

Himalayan Region - Natural Long Fibres

(Under MoT, Govt sponsored project "Development of Value Added Products from different fibres produced in Himalayan Region")

**NITRA IS LOOKING FOR INDUSTRY PARTNERS FOR
TRANSFER OF TECHNOLOGY**

Objective is to assist industry in development of yarns, fabrics and final products from Natural Long Fibres

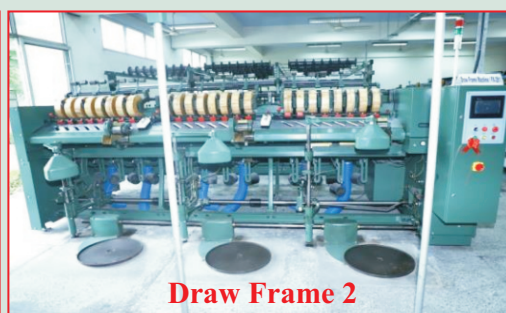
Facilities available:



Hackling Machine



Draw Frame 1



Draw Frame 2



Draw Frame 3



Draw Frame 4



Draw Frame 5



Roving Frame



Ring Frame

ISO 9001
nitra
ORGANISATION

Northern India Textile Research Association

(Linked to Ministry of Textiles, Govt. of India)

Sector-23, Raj Nagar, Ghaziabad-201 002 (U.P.)

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NITRA NEWS

...with industry always

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FROM DIRECTOR GENERAL'S DESK



Dear Patrons,

To begin this last quarter edition of NITRA News 2022, I want to wish you a happy new year 2023 which is already underway. At the same time I also hope that all of you had spent the year gone by pretty purposefully and achieved your goals. Friends, as usual this quarter has been buzzed with activities both for NITRA and its academic wing NITRA Technical Campus.

Friends, with the assistance from National Technical Textile Mission (NTTM), Ministry of Textiles Government of India, NITRA and the Indian Technical Textiles Association (ITTA) jointly organized a National Conclave on Technical Textiles - Protech on 16th Nov, 2022 at India Habitat Centre, New Delhi. It was inaugurated by the Chief Guest Ms. Rachna Shah, IAS, Secretary Textiles, Govt. She also inaugurated the exhibitions where more than 20 companies involved in Technical Textiles manufacturing participated. Also illuminated the occasion were Sh. Rajeev Saxena, IRSS, Jt. Secretary, MoT, Govt, Ms. Roop Rashi, IA & AS, Textile Commissioner, MoT, Govt., Sh. Raj Kumar Jain, Chairman, NITRA, Sh. Amit Agrawal Chairman, ITTA and Dr. Anup Rakshit, Executive Director ITTA. About 450 delegates, associated to Technical Textiles industry participated in the conclave. A galaxy of speakers including researchers, entrepreneurs, industry professionals, senior officials from MoT, experts from various armed forces and other govt. agencies dealing in Protech met in three panel discussions throughout the day.

In another very significant happening, during this quarter NITRA is glorified being awarded the CII Industrial Innovation Awards 2022. NITRA is ranked amongst the Top 3 Innovative Research Institutes amongst all research institutes in India by India's prime industry body Confederation of Indian Industry (CII). I duly acknowledge that all this outstanding achievement is made possible by our esteemed patrons like yours. During this quarter, NITRA also participated in 60th Joint Technological Conference (JTC), an annual event of four prime Textile Research Associations ATIRA, BTRA, SITRA and NITRA. This year the conference took place in SITRA, Coimbatore wherein NITRA scientists presented four industry oriented research papers that was well acclaimed by delegates.

The quarter has also been very eventful for our academic wing NITRA Technical Campus (NTC) as our student Sh. Sumit Kumar, B.Tech-Textile Technology, Batch 2018-22 made the institute proud by securing Silver Medal (University 2nd Rank) and received his degree from Hon'ble Governor of UP during 20th Convocation held on 25th Nov 2022. This is for the sixth consecutive time NTC pass out students top the AKTU chart. Besides, big companies like Vardhman Textiles Ltd., RSWM, Cedar Textiles Ltd., Super House recruited NTC students even before they are passed out. In addition to above, NTC organized the 8th Techno-Science Quiz on 19th November, 2022 for 12th Standard science-stream students..

To conclude this last issue of 2022, I solicit your invaluable suggestions in order to make the future issues more informative and user-friendly. Enjoy reading NITRA News.

Regards,

Dr. Arindam Basu
Director General

Northern India Textile Research Association

(Linked to Ministry of Textiles, Government of India)

Sector - 23, Raj Nagar, Ghaziabad - 201 002 (India)

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Insight

Page No.

