

**Research Title- Studies in Blood Clotting Materials**

Blood plays an important role in regulating the body's systems and maintaining homeostasis. It is important to stop the bleeding after a vascular injury in order to prevent blood loss. Excess bleeding causes death. Some of the products burn incredibly bad. They do stop the bleeding but it takes a significant amount of effort from the Surgeons stand point to get it out and price of such products is exorbitant. Thus there is a direct need of economical and efficient product to take care of this common requirement of mankind. In this work naturally available hemostatic agent when combined properly with natural, bioresorbable materials it will fulfil the entire above requirement. Identification and evaluation of medicinal plant done to carry this Haemostatic agent in user-friendly manner.

**Name – Saptarshi Maiti**

**Ph.D Tech**

**Topic- Studies in Graphite for Textiles**

Graphene is a rapidly rising star in the perspective of materials science. The name graphene is given to a flat monolayer of carbon atoms strictly packed into a two-dimensional (2D) honeycomb lattice. It is considered to be a basic building block for graphitic materials of all other dimensionalities as it can be wrapped up into 0D fullerenes, rolled into 1D nanotubes or stacked into 3D graphite.

It is recognized to be the wonder material after two great fellows of University of Manchester received the Nobel Prize in 2010 for their special contribution to its discovery. Till now, it is the strongest and lightest material known to earth. It has very good electrical and thermal conductivity. The isolation of graphene from graphite is found to be a challenging and important zone of research in the present era of science.

An approach has been made of synthesizing graphene from graphite as well as its application on textile relating to its unique characteristics that can give a value addition to the field of textiles. The performance properties of textile materials is thought to be enhanced by such graphite based materials whose technology is still thought to be a wonder one in the current research of science and technology.

**Name: Miss. Geetal Mahajan**

**Ph.D Tech**

**Research Topic- Fermentation Technology in Textile Wet Pro-**

**cessing**

The term pollution prevention has seen a decline as supplanted by sustainability. One of the major areas for scientific activity is the control of water pollution. Textile wet processing uses large amount of water for cleaning and value addition of textiles by colouration and finishing. Colour removal, in particular has recently become of major scientific interest, as indicated by the multitude of related research reports. Many waste treatments like physical, chemical, physico-chemical and biological treatments are used to solve this problem but only a few of these methods are being accepted in the textile industry. The lack of implementation of other processes is largely because of the low efficiency, high cost and inapplicability to a wide variety of dyes. Hence, the aim of this research will be focused on developing a low cost and low-technological process for the treatment of textile waste waters by using micro-organisms which are less unexplored, achieving various applications of microorganisms in textile industry and the use of natural products in green processing of textiles.

**Name- Kaustubh C. Patankar**

**Ph.D Sci (Textile Chemistry)**

Fire is a devastating problem for not only mankind but also for other living organism. Many lives get disturbed or sacrificed due to fire and its post event. Flame retardants are chemicals which could inhibit the disastrous effect up to certain extent so living organism could get away from the accidental area.

In present study we focus on the biodegradable and eco-friendly flame retardant. The main important factor for flame retardant property is to have element like Nitrogen and Phosphorous. In nature proteins are the main source of nitrogenous compounds. To have more effect proteins could be incorporated with phosphorous compounds. The main goal in this study to extract biodegradable material from natural origin substances and their chemical modification for better flame retardant property

**Name- Sushant Pawar**

**Ph.D Sci (Textile Chemistry)**

**Topic Name- Novel Techniques of Coloration**

Textile industry is second highest consumer of water and the most polluting industry. The present application is directed to a method of waterless processing of textile materials using solvents. Dyeing of textile material can be done by using solvents. The properties of the solvent are closely related to the design/operation of a solvent based separation technique that is employed to perform a specified separation task. Separation involves removal of one or more of the constituent parts from a mixture. There are two main agenda of this research project, first is to save the water in textile industry which can be solved by the solvent mechanism dyeing and second is to minimize the effluent load produced in processing treatments which can be solved by the solvent separation technique.

**Name: Mahesh H. Joshi**

**PhD (Sci) Biotechnology**

**Project Title: Studies on bio-colorants and its applications**

Biosynthesis of the colorants for food, cosmetics and textile application has attracted increased interests in recent years. Nature produces many bio-colorants from various resources including plants, animals, and microorganism. These are possible alternatives to synthetic colorants, dyes and pigments. The currently used colorants are almost exclusively made from nonrenewable resources such as fossil oils. The production of the synthetic colorants is economically efficient and technically advanced with colors covering a wide range. However synthetic colorants are facing challenges such as dependence on non renewable and environmentally friendly resources for production of natural colorants before synthetic dyes were invented, but in very low efficiency. The current research work focus on the Isolation, Extraction & characterization of new Biocolorants from natural sources like plants, animals and microorganisms, to study their unique properties like Anti-UV, Anti-Microbial, Anti-oxidant Activity etc and their application as colorant in different industries will be studied.

