

UGA Textiles: Weaving a community with science and fashion

Department of Textiles, Merchandising and Interiors

Mauricio Villa
Shuangyan Wu
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1. Introduction

- Textile Industry in Georgia: Source of Development and International Power in the XIX Century
- Globalization and International Competition
- Fashion industry – US Influential power
- Importance of Science of Textiles – New materials development and Performance
- Multiple applications – interdisciplinary development



1. https://upload.wikimedia.org/wikipedia/commons/thumb/e/ef/Spinner_in_Vivian_Cotton_Mills._Been_at_it_2_years._Where_will_her_good_looks_be_in_10_years%5E_Cherryville%2C_N.C._NARA__523111.jpg/1280pxSpinner_in_Vivian_Cotton_Mills._Been_at_it_2_years._Where_will_her_good_looks_be_in_10_years%5E_Cherryville%2C_N.C._-NARA__523111.jpg
2. https://upload.wikimedia.org/wikipedia/commons/thumb/3/37/Telfair_Academy_of_Arts_%26_Sciences_%28Savannah%2C_Georgia%29.jpg/250pxTelfair_Academy_of_Arts_%26_Sciences_%28Savannah%2C_Georgia%29.jpg
3. <https://www.ghanabusinessnews.com/wp-content/uploads/2011/02/Screen-Shot-2016-03-21-at-8.50.48-AM.png>

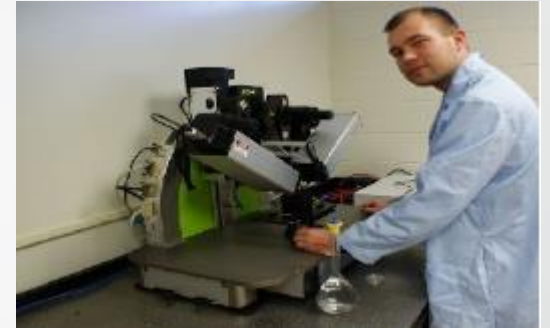
1. Introduction

- **Textiles, Merchandising and Interiors Department at UGA**

Our expertise ranges from merchandising and interior design to polymer, fiber, and textile science. We offer a variety of experiential learning experiences including internships, education abroad, research, and service learning.

- **Current Research Focus**

We integrate instruction with relevant research on textile fiber and polymer science, merchandising and international trade, consumer behavior, historic and cultural aspects of dress and textiles, design solutions for residential interiors, and global apparel supply chain and organizational dynamics.



UNDERGRADUATE PROGRAMS

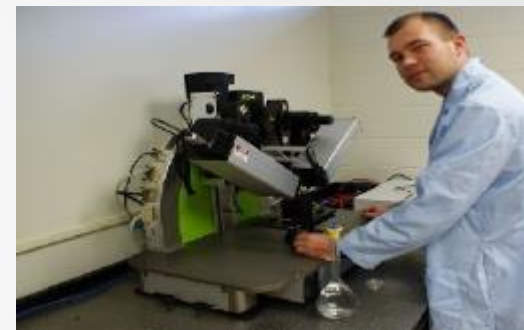
- **Bachelor of Science**

- Fashion Merchandising

Fashion Merchandising prepares you for the apparel and textile industries. The Product Development and Design emphasis adds a production and sourcing component to the major. Students can study abroad in London, China, and Ghana. Or study in NYC: visiting showrooms, buying offices, and other facets of the industry.

- Furnishing and Interiors

Projects link students with industry partners in solving residential design problems. Take courses in space planning, presentation methods, CAD, kitchen and bath and innovative residential design. This program is accredited by the National Kitchen and Bath Association (NKBA).



GRADUATE PROGRAMS

- **Master of Science in TMI – Focus areas:**

- Merchandising
 - Interiors
 - Polymer, Fiber, & Textile Sciences
 - Historic/Cultural Aspects of Dress

- **Ph.D. in TMI – Emphasis in:**

- Polymer, Fiber and Textile Science
 - Merchandising and International Trade



2. Polymer, Fiber and Textile Science at UGA

Along with collaborators in *engineering and chemistry at UGA* and *materials science at Georgia Tech and Clemson*, we have spearheaded research in environmental chemistry, innovative biotechnology applications, product development and recycling of textile by-products to advance the innovation of new products and businesses.