From Director General's Desk	1
R&D Spectrum	2
Research Papers Published/ Presented	2
HRD Focus	3
Consultancy Corner	3
Testing Zone	4
Glimpses	4

Editorial Structure

Editor in - chief:

Dr. Arindam Basu

Executive Editor:

R.K. Gaur

Partha Basu



R&D SPECTRUM

Presently, NITRA is working on ten Government sponsored projects.

Government Sponsored Projects - On-going:

- ☐ Development of molten metal splash resistant unique jute blend work-wear for steel industry workers
- ☐ Development of Jute composite for automotive acoustic insulation and other uses

Recently Sanctioned Govt. Sponsored Projects:

- ☐ Socio-economic development of SC/ST by providing training, technology and market to convert local resources to industrial products
- ☐ To Develop Protective Work-Wear for Sewage and Sanitary Workers
- ☐ Development of Ceramic and UHMWPE Textile Based Hybrid Polymer Composite Armor
- ☐ Development of Specialized Firefighting Suit
- ☐ Development of flame retardant Nylon 66 yarn/fibre indigenously
- ☐ Development of Crop Cover, mulch, soil protection fabrics and other products using Sunnhemp and Banana Fibre
- ☐ Development of 3D High Performance Knitted Sports Textiles with Thermo-Physiological Comfort and Impact Protective Properties
- ☐ Cellulose based indigenous high Clo value and low density surface modified natural fibre for developing thermal layers of extreme cold weather clothing

Proposed Project – Submitted to Govt. Agency for Financial Support

- ☐ Development of Indigenous State-of-the-art Instruments for Protective Textiles

RESEARCH PAPERS PUBLISHED/PRESENTED

S. No.	Title	Author(s)	Publication/Place	Date
1	Chapter: Application of Nanotechnology-Based UV finishes on Textiles and their evaluation	M.S. Parmar	Book: Fundamentals of Nano-Textile Science	December 2022
2	Thermal, mechanical and comfort performance of various modacrylic fibre blended fabric	M.S.Parmar and Noopur Sonee	Indian Journal of Fibre & Textile Research, Vol. 47, P: 385-394	December 2022
3	How to Dye Cotton with Disperse Dye?	M.S. Parmar, Durgesh Raj Maurya and Nidhi Sisodia	Chapter written in a book “Unfolding Latest Researches and Practices in Fashion and Textiles ” Edited by Dr. Anu H. Gupta, Chairperson, UIFT & VD, Panjab University, Chandigarh. Edition 2022, Published by MANAK Publications Pvt. Ltd, New Delhi	2022

Placement Activities (B. Tech) at NITRA Technical Campus

S. No.	Recruiting Company	Branch	Student's Name
1.	Vardhman Textiles Ltd.	TT	Ayush Pandey and Md. Danish Khan
2.	RSWM	TT	Anushka Sahu, Ananya Singh, Nikita Agrahari, Dipa Sarkar and Sansriti Singh
3.	Cedaar Textiles Ltd.	TT	Himanshu Pandey, Shelly Sirohi, Nigam Kadiyan, Amish Dubey, Anshul Sharma, Anil Kumar Yadav, Shivangi Dixit and Anurag Chhatpurya
4.	Super House	TT	Dipesh Kumar Jha, Ayush Dubey and Fiza Siddharth
5.	Priyanshu Arya	CSE	Matrix Infotech Solution

Recent Technology Transfer by NITRA

- ☐ Technology to process raw banana fibre is transferred to Gencrest Bio Products Private limited, Mumbai
- ☐ ‘Flash resistance hood for Indian Navy’- Technology transferred to M/s Aero Garment
- ☐ ‘Improved version of body protector for riots control’- Technology transferred to M/s. G. M. Trading and Applied Systems
- ☐ ‘Coat combat disruptive’- Technology transferred to Kusumgar Corporates Pvt. Ltd. and Radnik Exports
- ☐ ‘Reusable sanitary pads and diapers’- Technology transferred to Kaytent Industries

NITRA Developments Already Commercialized Through Technology Transfer

- ☐ Technology of “Synthetic blood penetration tester” to Asian Test Equipments, Ghaziabad
- ☐ Technology of “Development of improved stab and impact resistant material for anti riots body protector” to Applied Systems Mumbai
- ☐ Technology of “Work wear for Cement Porters” to M/s. Arvind Ltd., Ahmedabad
- ☐ Technology of developing “Multi Layered Flame & Thermal Resistance Fabric for Fire Fighter Clothing” to Arvind Ltd. and Aeronav Industrial Safety Appliances
- ☐ Technology of “NITRA Electronic Drape meter” to Dinu Technologies, Coimbatore
- ☐ Technology of “NITRA’s Fabric Smoothness Tester” to Multiflo Instruments Pvt. Ltd., Navi Mumbai
- ☐ Technology to produce “Seamless low cost jute carry bags” to G. D. Industries, Kolkata
- ☐ Study material for “Fabric Defect Analysis” to Textile Sector Skill Council, New Delhi