**Name: Priyanka Sathe**

**Ph.D (Sci) Biotechnology**

**Project title: Role of biochar to retain the micronutrient content for improving the soil fertility**

Biochar helps in carbon sequestration, increase water holding

capacity of soil, retains nutrients in soil, attracts more beneficial microbes, alters availability of Ca, Mg, B, Mo, and improves cation exchange capacity of soil. Because of these all above properties biochar is one of the best and economical soil amendments. As it helps to increase the crop yield by increasing the water holding capacity of soil and increasing nutrients availability to the plant that are present in the soil.

The aim of present work is to study the effect of biochar from various feedstocks on the crop growth in comparison with other soil amendments and to study the changes in soil texture and fertility due to addition of biochar as it helps to retain nutrients into the soil. Agricultural waste such as coconut coir, banana peduncle, peanut shell, and maize cob etc. can be used as feedstocks to produce biochar. Biochar produced from various feed stocks will have different effect on the growth of crop plants as each one has specific characteristics because of its varying particle size, particle density, and chemical composition.

**Name: Desai PawanVenkobrao**  
**Research Topic: Studies in Synthetic Polymers for Sports Textile Application.**

For sports clothing, a large variety of properties such as wearing comfort (breathability), windblocking for good heat insulation, odour absorption, tear resistance, abrasion resistance, and aesthetics are required for performance of sports textile. The study will focus on engineering products from intrinsic

and induced fiber properties, finishing and coating textiles to meet specific requirements of Technical fabrics for sports textile Applications. Fiber properties can be modified through-material composition by using different polymers, polymer blends, or nanocomposites made of organic or inorganic materials and the processing flexibility in maneuvering physical parameters and structures, such as fiber diameter, texture and pattern formation, offers the capability to design structures. By coating or finishing with speciality chemicals can further improve their performance as well as the durability. The role of fabric geometry/finish/coating parameters etc will thus be studied in relation to the enhanced performance and durability.

**Name: Aranya Mallick**

**Research topic: Modification of polymers for enhancement of functional properties**

Natural biopolymers are obtained from various renewable sources and have many advantages over the synthetic polymers because of their economic sources, availability and biodegradability. The research work deals with the utilization of some of these plant based biopolymers to prepare products with enhanced absorbency by means of chemical modification. Utilization of waste food materials are also taken into consideration to bring about a sustainable production system.

**Name: Sanket Valia**

**Research Topic: Functionalization of polymers for speciality applications**

A wide variety of natural sorbents such as rice straw, corn corb, peat moss wood, cotton and milkweed have been employed as sorbents in oil spill cleanup. These natural sorbents have the advantages of economy and biodegradability, but have also been observed to have the disadvantages of poor buoyancy characteristics, relatively low oil sorption capacity. Thus modification of various ligno cellulosic materials to improve the oleophilicity will assist in the application of oil spill cleanup.

**Name: Akshay C. Jadhav**

**Research topic: Processing of non-conventional fibres and their value additions.**

In the current research work, attempts are being made to use renewable lignocellulosic agricultural byproducts such as rice husks, cornhusks, cornstalks and pineapple leaves as an alternative source for cellulosic fibres. As per the above mentioned topic, proper fibre producing plants were identified, which were hitherto unexploited for the fibre formation which can be further used in the world of textiles.

**Name: Bhagyashri N. Annaldewar**

**Research Topic: Studies in Speciality Finishes**

Consumer demand for comfort, easy care, health and hygiene along with protection against mechanical, thermal, chemical and biological attacks has given birth to speciality finishes for textile. Speciality finishes are the treatments that are applied to the fabric to make them suited for specific uses such as water

repellent, flame retardant, antimicrobial, UV resistant, soil release, moisture management, easy care etc. The research work emphasizes on the multifunctional finishes for the textile substrates to improve their performance properties.

**Name:**

**Pravin Pralhadrao Chavan**

**Research Topic: Functional Modifications for Speciality Applications in Textile**

Today's era is of modernization of the textile industry. Protective textiles refer to those textile products which have a functionality of giving protection from something which is desirable. The functionality imparted can be mosquito repelling, insect repelling or anti-bacterial and anti-fungal. Synthesis or modification of repellent chemicals is one of the approaches towards making of textile material as an insect repellent. In many of these materials essential oils are used as an important ingredient. The microencapsulation and application of this microencapsulated product on to the textile material itself is a challenge and have problem related to laundering conditions. To avoid this problem responsive polymer can be prepared, so that microcapsules can withstand maximum number of washing cycles.

