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ANNOUNCING

Celebrations Galore

by Charlotte Coffman

Cornell University Sesquicentennial

On April 27, 1865, the charter that defined the land-grant mission of Cornell University was established. In this 150th year, the university and Cornell communities across the globe will host events, share stories, and look forward to the future. Check out this website <<http://150.cornell.edu/about>> for more information – and to join in the celebration.



The Department of Fiber Science & Apparel Design is supporting the sesquicentennial with several exhibits.

[The Past and Future of Fiber Science & Apparel Design: Common Ground, Evolving Mission, New Solutions](#) is on display from October 15, 2014 - January 10, 2015 in the Human Ecology Building Terrace Level Exhibition Cases. The exhibit utilizes historic garments from the Cornell Costume and Textile Collection, as well as early photographs from the Rare and Manuscript Collections of the Cornell University Library. The evolution of the department is traced, beginning with its inception in 1900 and continuing into the current era. A dress worn by Eleanor Roosevelt, garments considered once to be at the forefront of fashion, and functional items such as firefighters gear are on view. Tribute is also paid to the three past curators of the Cornell Costume Collection. Learn about their research and their influence on the collection.

Exhibit curator, Beth Davis, explained the objectives of the exhibit to members of the National Extension Association of Family & Consumer Sciences – New York Affiliate during their visit as part of the organization’s annual membership meeting in October, 2014.

In January 2015, this exhibit will be replaced with an exciting display of student work. In February, a sesquicentennial exhibit will be mounted in Mann Library. Among the numerous stations will be a review of the clothing and textiles youth programming from the department. Watch the next newsletter for dates and details.



Cooperative Extension Centennial

The 100-year anniversary of the signing of the Smith-Lever Act of 1914, which officially created the national Cooperative Extension System, was commemorated in various ways across the entire nation. The Extension Committee on Organization and Policy (ECOP) coordinated and supported activities with the intention to highlight Extension's past and to focus on the contemporary application of Extension's transformational educational programming into the future. The Centennial Convocation was recorded and is available at <http://extension100years.net/>.



ENGAGING YOUTH

Reaching Out

by Charlotte Coffman



During the fall of 2014, the Extension faculty once again engaged young people in the department's activities and in explorations of careers in the fields of fiber science and apparel design.

The Broome County Tech Wizards Program visited FSAD on November 14. Their intention was to understand how science, design, and sustainability converge in clothing production. They toured the department, getting acquainted with the technology and research applications of the 3D bodyscanner and the thermal mannequin. They learned about the challenges of making 2D fabrics fit 3D bodies. The final project was to take apart a shirt and use the parts to create a new garment prototype. Congrats to the group for a job well done!

On December 5, two groups of 8th grade students at the DeWitt Middle School discussed how to prepare for a career in fashion design or management. They learned that sewing, computer, drawing, and observational skills can be developed before going to high school, either through a variety of classes or on one's own. They took notes on how to take advantage of the free resources in the Ithaca community and ways to gather information about schools in New York that offer college level courses in the field.

Activewear

by Charlotte Coffman

A poster explaining the Activewear project and online resources was presented at the annual conference of the National Extension Association of Family & Consumer Sciences (NEAFCS) held in Lexington, KY in September, 2014. The event attracted approximately 650 FCS extension educators from across the nation.

Activewear is high performance clothing originally manufactured for professional athletes, but now also worn for most sports, fitness activities, personal comfort and even high fashion. You may view videos that feature Cornell



Cornell researchers and innovative technology related to the topics of mobility, impact protection, fit and construction, and thermoregulation. Viewers can also download instructions for experiential youth activities. Check it out at <<http://www.human.cornell.edu/fsad/outreach/programs/youth-programs/fiber-science-and-technology.cfm>>



This project was supported by the New York State 4-H Foundation.

Smart Clothing, Smart Girls — Engineering via Apparel Design: Looking Ahead

by Charlotte Coffman

The Smart Clothing, Smart Girls team is planning ahead for year three of this exciting project. The first task was to identify off-campus sites for summer camps. These dates and sites have been selected:

- 4-H Camp Wyomoco, Varysburg, NY – July 5-10
- 4-H Camp Bristol Hills, Canandaigua, NY – July 12-17
- Girls Inc. summer camp at the Everson Museum of Art, Syracuse, NY – July 20-24.

The second task was to develop an attractive, easy-to-use, instructional website because the activities featured at the summer camps should be available to all for later use and sharing. A design team has been selected and work has begun. Because the title Smart Clothing, Smart Girls — Engineering via Apparel Design is a bit cumbersome, we decided to use a shorter title for the website. The participants from the summer 2014 program as well as a cohort of middle school girls who did not participate were queried about what title best describes the program and what title they found most appealing. And, the winner was — *Style Engineers*.

