



8th International Conference on Technical Textiles and Nonwovens

Bridging Performance and Sustainability:
The Future of Technical Textiles and Nonwovens



Tentative Program Schedule

DAY-1 | Friday 6 February 2026 | Program Schedule

| | | |
|---------|---|---|
| 10:00AM | Workshop Registration and Welcome Tea | |
| 11:00AM | Workshop | From Waste to Worth: Workshop on Recycling of High-Performance Textiles |
| 11:00AM | Workshop | Weaving Sustainability: Hands-On Workshop on Measuring Carbon Footprint in Handloom & Textiles |
| 1:00PM | Lunch for Workshop Participants | |
| 2:00PM | Conference Registration | |
| 4:00PM | Conference Inauguration & Welcome Remarks | |
| 5:00PM | Inaugural Talk | Prof. Bipin Kumar - Conference Coordinator IIT Delhi as an Innovation Anchor: Bridging Research, Industry and Policy for Technical Textiles |
| 5:20PM | Inaugural Talk | Mr. Anand Yadav - Managing Director, MEKR From Classroom to Company: Building Something Real While You're Still on Campus |
| 5:40PM | Inaugural Talk | Mr. Kanav Gupta - Strategic Partner : BCH From Potential to Powerhouse: India's Rise as a Global Technical Textile Hub |
| 6:00PM | Inaugural Talk | TBA |
| 6:20PM | Inaugural Talk | Ms. Padmini Singla - Joint Secretary, Ministry of Textile, Govt. of India Technical Textiles in India: Present Landscape and Future Roadmap — A Government of India Perspective |



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DAY-2 | Saturday 7 February 2026 | Program Schedule

9:00-9:30AM

Welcome Tea

Parallel Session 1

| | Session 1A(LH-108) | Session 1B(LH-111) | Session 1C(LH-114) | Session 1D(LH-316) |
|---------------|---|---|--|---|
| | PPE and their Multihazard Performance | From Field and Flock to Fabric | Structural Innovation in Textile Composites | Engineering Textiles for Medical Intervention |
| 9:30-9:45AM | Prof. Jitendra Pratap Singh Design & Characterization of Laminated Activated Carbon Fabric for Critical Military Applications | Dr. Afrose Fathima Farid Advancing Textile Sustainability: Natural Dyed Plant Based - Blended Yarns for Craft Industry Implementation | Dr. Shantanu Bhat Sustainable Textile-Reinforced Composites: An Interdisciplinary Platform Approach from Materials to Applications | Dr. Nilanjana Bairagi Designing Support Pillows for Individuals under Palliative Care |
| 9:45-9:55AM | Ms. Varsha Bandal AI Integration in the PPE Textile Lifecycle: From Design to Laundry for Performance and Sustainability | Dr. Shivangi Agarwal A Study on Properties of Union Fabrics Developed with Sisal Fibre for Textile Application | Dr. Sugun Sridharan Three dimensional weaving machines - Technical challenges in their development | Dr. Subhankar Maity Development of germicidal textiles based on polyprrole and MXene coated cotton fabrics |
| 9:55-10:05AM | Mr. Sujaan Satish Kaushik Lightweight bio aerogels and it's integration into thermal insulating textiles for cold weather conditions. | Dr. Gargee Bhattacharjee Development of Fancy Yarn using Local Sheep Wool of Himachal Pradesh | Dr. Seiko Jose Analysis of physico-mechanical and aging properties of coarse wool- natural rubber composites | Mr. Hariharasudan Natarajan Development of antibacterial silk-based implants with electrospun cefiderocol nanofibers and PEO-coated Mg3ZnCa |
| 10:05-10:15AM | Mr. Sockalingam Al Assessment of convective and radiative heat transfer coefficients of Extreme cold weather clothing on a Newton thermal manikin | Dr. Nidhi Sisodia Developing Sustainable Textiles from Parali Fibres (Rice stubble): Valorization of Rice Stubble for Eco-Friendly Textile Applications | Dr. Santanu Basak Natural fibre reinforced cactus leaf gel infused natural rubber latex dressing based biodegradable engineered flexible composite | Ms. Shweta Shukla Engineering the Osteochondral Junction: A 3D Bioprinted Full Thickness Cartilage-Bone Model |
| 10:15-10:25AM | Dr. Shamayita Patra Development of Textile Based Fruit Covering Bags | Dr. Kislaya Choudhary Exploring Sustainability through Interactive Digital Design Space for Digitally Printed Textiles | Mr. Anant Gupta Study of mechanical properties of high performance thermoplastic composites | Ms. Amisha Singh Sustainable Nano functionalised Textiles for Advanced Wound Care and Wellbeing |



