Institute Research and Presentations 2004-2009

***Invited Presentations**

SUSTAINABILITY

Institute Fellow Research

1. An Evaluation of Anoxic/Aerobic Treatment for Textile Reactive Dye Color
2. Logistical Model for Closed Loop Recycling of Textile Materials

Institute Staff, Academic Faculty, and Expert Research and Presentations

3. Green Chemistry Applications for Textiles*
4. Just Say Know to Sustainability*
5. Shedding Light on Lighting
6. Energy Conservation Basics for Manufacturing Facilities*
7. Oeko-Tex 100: Key to Successful Products and Sustainability*
8. Emerging Markets for Difficult-to-Recycle Textile By-Products*
9. Reduction of Metals in Textile Effluents
10. Technology For Wastewater Recycling
11. Current and Future Textile Environmental Issues*
12. The Impact of Increasing Energy Costs on Textile Manufacturing
13. Energy Monitoring Systems*
14. Logistical Model for Closed Loop Recycling of Textile Materials*
15. Energy Conservation Basics for Manufacturing Facilities*
16. Just Say Know to Sustainability*

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17. Shedding Light on Lighting
18. Standard for Sustainable Commercial Furnishings Fabric
19. Solar Power: Is it the Light Time?
20. Update on New VPEP Form and Contract Sustainability Standard

FUNCTIONAL AND TECHNICAL FABRICS

Institute Staff, Academic Faculty, and Expert Research and Presentations

1. UV Curing for Durable Aroma Finishing
2. Photo Activity of TiO_2 and Application of Sensitizers
3. One Step Reactive Dyeing and DP Finishing Process
4. Evaluation of Alternatives to PBDE Flame Retardants and Fluorocarbon Water and Stain Repellents
5. Plasma Systems for Textile Processing*
6. Development of Advanced Dyeing Technology for Spandex Fiber
7. Current Developments in Flame Retardants*
8. Enhanced Peroxide Bleaching*
9. Antimicrobial Textile Finish for Superior Microbial Control*
10. Rotaxanation of Textile Additives with Cyclodextrins for Superior Delivery*
11. Dual Functional Fabrics via Atmospheric Pressure Plasma*

FUNCTIONAL AND TECHNICAL FABRICS

Institute Fellow Research

12. Development of a Comfort Measurement Matrix

13. High-Affinity Reactive Dye Systems for Cellulosics

14. Developing High Affinity Dyes for Improved Environmental, Cost, and Quality Performance

15. Development of Environmentally Friendly and Highly Efficient Flame Retardants for Textiles – Cotton and Cotton Blends

16. Development of Environmentally Friendly and Highly Efficient Flame Retardants for Textiles – Synthetic Blends

17. Evaluation of New FR and WR Finishes

18. Durable and Environmentally Friendly Flame Retardants for Textile Materials

19. Current Replacements for Fluorocarbon Finishes

20. One-Step Dyeing and Non-Formaldehyde DP Finishing Process

21. Durable Non-Fluorine Water Repellent Fabric Finishing: Surface Treatment Using Silica Nanoparticulates and Mixed Silanes

22. Durable Antimicrobial and Flame-Retardant Nano-Finishing with TiO2

23. Color Enhancement by Atmospheric Plasma Treatment and Textile Chemical Finishes

24. Developing Climate Chamber Correlations for Instrument Measures of Clothing and Human Contact Comfort

25. Optimizing Comfort and Functional Performance of Form-fitted Athletic Wear

26. Durable Ionic-Modified Antistatic Fibers: A Combination of Nanotechnology and Atmospheric Plasma Treatment

EMERGING TECHNOLOGIES

Institute Fellow Research

1. Enhancement of Fabric Color by Plasma Treatment
2. De-Bottlenecking the Electrospinning Process Using Oscillating Magnetic Fields
3. Nanolayer Self-Assemblies on Textile Fibers
4. Evaluation of Repellent Finishes Applied By Atmospheric Plasma
5. Durable Antimicrobial and Flame-Retardant Nano-Finishing
6. Durable Ionic-Modified Antistatic Fibers: A Combination of Nanotechnology and Atmospheric Plasma Treatment