The third task was to share what we have learned and the resources that we are developing. Mary Ann Scharmberg, Jennifer Jensen, Roxanne Dueppengiesser and I led a workshop at the New York State Association of Cornell Cooperative Extension 4-H Educators state conference in Callicoon, NY on October 14, 2014. We explained the project and engaged participants in three different activities, enhanced by the fabulous autumn colors of the Catskills. In a separate recognition event at the conference, both Jennifer and Mary Ann were recognized as Distinguished Service Award winners, a special honor applauded by our Cornell team.



Members of both the Cornell and Minnesota teams presented seminars at the International Textile and Apparel Association (ITAA) conference held in November 2014 in Charlotte, NC.



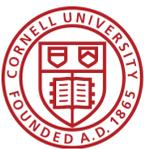
Titles included:

- Smart Clothing Smart Girls: Teaching Wearable Electronics
- Smart Clothing Smart Girls: Teaching Spatial Manipulation through Garment Patterns

ITAA is a professional, educational association composed of scholars, educators, and students in the textile, apparel, and merchandising disciplines in higher education.



Note: This project is funded by the National Science Foundation.



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EXPLORING FABRICS/FIBERS

Compression Garments

by Madeline Miles*



The term *compression garments* probably reminds you of tight fitting clothing worn by athletes to help them run faster, jump higher and lift more. However, long before wicking fabric and knitting machines, in the time of Hippocrates in 450 BC, compression was used as a treatment for leg ulcers and venous disorders (Gladfelter, 2007). Later, people began to use compression to support sprains and to minimize scar formation from burns. These fabrics had to be stretchy, soft, and non-allergenic. The best medical compression garments now are also wicking, durable, antimicrobial and abrasion resistant. The compression garments for athletics that we see on today's market apply the best aspects of medical garments to more wearable outfits. The question then is, "Do they work?"

Despite the considerable advances in compression materials, manufacturer claims of improved health and increased physical performance do not always match the actual athletic accomplishment. According to Shaginaw, the perceived improvement in recovery was mainly psychological, and the improvement in performance was often inadequate and isolated. MacRae, Cotter and Laing reported that compression garments have limited physiological and performance effects. MacRae and Liang noted that a



full body coverage garment did not improve cycling performance, a view that was supported by the work of Pruscino and Halson, whose subjects showed no evidence of biochemical or physical benefits.



However, not all of the research is dismissive. Wallace, Slattery and Coutts suggested that compression garments improve blood circulation, reduce blood lactate concentration and increase skin temperature. According to them, this would enhance warm-ups, increase jump height and power, reduce muscle oscillation, reduce risk of injury, speed recovery, and increase positive leg feelings. Driller and Halson, as well as Born, Sperlich and Holmberg, also observed small improvements in performance during cycling, sprints, and vertical jumps. During recovery, only small to moderate effects were found.



Thus, the research verdict is not yet final and awaits further investigation. Consumers, however, may be easier to convince. Many wearers report a *feeling* of improved performance and *believe* they have less muscle soreness when wearing compression garments. So, if this works for you, then go ahead and invest (especially, if you feel cool wearing knee high socks or a muscle tee – I know I do!)

Resources:

1. Born DP, Sperlich B, Holmberg HC. Bringing light into the dark: effects of compression clothing on performance and recovery, *International Journal of Sports Physiology* 8(1): 4-18, 2013.
2. Driller MW and Halson SL. The effect of wearing lower body compression garments during a cycling performance test, *International Journal of Sports Physiology and Performance*, 8(3):300-6, 2012.
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4. Li Y and X-Q Dai. Compression therapy, *Biomechanical Engineering of Textiles and Clothing*. Boca Raton: CRC 154-59, 2006.
5. MacRae, BA, Cotter JD, Laing, RM. Compression garments and exercise: garment considerations, physiology and performance, *Sports Medicine* 41(10): 815-43, 2011.
6. MacRae A, Laing R, et al. Pressure and coverage effects of sporting compression garments on cardiovascular function, thermoregulatory function, and exercise performance, *European Journal of Applied Physiology* 112 (5): 1783-95, 2012.
7. Pruscino CL and Halson S. Effects of compression garments on recovery following intermittent exercise, *European Journal of Applied Physiology* 113: 1585-96, 2013.
8. Shaginaw J. What sports performance products REALLY work? *Sports Doc*, 2013. Online at <http://www.philly.com/philly/blogs/sportsdoc/What-sports-performance-products-REALLY-work.html>
9. Wallace L, Slattery K, Coutts A. Compression garments: Do they influence athletic performance and recovery? *Sports Coach* 28(4), 2004.