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10:25-10:45AM

HighTea

| | | |
|---------|------------------------|---|
| 11:00AM | Plenary Talk: Academia | Prof. Thomas Gries - RWTH Aachen University, Germany From Fossil to Renewables: Strategies for a Future-Ready Indian Textile Sector |
| 11:20AM | Plenary Talk: Industry | Mr. Rahul Bansal - Vice President & Head - Nonwovens Business, Birla Cellulose Global shifts and future direction of Nonwovens on sustainability & innovation Ask for Abstract |
| 11:40AM | Plenary Talk: Industry | Mr. Simon Finianos - Sales Director, Reicofil Latest developments in Spunmelt Nonwovens – Opportunities and Challenges |
| 12:00PM | Plenary Talk: Industry | Mr. Utssav Gupta - Director, Supertech Fabrics Performance surface engineering for industrial filters |
| 12:20PM | Plenary Talk: Industry | Mr. Debabrata Ghosh - VP & Sales Director, Barmag Fibre(MMF) Power 2030: Navigating Geopolitics - Technology innovation and global expectations |
| 12:40PM | Panel Discussion 1 | Dr. Ashwan Kapur (Managing Director, Uniproducts), Mr. Rajeev Ranga (Managing Director, Alpha Foam), IITD Faculty, Invited Faculty Beyond the Syllabus: Are Our Graduates Prepared? |

13:30-14:30PM

Lunch



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DAY-3 | Sunday 8 February 2026 | Program Schedule

9:00-9:30AM

Welcome Tea

Session 3A(LH-108) Session 3B(LH-111) Session 3C(LH-114) Session 3D(LH-316)

Fibrous Barriers to Heat and Flame Upcycling Across Fashion, Materials and Applications Chemical Pathways to Multifunctional Textiles Textiles for Soil, Crop and Construction

9:30-9:45AM Dr. Manorama Tripathi Dr. Deepali Singhee Dr. Marwa Abdellah Prof. Tushar Chandrakant Patil

Protective Gloves for Para-Military Forces: Integrating Cut, Fire, and Impact Resistance

Gond-Inspired Upcycled Denim: A Sustainable Approach to Toddler Fashion

Eco-Friendly Fabrication of Multifunctional Conductive Textiles for Smart and Sustainable Applications

Processing and Characterization of Flex Banner Waste into Reinforced Roofing Materials

9:45-9:55AM Dr. Sundaramoorthy Palanisamy Dr. Abhijit Mukherjee Dr. Rupali Kakaria Dr. Priya Jaswal

Development of FR non-woven using indigenously developed FR PA66 fibres

Development of Fashion Garments by Upcycling the Textile Waste

Functional Finishing of Cotton Fabric with Microencapsulated Grapefruit Essential Oil for Dual Protection against Mosquitoes and UV Radiations

Climate-Resilient Natural Fiber Geotextiles: Enhancing Road Performance under Wetting and Drying and Soaking Conditions

9:55-10:05AM Dr. Shafiq Ahmad Wagay Dr. Vinod Vishnu Kadam Mr. Safwan Mafaaz K.M. Dr. Dinesh Bhatia

Study on the enhancement of the total heat loss and thermal comfort in extreme heat protective garments

Harnessing Coarse Wool for Eco-Conscious Plant Growth: A Textile Solution for Sustainable and Organic Farming

Multifunctional, Fluorine free chitosan-MTMS on Cotton Fabrics for improved UV Blocking, Antibacterial-Antiseptic and Hydrophobicity Performance

Investigation of Interface Shear Behaviour with Sand and Clay for Treated Coir Geotextiles with Benzyl Chloride and Dimethylformamide

10:05-10:15AM Mr. Sudhanshu Maurya Ms. Sangavi T Mr. Yadav Avadhesh Anantram Rajan Rikhi

Development of a Bench-Scale Instrument for Radiant and Flame Protection Performance in Various Orientations

Mechanical recycling of p-aramid fabric waste

Role of Magnetic NiFe₂O₄ and Conductive rGO in Tailoring the Dielectric and EMI Shielding Properties of TPU Nanocomposite Films

Microstructural analysis and engineering of polyethylene terephthalate and olefins for significant impact on geotextile products