**Name: Pintu Pandit**

**Research Topic: Value Addition and Performance Enhancement of Textile Materials**

Various types of waste material as well as unconventional natural products from our surroundings have been given the importance for its utilization

on textile material as dyeing as well as imparting functional finishes like fire retardant, water repellent, antibacterial finishing, ultra violet protection, etc. Different processes like coating, electrospinning, plasma, etc. may be utilized for the same.

**Name: Jelalu Mifta**

**Research Topic: Studies in Fibrous Polymers**

Manmade fibres as well as natural fibres have been used for various textile applications and, nowadays, the interest for renewable resources for fibres particularly of plant origin is increasing. Therefore several plants are being studied with the aim to isolate fibres from plant leaves, stems and or from other parts. In addition, byproducts of some agricultural crops have been studied to find out fibre materials that could contribute for textile applications. Nature

still has unexploited potentials to be explored, preserved and utilized for the better future. Investigations, characterizations, value additions, and modifications on fibre properties will provide better options for diversified textile applications. So attempts were made to study and use some natural fibres for further applications.

### AWARDS AND SCHOLARSHIPS TO STUDENTS

**Following students were awarded Rs. 1000 Per paper for publishing research paper in reputed journals through “Dr. M. V. Nimkar – Texanlab Foundation”**

### MAJOR ACCOMPLISHMENTS OF FACULTY MEMBERS

**Dr.(Mrs.) Usha Sayed**

- First person to attend the

International brokerage event organized by Uludag textile exporters association (UTIB) and Bursa textile and clothing R&D center (BUTEKOM) at Turkey representing our institute.

- Had eventful interaction with textile institute, government agencies, and researcher from the all over the world (well represented) including Russia, Japan, Poland and Vietnam.
- The final outcome was “BUTEKOM is ready for cooperation with our institute for research activities in Turkey. BUTEKOM can sign a MOU at the beginning in order to carry the relationship for upper levels.”
- Signed MOU with Bursa technical university, Turkey representing our institute.

### PLACEMENTS

**Employment record of Textile dept students**

**B.Tech. 2016-17**

Sr. No	Student Name	Company name	Salary in Lakhs - PA
1	Shinde-Adhiraj-Dhananjay	NCSU , USA	
2	Mathur-Anuj-Anil Kumar	Aditya Birla Grasim	6
3	Pawar-Sangram-Prataprao	Aditya Birla Grasim	6
4	Jain-Harshit-Rajiv	Aditya Birla Grasim	6
5	Sharma-Ashutosh-Rakeshmohan	Not Known	
6	Kumar-Prince-Rajesh	Colourband, New Mumbai	3.6
7	Kurri-Vidhya-Ramesh	Intertek, Mumbai	3
8	Daga-Lesha-Manish	Family Buisnes	
9	Shirsat-Abhishek-Rajendra	Witmans Industries Pvt Ltd, Daman	3.4
10	Sairohit-Raghupathy	Galaxy Surfactants, New Mumbai	5.37
11	Biswas-Priyanka-Prasanta	Arvind Ltd, Ahmedabad	4.75
12	Pant-Nishtha-Harish	University of Akron, USA	

13	Patel-Amit-	Arvind Ltd, Ahmedabad	4.75
14	Kela-Sadiccha-Harshad	NCSU , USA	
15	Lahariya-Ashwariya-Sudhir	Cornell University, USA	
16	Kariya-Ankita-Rajesh	Looking for Fashion Designing Job	
17	Chauhan-Abhishek--	Indian Navy	
18	Kolhe-Sanjana-Ashok	Arvind Ltd, Ahmedabad	4.75
19	Khairnar-Anuja-Anil	NCSU , USA	
20	Agrawal-Niyati-Sushil	Joining Family Business	