- Biomaterials
- Smart Textiles
- Nonwovens
- Nanomaterial
- Functional Textile



2. Polymer, Fiber and Textile Science at UGA

Biomaterials

Study of Biodegradable Polyesters from Algal Sources

Blue green algae → Biodegradable plastic → surgical meshes, tissue scaffolds and sutures threads

Functional Textile

Microencapsulation for cosmetic textiles application

Bees wax → Vitamin A → Microencapsules →

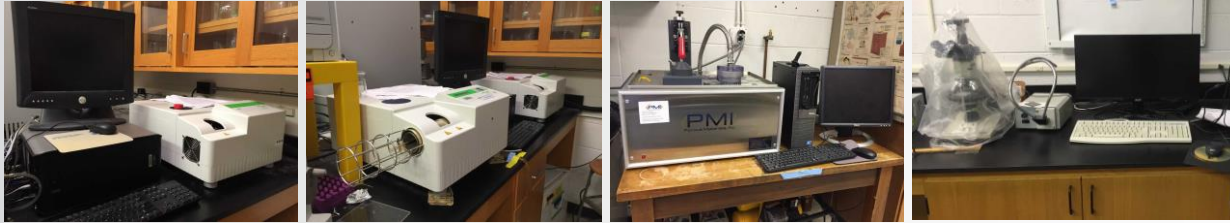
- anti-inflammatory
- skin soft
- skin aging
- protection against UV

(a) Test the material components (i.e. PVC in films)

(b) Carpets' bacteria and mold.

2. Polymer, Fiber and Textile Science at UGA

Instruments in TMI



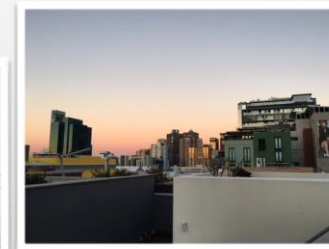
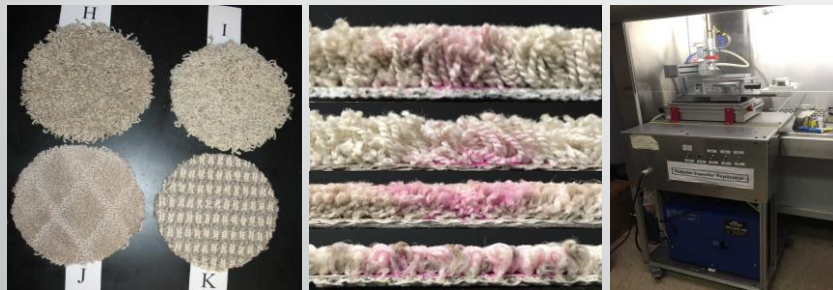
- UV-Spectrophotometer
- TGA & DSC
- PMI, Porous Material
- Optical Microscope

- Liquid Absorbency Tester
- Bursting Strength
- Absorbency Testing
- Color-Eye 7000A

- Hydrotester
- Air permeability
- Tensile Strength
- Fabric Thickness
- Bursting Strength

Other Research

- **Mechanical and Dispersible Properties of Some Commercial Flushable Nonwovens**
- **Transfer of Paint Dust from Different Carpet**
- **Searching for Competitive Advantage: Capabilities and Supply Chain Development in the Apparel Manufacturing Industries in Colombia and South Africa**



3. Extension/Textiles Website

<http://www.fcs.uga.edu/extension/textiles>

UNIVERSITY OF GEORGIA

College of Family and Consumer Sciences
UNIVERSITY OF GEORGIA

100 Years

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Prospective Students
Current Students
Academics
Research and Scholarship
Outreach and Extension
Alumni Giving Back
About Us
Campus Info

Textiles

- Textile Basics
- Quality and Selection
- Care
- Textile Testing and Research
- Blog (for Agents)

Home / Extension / Textiles

Textiles

4. Textile Extension Project: Residual Pesticide Mitigation in Laundry

- Analysis of toxic agents related to pesticides and fertilizing products in farmers and other agricultural workers' clothes.
- Propose solutions to mitigate the effect of contaminant agents in clothes and transfer to other agricultural workers' house members.
- Stage of project: Beginning (with green pesticides).
- Next stage: Extension agents involvement.



GC-MS



Thanks!

Questions?

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- Djordjevic, Verica, et al. "Melt-Dispersion Technique for Encapsulation." *Handbook of Encapsulation and Controlled Release*. Edited by Munmaya Mishra, CRC Press, 2016, pp. 469-490.