10:15-10:25AM Mr. Md. Jawad Ibn Amin Ms. Ayasha Beg Mrs. Sagarika Aditya Mrs. Trupti Ashish Dhoka

Fabrication and Evaluation of Thermal Protective Performance and Mechanical Characterization of the Outer Layer of Firefighters' Suits

Development and Comparative Characterisation of Bioplastics Films from Water Hyacinth and Sugarcane Bagasse Cellulose Reinforced with Natural Polymers

Coating of cotton with ternary blend of Sodium alginate, sugar and bio-latex for a sustainable waterproof textile with moisture vapour permeability

10:25-10:45AM

HighTea



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| | | |
|---------|--------------------------|---|
| 11:00AM | Plenary Talk: Academia | Prof. Gang Sun - Professor, University of California, Davis, United States Development of Polylactic Acid Fibrous Materials with Improved Mechanical and Biodegradability and Enhanced Daylight Photoactivity |
| 11:20AM | Plenary Talk: Government | Dr. Vikas Thakare, Scientist G & Associate Director, Drde, Drdo Protective textiles |
| 11:40AM | Plenary Talk: Industry | Mr. Satyapriya Dash - R&D Head, Arvind Human Protection Technical Textiles for Personal Protection: Current Research and Future Direction |
| 12:00PM | Plenary Talk: Industry | TBA |
| 12:20PM | Plenary Talk: Industry | Mr. Kartik Kanodia - Managing Director, Manas Geo Tech India Engineering Reliability Beneath Infrastructure: Innovation and Quality in Geotextiles and Geo-Membranes |
| 12:40PM | Plenary Talk: Academia | Prof. Md Mahbubul Bashar - Professor, Mawlana Bhashani Science and Technology University, Tangail, Bangladesh Technical Textiles for Personal Protection: Current Research and FutureDirection |
| 1:00PM | Panel Discussion 2 | Mr. Rahul Dubey (Sales and Marketing Manager, Henkel), Dr Nandan Kumar (Managing Director, HPT, recommended by Venus), IITD Faculty, Invited Faculty The Market Tug-of-War: Innovation vs. Marketing |

13:30-14:30PM

Lunch

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| Session 4A(LH-108) | | Session 4B(LH-111) | | Session 4C(LH-114) | | Session 4D(LH-316) | |
|--|---|--|---|--|--|--|--|
| Textiles for Filtration & Noise Control | | Circularity: Life Cycle, Emissions and System Transitions | | Chemistry of Colour and Textile Surfaces | | Engineered Materials and Analysis | |
| 14:30-14:45PM | Prof. Vardhaman Bhupal Chougule Impact of Hollow and Solid Polyester Fiber Cross-Sections on Filtration Performance in Needle-Punched Nonwovens | Dr. Subhadeep Paul A Life Cycle Assessment Study: Is Bacterial Cellulose Leather a Sustainable Alternative to Conventional Textile Products? | Boris Mahltig Smart and Functional Textile Surfaces by Coating Applications using Effect Pigments and Functional Pigments | Shekh Md. Mamun Kabir Intercalation of α -zirconium phosphate with amines used as epoxy additives and catalysts | | | |
| 14:45-14:55PM | Dr. Ujjainkumar Pundlik Mhasavekar Recent Developments in Pervaporation Membranes | Dr. Bharti Bish CA-AIS Framework for Textile Supply Chain Emission Accounting | Dr. Meenakshi Kumari Commercial-Scale Eco-Printing of Silk Fabric Using Natural Mordants and Manjishta-Based Pigments | Dr. Haree Charan Meena Effect of Twist Multiplier on Wickability of Siro Spun Yarns | | | |
| 14:55-15:05PM | Dr. Janmay Singh Hada Nanofibers, Nonwovens, and Beyond: Next-Generation Textile Filtration Systems | Dr. Preeti Kaur Sachdeva Environmental Impacts of Cotton vs. Milkweed Fibres: A Cradle-to-Gate Life Cycle Assessment | Dr. Arun Kumar Patra Electrochemical dyeing using Indigo colour | Mr. Vignesh G Computational Fluid Dynamics (CFD) Analysis of Process Parameters and Nozzle Design in Meltblowing | | | |
| 15:05-15:15PM | Dr. Meenakshi Ahirwar Sustainable Acoustic Materials from Silk Waste and Natural Fiber-Based Nonwovens | Mr. Biren Vora Game-Theoretic Modelling of Circular Economy Rebound Effect and Track & Trace Capabilities in Sustainable Fashion | Dr. Ramachandran R Extraction and Characterisation of Natural Dye stuff obtained from Cannonball Tree Bark | Mayur Sharma Comprehensive Analysis of Denim Fabric Properties: Influence of Fiber Composition and Weave Architecture | | | |
| 15:15-15:25PM | Mr. Siddhi Vardhan Singh Rao Modelling and Experimental Study on Acoustic Behaviour of Tricot Fabrics | Mr. Gyanesh Kumar Jha Carbon Footprint Assessment of Indian Handloom Production | Mrs. Kathioli Raja Sustainable Dyeing of Cotton with <i>Sesbania grandiflora</i> Extract and Zinc Oxide Nanoparticle Finishes for Improved Color Strength and Functional Properties | Ms. Garima Raj Beyond Clothing: Unveiling the Role of Non-Apparel Textiles in Everyday Use | | | |
| 15:31-15:45PM | Mr. Shantanu Verma Effect of Bonding Techniques and Process Parameters on Thermal and Acoustic Properties of Nonwovens | Ms. Aadhy Singh Assessment of Barriers to Circular Economy Implementation in Indian Textile Industry using ISM MICMAC Technique | Mrs. Aastha Rajawat Effect of Sustainable Pretreatments and Dyeing on Protective Bamboo- Cotton Fabric | Mr. Siddharth Kinariwala Technological Advances Connected to Technical Textile, Nonwoven & Composites | | | |
| 15:45-16:00PM | | | | Tea Break | | | |
| 16:00-17:00PM | | | | Poster Prize Distribution & Valedictory Session | | | |