#### M.TECH. 2016-17

Sr. No	Student Name	Company name	Salary in Lakhs - PA
1	Phulawre Namrata Dattatray	Looking for job	
2	Rahul Ranjan	Reliance Industries	
3	Shah Jay Ketan	Self Business	
4	Mahadik Aniket Pratap	Looking for job	
5	Vhanbatte Abhishek Rajesh	Working in Bangladesh	
6	Gupta Vickykumar Anilkumar	Already working with D'Décor	
7	Mukherjee Debarghya Ashis	Arvind Ltd.	5.25
8	Sangeeta Barwar	Looking for job	
9	Kamble Rohit Sunil	Looking for job	
10	Rahul Kumar	Looking for job	
11	Kabra Puneet Rameshkumar	Joining Self Business	
12	Amble Snehasatish	Already working with Hunstman Ltd	
13	Wodaje Markos Wodato	Already working in Ethiopia	
14	Gurmu Oliyad Ebba	Already working in Ethiopia	
15	Senbeta Alemayehu Leta	Already working in Ethiopia	
16	Parmaj Omkar Shivkant	Arvind Ltd.	5.25
17	Bansode Archana Shivaji	NCSU , USA	

#### M.SC. TEXTILE CHEMISTRY 2016-17

Sr. No	Student Name	Company name	Salary in Lakhs - PA
1	Pandey Rahul Gangaprasad	Not known	
2	Ansari Sameer Sumsuddin	BPO	2.4
3	Patil Manali Uttam		
4	Chaudhary Babita Umakant	Sorbe Biotechnology (India) Pvt. Ltd., Thane	2.2
5	Upadhyay Darshil Pankaj	Reliance Industries Ltd., Silvassa	3
6	Yennam Aarti Suresh	Hoienstein , Andheri	3

7	Madye Namita Prakash	Looking for job	
8	Raut Ajit Appa	Looking for job	
9	Pandit Supriya Vijay	Wool Research Association, Thane	1.68

## IN-PLANT TRAINING

T YB. TECH. 2016-17

Sr. No.	Name	Company name
1	Adhiraj Shinde	NAL, Bangalore
2	Anuj Mathur	Arvind, Santej
3	Sangram Pawar	Intertek, Mumbai
4	Harshit Jain	Aditya Birla Science and Technology Centre, Navi Mumbai
5	Ashutosh Sharma	Huntsman, Mumbai
6	Prince Kumar	Arvind, Santej
7	Vidhya Kurri	Intertek, Mumbai
8	Lesha Daga	Archroma, Thane
9	Abhishek Shirsat	NAL, Bangalore
10	Sairohith Raghupathy	Grindwell Norton (Saint Gobain), Bangalore
11	Priyanka Biswas	Archroma, Thane
12	Nishtha Pant	Reliance, Mumbai
13	Amit Patel	Arvind, Santej
14	Sadiccha Kela	Huntsman, Mumbai
15	Ashwarya Lahariya	NAL, Bangalore
16	Ankita Kariya	Parmeshwar Fashion Impex Pvt. Ltd., Mumbai
17	Abhishek Chauhan	Colorband, Navi Mumbai
18	Sanjana Kolhe	Archroma, Thane
19	Anuja Khairnar	Archroma, Thane
20	Niyati Agrawal	Aditya Birla Science and Technology Centre, Navi Mumbai

## M.SC. TEXTILE CHEMISTRY 2015-16

Sr. No.	Name	Company name
1	Rohan C. Meshram	Suditi Industries Ltd., Navi Mumbai
2	Swapnil Shamrao Sonawane	Archroma, Thane
3	Nidhi Chaudhary	Global Shirtbox, Mumbai
4	Pavan kumar Mishra	Arvind, Santej
5	Mary Siji George	Global Shirtbox, Mumbai
6	Theodros Zekarias	Intertek, Mumbai
7	Saudamini Bhosale	Archroma, Thane

## PROFESSIONAL ACTIVITIES

### Professor R. V. Adivarekar

- Life Member of Textile Association (India)
- Life Member of Indian Fibre Society
- Editor of Journal of Textile Association
- Visiting faculty for Sophia Polytechnic
- Member of selection committee, College of Home Science, Nirmala Niketan
- Member of technical/ Research advisory committee of Wool Research Association
- Member of Board of studies and faculties of The Maharaja Sayajirao University of Baroda in Textile chemistry
- Member of General Advisory Committee for Research and Liason of BTRA for the period 2011-2014
- Member of 'Core Group' to function as a Sub-committee of the Council for COE in Sportech at WRA
- Member as Expert in Department Research Committee at Textile Manufacturers Department, Veermata Jijabai Technological Institute
- Member of RRC, Department of Physics, ICT

### Professor M. D. Teli

- Chairman, papers and program committee, Global

Textile Congress 2015.