New Books Added to NITRA Library during October-December 2022

1. Introduction to Constitution of India by Brij Kishor Sharma
2. GATE : Textile Engineering (Previous Solved Papers, Published by Engineers Academy
3. Constitution of India by Richa Choudhary, (et. al.)
4. Introduction to Engineering Mathematics, Vol. I, 11th Ed. By H K Dass (et. al.)
5. Environment and Ecology by Smriti Srivastava

Hon'ble Governor of UP Honours NITRA Technical Campus Student



It is a matter of great pride that Hon'ble Governor of UP, Her Excellency Smt. Anandiben Patel conferred NTC student Sumit Kumar (Textile Technology branch) the B.Tech degree. He has clinched the coveted silver medal in Carpet & Textile Group for the year 2018-22. The institute students have brought this laurel for the sixth consecutive time! The degree and medal was conferred during the 20th AKTU Convocation Ceremony at Lucknow on 25th Nov.'21. The college management congratulates him for making the institute proud.

Major Textile Companies Recruit from NITRA Technical Campus



Major textile companies such as Vardhman Group, RSWM, Cedaar Textiles (P) Ltd. and Super House visited NTC during the reported period for recruitment of textile graduates. On conducting the interview they expressed great satisfaction about the quality of students. As many as 18 textile graduates is offered job by these companies. More renowned companies are also lined up to visit NTC for recruitment drive in the coming months.



NTC organizes 8th Techno-Science Quiz 2022

NITRA Technical Campus (NTC), the only Govt. Aided Self Finance engineering college

in NCR, organized the 8th Techno-Science Quiz on 19th November, 2022 for 12th Standard science-stream students. This is an annual event of NTC to encourage young scientific minds. This year 130 students from 18 reputed schools in and around Ghaziabad took part in the event. Arpit Kumar Shrivastava from Green Field Public School emerged the winner of the contest. Sanvi Gupta from Everest Public School and Deepti Kumari from Bhagirath Public School secured the 2nd and 3rd positions respectively. Dr. Arindam Basu, Director General, NITRA along with other faculty members rewarded the winners with cash prize and certificate. In addition to toppers, certificate was also awarded to all participants.

Dr. Arindam Basu DG NITRA at India ITME 2022

Dr. Arindam Basu, DG NITRA shared his views on Sustainability as one of the panelists in Technical Symposium organized by VJTI & ITME on "Reduce-Reuse-Recycle : State of the Art in Textile Sector" on December 10, 2022 in INDIA ITME 2022 at Greater Noida.



4	Application of textiles and agro waste in developing composite and textile products, promoting circular Apparel in India through Research and Innovation	M.S. Parmar	Organised by Centre for Responsible Business (CRB)	November 4, 2022
5	A New Approach to Develop a Faded Denim Fabric to Conserve Water	M.S. Parmar, Durgesh Raj Maurya and Nidhi Sisodia	60 th Joint Technological Conference organized at SITRA, Coimbatore	November 11-12, 2022
6	Exploring the application of Dhaincha (Sesbania aculeata) fiber in Technical Textiles	Surabhi Das, Anita Rani and Nidhi Sisodia	International e-conference on Textiles for Advanced Technologies	November 11-13, 2022
7	Extraction of cellulosic fibre from Indian Bamboo using environment friendly process	Nidhi Sisodia and Arindam Basu	60 th Joint Technological Conference organized at SITRA, Coimbatore	November 11-12, 2022
8	Air Cleaner Home Textiles Capturing Carbon Dioxide and other Pollutants from Indoor Air	Arindam Basu, Pankaj Kumar, M.S. Parmar and R.K. Gaur	60 th Joint Technological Conference organized at SITRA, Coimbatore	November 11-12, 2022
9	Development of light-weight indigenous firefighter suit	M.S. Parmar, Shweta Chauhan and Nidhi Sisodia	60 th Joint Technological Conference organized at SITRA, Coimbatore	November 11-12, 2022
10	NITRA's initiative to save human lives	M.S. Parmar	National Conclave on Technical Textiles: Protech jointly organised by NITRA and ITTA	November 16, 2022
11	Converting Agro and Textile Waste into different Composite Materials	M.S. Parmar	2-week AICTE Training and Learning (ATAL) Academy, FDP on Sustainable and Innovative Approaches in Design organized by Department of Design, Banasthali Vidyapith, Rajasthan	October 1-5, 2022
12	Mosquito Repellent Textiles and their Evaluation: A Review	Rupali Kakaria, Neha Singh and M.S. Parmar	Journal of the Textile Association, Vol 83 No, P 237-243	Nov-Dec. 2022

HRD FOCUS

Training Program/Workshop/Seminar Attended by NITRA staff

- ❖ Dr. Arindam Basu, DG NITRA chaired a session in Technical Textiles for protection - workshop at IIT, Delhi organized by NTTM December 2, 2022,
- ❖ Mr. R. K. Gaur attended online program on Introduction and benefits of Industrial Revolution 5.0 by Mr. Vilas Gharat on Sep 30, 2022.
- ❖ Mr. R. K. Gaur attended a webinar on NABCB Accreditation for Inspection Bodies, and its Benefits to Industry & Government Bodies" on Sep 29, 2022.