Institute Staff, Academic Faculty, and Expert Research and Presentations

7. Incorporation of TiO2 Nanoparticles onto Fabrics for Self-Cleaning Performance

ECONOMIC COMPETITIVENESS AND BUSINESS SOLUTIONS

Institute Staff, Academic Faculty, and Expert Research and Presentations

1. Textile Cost Comparison between US, Latin America, and Asia
2. Current Status of Trade Policies Affecting U. S. Textile Manufacturers*
3. International Business Development Opportunities*
4. Total Lean MRP*
5. Healthcare Forum*
6. Textile Industry Capability and Sourcing Database*
7. Estimation of the Cost Impact of Manufacturing Complexity*

ECONOMIC COMPETITIVENESS AND BUSINESS SOLUTIONS

Institute Fellow Research

8. Analysis of the Market Potential and Effectiveness of Upstream Textile Advertising
9. Developing a Comprehensive Cost Model in Sourcing Products
10. Increasing the Economic Competitiveness of the U.S. Textile Industry Through the Use of a Niche Market Strategy
11. Effectiveness and Economic Analysis of Localized Sourcing Systems
12. Improving the Competitiveness of U.S. Textile Manufacturers with E-Business Initiatives
13. Plant Floor Scheduling Systems in a Lean Environment
14. Productivity In Textiles – Finding Relevant Measures
15. Examining the Global Economy - Economic Competitiveness in the Global Textile Supply Chain
16. Supply Chain Linkages: Opportunities for the U.S. Textile Supply Chain
17. Analysis of the Market Potential and Effectiveness of Upstream Textile Advertising
18. Developing a Comprehensive Cost Model in Sourcing Products
19. Niche Market Research Strategies Focusing on the Identification of Latent Demand Opportunities
20. Integrated Measures of Comfort for Athletic Performance Apparel Using A Sweating Manikin and Other Advanced Systems
21. DR-CAFTA Opportunities for the US Textile Industry

POLYMER SCIENCE

Institute Fellow Research

1. Extrusion and Characterization of Amlon Fibers

Institute Staff, Academic Faculty, and Expert Research and Presentations

2. Development of Melt Spun Acrylic Fiber

NONWOVEN TECHNOLOGIES

Institute Fellow Research

1. Application of Hydroentangling Process to Enhance the Mechanical Properties of Woven and Knitted Fabrics

Institute Staff, Academic Faculty, and Expert Research and Presentations

2. New Innovative Nonwoven Fabrics*

YARN AND FABRIC FORMATION

Institute Fellow Research

1. Increasing the Cost Competitiveness of the U.S. Textile manufacturer through the Attenuation of Slasher and Sized Yarn Waste

2. Improving Product and Process Quality with Data Mining

3. Adapting Lean Principles For The Textile Industry

4. The Production of Profitability: Optimization and Control of Increasingly Complex Textile Plants.

5. Static Generation and Suppression in Staple Fiber Yarns

6. Yarn Specifications and Performance Metrics for Short Staple Yarn Manufacturers

YARN AND FABRIC FORMATION

Institute Staff, Academic Faculty, and Expert Research and Presentations

8. Development of a Quick Cotton Maturity Measurement
9. Design of an Optimal Fiber Selection System for Improved Spun Yarn Qualities through Data Mining
10. Improving Yarn Quality with Gin Process Control (GPC) Technology
11. Avoidable Costs in Weaving: Identification, Elimination, and Impact on Competitiveness
12. Sliver Thick Places and their Effect on Ring and MJS Spinning*
13. True Engineered Cotton Laydowns*
14. Low Cost Tagging for Greige Goods
15. Opportunities for Waste Reduction
16. Use of Lean Manufacturing ...Waste Optimization in the Yarn Plant*
17. Automobile Covers Using Amlon Fibers
18. Design of Novel Denim Fabrics
19. Advantages of the Yarn Structure of the Air Jet Spinning Technology*
20. Advantages of 1.5m Carding Width in Carding Technology*
21. Overview of Activities at USDA's Cotton Quality Research Station*