- Chairman, Research Monitoring Committee of TIFAC -DST for Technical Textiles at DKTE Textile Institute, Ichalkaranji.
- Served as Chairman, Research Monitoring Committee of TIFAC -DST for Technical Textiles at Kumarguru College, Coimbatore.
- Member, Research Advisory Committee, ATIRA (Ahmedabad), SASMIRA (Mumbai).
- Chairman Jury for Export Excellence awards, Indian Textile Machinery Manufacturers Association, Mumbai.
- Served as Member Craft mark market excess Jury 2013, Market Excess for evaluation of rural craft producer's readiness to meet contemporary demand. (Organised by All India Artisans and craft workers welfare associations (AIACA, New Delhi)
- Member of the Research advisory committee for the Seri Biotechnology, Dept of Biotechnology, Ministry of Science and Technology.
- Referee for projects submitted to Dept. Of Science and Technology and Dept. Of Seri Bio Technology. GOI-New Delhi
- Patron/Governing Council Member of Textile Association (India)

- Patron Member, Association of Chemical Technologists, India
- Life Member, Colour Group of India
- Chairman, Editorial board Journal of Textile Association
- Member, Editorial Board, Rossera
- Member, Editorial Board, Colourage
- Member, Editorial Board, Textile Value Chain
- Member, Board of Studies in Textiles and Clothing, SNDT University
- Member, Academic Council, S.V.T College, SNDT University
- Referee for Ph.D. Thesis at IIT, Deakin University and RMIT Australia, MS University and Vishweshwarya University Belgaum, Bengaluru, Kolkata university etc

### Professor S. R. Shukla

- Life Member, Colour Group of India
- Life Member, Marathi Vigyan Parishad
- Life Member, Alumni Association, ICT
- Life Member, Textile Association (India)
- Patron Member, Association of Chemical Technologists, India.
- Life Member, Indian Fibre Society

- Member, Editorial Board, Indian Journal of Fibres and Textile Research
- Research paper reviewer to more than 20 International journals.

#### **Dr. R. D. Kale**

- TEQIP coordinator of the dept
- Part of the Chief Conductor cum Senior Examiner for all the examinations conducted for UG and PG students
- Committee member of the MIS system of the Institute
- Placement coordinator the dept
- IPT in charge for T Y B Tech and M Sc Textile Chemistry students
- Coordinator of the dept for UGC-SAP programme
- Divisional Representative of the dept for IPC
- Member of the Cultural Activity Cell of the Institute
- Member of the Admission Committee of the Institute
- Member of the “Shri G.M. Abhyankar Students’ Travel Assistance” of the Institute
- Examiner for M Tech. Thesis in VJTI, Matunga
- Examiner for Practical Exam in SASMIRA, Worli
- External Examiner for NMIMS(Deemed to be University), Shirpur
- Assisting NMIMS(Deemed to be University), Shirpur for designing the DTT

course syllabus

- Expert on the committee formed by Dept of Health Sciences, Maharashtra State that is tasked with preparing specification for different garments/items that is used in Govt. mental hospitals

#### **Dr. (Mrs.) Usha Sayed**

- Referee for Journal of polymer and Environment
- Member of Editorial Advisory Board of International Journal of Advanced Science and Engineering
- Chairperson of Adhoc Committee of Textile Technology (MU)
- Best Ph.D.Tech Thesis Committee,
- Referee- for Nirmala Niketan College for M. Sc. (Home Science).
- Referee- for SNDT.
- Examiner for Nirmala Niketan College for M. Sc. (Home Science).
- Student counselling,
- Trained and Lectured students of National Institute of Fashion Technology [NIFT]

#### **SPECIAL AWARDS**

##### **Dr.(Mrs.) Usha Sayed**

- Awarded Certificate for presentation of a poster entitled Enzyme Treatment of Cotton in Presence of Swelling Agents at the 2000 AATCC International Conference & Exhibition Winston- Salem, North

Carolina.

- Awarded Certificate for attending the NCUTE Extension training Programme Jointly organised by VJTI & SASMIRA, on “Man-made Fibers” at VJTI, Mumbai on March 24-25, 2000.
- Chief Guest of Women’s College at Annual Day Function
- Chief Guest at a seminar at VJTI
- Chaired a no. of seminars in the past at VJTI, Mumbai, And many conferences held at various institutes in Mumbai
- Awarded with participation certificate in IIM (udaipur) for management capacity enhancement program(MCEP) for TEQIP institution- March 30 to April 4, 2015
- Awarded participation certificate in UTIB in MEVLANA exchange programme, Turkey

**DEPT CONDUCTED FOLLOWING ENDOWMENT LECTURES/INVITED LECTURES FOR THE STUDENTS OF THE TEXTILE DEPT AND ALUMNI**

Sr. No.	Lecture	Speaker	Date
1.	Mr. Milind Amerkar,	Listening Skills	8th September 2016
2.	Mr. Lalit Khurana	Importance of Soft Skills	8th September 2016