*Madeline Miles (Cornell '14) worked with the youth extension program, served as a CCE/CHE summer intern and participated in the NSF Research Experiences for Undergraduates – all within FSAD.

SUPPORTING INDUSTRY

Exploring the New York “Fibershed”

by Helen Trejo*



Conceptually, “fibershed” alludes to fiber farms, mill infrastructure, and artisan studios that contribute to a local clothing and textiles economy in a specific region (Fibershed, 2014). In New York, fiber farms include diverse fibers such as wool, mohair, cashmere, angora rabbit, alpaca, and llama fibers. In other parts of the U.S., there is also cotton, linen, and hemp. “Fibershed” is also the official name of the first 501C3 non-profit “Fibershed” in Marin County, Northern California that was founded by sustainable fashion expert Rebecca Burgess in 2011. The Northern California Fibershed spans a 150-mile radius of the headquarters in San Geronimo CA. It is currently the leading model for “Fibersheds” that have developed as affiliates.

New York does not currently have an official “Fibershed” affiliated with the Northern California Fibershed. However, the resources certainly exist to support the development of a New York Fibershed, or several Fibersheds in the future. The map presents over 230 fiber farms, 14 fiber processing mills, and 9 knitting mills. It also conveys the transportation infrastructure including major highways and roads in relation to the farms and mills. There are also several annual fiber festivals throughout the state that support the fiber community, and a local clothing and textiles economy. This includes the “NYS Sheep & Wool Festival” in Rhinebeck, and the “Little York Fiber Festival” in Preble NY. Washington County has the highest density of fiber farms and hosts an annual Fiber Tour in April to broaden opportunities for the general public to engage with farmers and animals (Washington County Fiber Tour, 2014).

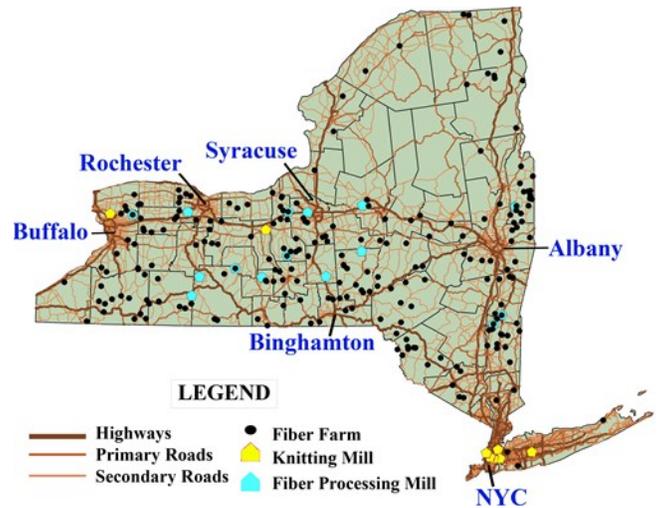


Figure 1: NYS infrastructure that supports a “Fibershed”

There are several partnerships between fiber farmers and artisans who add value to fiber products through hand-spinning, dyeing, knitting, weaving, and felting. Currently a few partnerships between fiber farms and clothing brands exist. A leading example is the brand *Where* that is based in Stuyvesant NY, and created a Fall line of scarfs with wool and alpaca fibers sourced from *Orchard View Farm* in Bergen NY, and *Ideuma Creek Alpaca Farm* in Unadilla NY. As part of the *Eileen Fisher Community Foundation*, the *House-Wear Design Studio* worked with the recycled clothing program GREEN EILEEN, to add surface embellishments with wool sourced from Hudson Valley fiber farms (Laura Sansone, 2014). With New York City as a major fashion city, there are several opportunities for future collaborations to support the development of a New York “Fibershed.”

TO READ MORE ABOUT HELEN’S WORK, [DOWNLOAD THE PDF.](#)

*Helen Trejo is a Ph.D student in Fiber Science & Apparel Design. This article and the attached booklet are based on her Master’s research and ongoing research about the intersections between “fibershed” infrastructure, educational institutions, agro-tourism, and the fashion industry.

Note: You might also like to read *Niche Markets for Natural Fibers: Strategies for Connecting Farmers Who Raise Fiber Animals with Textile Artists—A New England Perspective* <<http://www.joe.org/joe/2014december/a6.php>> by Lowry, Linda L.

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