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Poster Presentations

| Name | Title | Institution |
|-------------------------|---|---|
| Fayeza Noor | Recent innovations in smart textiles and the role of AI in textile industry | Cambridge School |
| Vijay Verma | NBC Protective Textiles | Defence Research and Development Establishment |
| Anshika Hansini | Natural dye | Indian Institute of handloom technology, Bargarh |
| Vinaya D | Repurposing of jackfruit waste into non - woven fabric | Kumaraguru college of technology |
| Priyanka Pant | Sustainable fiber recovery from cigarette waste to technical textile | Jawaharlal Nehru nehru government engineering college Sundernagar, Mandi, Himachal Pradesh, India |
| Simar Kaur | The Role of Textile Sensory Feedback on Attention Span Among College Students | IILM University |
| Swarup Kumar Dash | on Adaptive Surface Textile with Automotive Textile | Indian Institute of Handloom Technology, Bargarh |
| Jiya Gupta | Bio-based Fiber-Enhanced Geotextiles for Sustainable Unpaved Road Infrastructure Sustainable fiber recovery from cigarette waste to technical textile | Jawaharlal Nehru government engineering college Sundernagar,Mandi, Himachal Pradesh, India |
| Spandana Prem Deshpande | Positioning of Textile Supply Chain in Sustainability | Dr. D.Y.Patil School of Design |
| Aishwarya Atul Toley | Upcycling Nonwoven and Woven Polypropylene Packaging Waste through Surface Manipulation for Functional Textile Development | National Institute of Fashion Technology, Kangra |
| Himadri Tanaya Mahanta | Mechanical properties of natural fibre woven geotextiles | Odisha University of Technology and Research Bhubaneswar |
| Ankush Shaw | Breathable Polymeric Coatings for Textile Upholstery Application | Indian Institute of Technology Delhi |



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| Suhani Ujjwal | Permanent Ink-Lock Technology for Lifetime-Preserved Textile Memorabilia | National Institute of Fashion technology |
| Abhishek Chakraborty | Sustainability in Style: Risa Fabric as a Bridge between Handloom Traditions and Modern Wear | Jagannath University |
| Nathiya M | Development and Characterization of Bio-Based Flame Retardant Finishes on Cotton Fabrics Using Chitosan for Sustainable Textile Applications | PSG College of Arts and Science |
| Rikhil Nagpal | Post -consumer textile waste management: A holistic approach towards a circular economy while bridging socio " cultural and socio - economic gaps. | Dr D Y Patil School of Design, Dr D Y Patil Vidyapeeth, Pune |
| Sagnik Ghosh | Development of Biodegradable Polymer based Orthopaedic Implants | Department of textile & fibre engineering, IIT Delhi Huaz Khas |
| Rojalin Pradhan | Textile Sustainability and Recycling: Toward a Circular Future | Indian Institute of Handloom Technology, Bargarh, Odisha, India |
| Gargi Sharma | CRISPR-Based Microorganisms for Smart Textile Finishes | Government women polytechnic college, Jaipur, Rajasthan |
| Anthima Ram | Systematic Review of Diabetic Wound Healing Using Nonwoven Antimicrobial Silver-Ion Embedded and Alginate Dressings | Institute of Design, MIT ADT University |
| Shakti Bathla | Study on use of reusable cloth diapers made from sustainable fabric | Northern Indian Institute of Fashion Technology |
| Deepali Singhee | Diversifying Gamchhas of Kenjakra in West Bengal for Sustainable Livelihoods: A Study on Innovative End-Uses | ILEAD, Kolkata |