CONSULTANCY CORNER

- ❖ Inspection: Cloth Disruptive (1unit), Jersey Woolen (1 unit), Coat Combat (2 units), Under pant Thermal (1 unit), Vest Thermal (2 units), Rucksack (1 unit), T Shirt (2 units), Shirting Angola Cloth (1 unit), Rain Cape (1unit), Socks Woollen Special (1 unit), Mattress – Kapok (1 unit), Blanket (4 units), Cloth Serge (1 unit), and Terry Towel (2 units)

- ❖ Energy audit (4 units)
- ❖ Manpower audit (2 units)
- ❖ Study on performance assessment of card using new card clothing development (1unit)

TESTING ZONE

During the period, total 1476 samples were tested in all the labs as per following table:

S. No.	Lab Name	No. of samples tested
1	Physical Quality Evaluation Lab	550
2	Chemical Quality Evaluation Lab	725
3	Heat & Flame/Microbiology Lab	
4	Polymer & Technical Textiles Lab	146
5	Eco Lab	18
6	Environment Lab	37

Total No. of Fabric Defect Analysis under taken during the period: 02 Nos

GLIMPSES

NITRA Organises National Conclave on Technical Textiles – Protech

With the assistance of National Technical Textile Mission (NTTM), MoT, GoI, NITRA and ITTA jointly organized a National Conclave on Technical Textiles - Protech on 16th Nov, 2022 at India Habitat Centre, New Delhi. The conclave was inaugurated by the Chief Guest Ms. Rachna Shah, IAS Secretary Textiles, GoI. She also inaugurated the exhibition where more than 20 companies involved in Technical Textiles manufacturing participated. In her inaugural address, she stated that though size of Technical Textile Sector is small in India but the growth rate of around 10% reveals that it is going to contribute Indian economy in a big way in coming years. Sh. Rajeev Saxena, IRSS, Jt. Secretary, MoT, GoI presented the vision behind the launch of NTTM and its objectives. Ms. Roop Rashi, IA & AS, Textile Commissioner, MoT, GoI emphasized that Government through its schemes like PLI & NTTM is visualizing major boost in the Technical Textile Industry. Dr. Arindam Basu, Director General, NITRA in his welcome address stated that NITRA is actively involved in development of various protective textile products. Sh. Raj Kumar Jain, Chairman, NITRA, Sh. Amit Agrawal, Chairman, ITTA and Dr. Anup Rakshit, Executive Director ITTA also addressed. About 450 professionals related to technical textiles especially Protech participated.



NITRA ranked amongst the Top 3 Innovative Research Institutes in India by CII

In another very significant happening, during this quarter NITRA is glorified being awarded the CII Industrial Innovation Awards 2022. NITRA is ranked amongst the Top 3 Innovative Research Institutes amongst all research institutes in India by India's prime industry body Confederation of Indian Industry (CII). NITRA management duly acknowledges the contribution of its esteemed patrons and all other associated with NITRA for this outstanding achievement.

ATIRA, BTRA, NITRA and SITRA organize 60th Joint Technological Conference

Joint Technological Conference (JTC) is an annual event of India's leading textile research associations ATIRA, BTRA, NITRA and SITRA. This year the 60th version of the conference held at SITRA, Coimbatore during November 11 and 12, 2022. NITRA Scientists Dr. M.S. Parmar, Director; Dr. Nidhi Sisodia and Mr. Pankaj Kumar presented research papers in 60th JTC. Following papers were presented:

- ❑ A New Approach to Develop a Faded Denim Fabric to Conserve Water -M.S.Parmar, Durgesh Raj Maurya and Nidhi Sisodia
- ❑ Extraction of cellulosic fibre from Indian Bamboo using environment friendly process - Nidhi Sisodia, Arindam Basu
- ❑ Air Cleaner Home Textiles Capturing Carbon Dioxide and other Pollutants from Indoor Air - Arindam Basu, Pankaj Kumar, M.S. Parmar & R.K. Gaur
- ❑ Development of light-weight indigenous firefighter suit - M.S.Parmar, Shweta Chauhan and Nidhi Sisodia