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| Name | Title | Institution |
|-----------------------|--|--|
| A. Hari Krithik | Turmeric Nanocoating | Kumaraguru College of Technology |
| Jothika Jeyabalan | Statistical Optimization and Recombinant Expression of Native Laccase in <i>Pichia pastoris</i> for Enhanced Thermo- and pH-Stable Biocatalysis in Textile Dye Degradation | Indian Institute of Technology Guwahati |
| Ajithkumar Veluchamy | Sequential Azoreductase-Laccase mediated Biodegradation of Azo-dye by <i>Brevundimonas naejangsanensis</i> AJZ05 and <i>Neobacillus cucumis</i> L03: A sustainable Strategy for Textile Effluent Treatment | Indian Institute of Technology Guwahati |
| Madhu Priya | Chemically treated flame-retardant cotton vis-a-vis inherent para-aramid fabric in reference to multiple washing | Panipat Institution of Engineering & Technology, Samalakha |
| Kavita Saroha | Artificial Intelligence in Apparel: Balancing Efficiency, Sustainability and Virtual Fashion Commerce | Amity University Haryana |
| Akhilesh Kumar Sharma | Influence of Biomolecule on Long-Term stability of Piezoelectric Properties of Poly(vinylidene fluoride) Composite Nanofibers for Athlete Training | IIT Delhi, New Delhi |
| Aditi Sharma | Integrating Textile Sustainability into Plus-Size Fashion for a Responsible Future | Amity University Haryana |
| Himani Bir | Consumer Perceptions and Behavioral Insights on Recycling and Upcycling of Post-Consumer Textile Waste: A Case Study from North India | Guru Nanak Dev University |
| Anjana | Value Addition To Old Childrenâ€™S Clothes Using Upcycling Techniques | Dept. Apparel and Textile Technology,Guru Nanak Dev University(GNDU) |
| Upasana Saxena | Marketing Strategies for Bridging Performance and Sustainability: Promoting Innovative Technical Textiles and Nonwovens for a Greener Future | Amity School of Communication |



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| Name | Title | Institution |
|------------------------------|--|--|
| Shivangi Bansal | Characterizing Desert Cotton as a Material Filler for Neck Pillow | Indian Institute of Technology Jodhpur |
| Tarandeep Kaur | Chikankari Embroidery and Sustainable Textile Innovation: Bridging Heritage and Technical Practices | Kanya Maha Vidyalaya, Jalandhar |
| Akash Patel | Reshaping the throwaway culture, through Rhizomorphic bio-textiles for regenerative disposable packaging: A techno-economic analysis | NIFT Gandhinagar gujarat |
| Samruddhi Vaibhav Purandare | A hybrid Energy-Harvesting Smart Textile Integrating Thermochromic Sensing and ECG Monitoring for Patients | National Institute of Fashion Technology |
| Simmi Sharma | Upcycling The Single-Use Plastic in Circular Fashion | Jagannath University |
| Aditya Bhandari | Valorization of Polyester Waste into Thermoregulatory Polyester Fibre | Jagannath University |
| Chaitanya Kaustubh Deshpande | Woodland Camouflage with in-situ Functional Finish | Institute of Chemical Technology Mumbai |
| Kamlekar Preethi | From Farm Waste to Future Materials: Sustainable Composites for Advanced Applications | National Institute of Fashion Technology |
| Atryee Das | Molecular Ferroelectrics: Harnessing the power of Triglycine Sulphate, a sustainable approach for next-generation energy materials | Indian Institute of Technology Delhi |
| Shalu Nehra | Dada Lakhmi Chand State University of Performing & Visual Arts, Rohtak | Dada Lakhmi Chand State University of Performing & Visual Arts, Rohtak |