

Meredith McQuerry

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Department of Retail, Merchandising, and Product Development
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EDUCATION

- Ph.D. August 2016 North Carolina State University
Major: Textile Technology Management
Dissertation: "Clothing Modifications for Heat Strain Reduction in Structural Firefighter Protective Clothing Systems"
- M.S. December 2013 University of Kentucky
Major: Merchandising, Apparel and Textiles (Textile Science)
Thesis: "Post Use Analysis of Firefighter Turnout Gear: Phase III"
- B.S. May 2012 University of Kentucky
Major: Merchandising, Apparel and Textiles
- B.S. May 2012 University of Kentucky
Major: Career and Technical Education (Family and Consumer Sciences)

EXPERIENCE

- Fall 2016-Present Assistant Professor, Tenure-Track
Retail, Merchandising, and Product Development Department
Florida State University, Tallahassee, FL
- Spring 2014-
Summer 2016 Graduate Research Assistant, Full-Time (12 month),
Textile Protection and Comfort Center (TPACC)
North Carolina State University, Raleigh, NC
- Fall 2015-
Spring 2016 Adjunct Professor,
Human Environmental Sciences Department
Meredith College, Raleigh, NC
- Fall 2013 Primary Instructor/Graduate Teaching Assistant
Retailing, Tourism and Management Department
University of Kentucky, Lexington, KY
- Summer 2012-
Fall 2013 Graduate Research Assistant, Full-Time (12 month),
Textile Testing Laboratory, University of Kentucky, Lexington, KY

RESEARCH

GRANTS

External Research Grants:

McQuerry, M. (1/2016-1/2017). Heat transfer model for validation of a heat loss test method in isothermal conditions. *ASTM Student Project Grant Program*. (submitted 10/2015 for \$500; **funded \$500**).

McQuerry, M. (1/2016-1/2017). Heat transfer model for validation of a heat loss test method in isothermal conditions. *AATCC Foundation Student Research Support*. (submitted 9/2015 for \$2,650; **funded \$800**).

McQuerry, M. (1/2015-1/2016). Evaluating localized ventilation of firefighter turnout gear: a validation between test methods. *AATCC Foundation Student Research Support*. (submitted 9/2014 for \$3,670; **funded \$500**).

PUBLICATIONS

Refereed Journal Articles:

McQuerry, M., Barker, R., DenHartog, E., Hummel, A. (accepted/in press). Testing methodologies to evaluate garment ventilation in structural firefighter turnouts for heat loss improvement. *10th Symposium on Performance of Protective Clothing and Equipment; ASTM Selected Technical Papers*.

McQuerry, M., DenHartog, E., Barker, R. (2016). Evaluating turnout composite layering strategies for reducing thermal burden in structural firefighter protective clothing systems. *Textile Research Journal*. DOI: 10.1177/0040517516651101. (impact: 1.299)

McQuerry, M., DenHartog, E., Barker, R. (2016). Garment ventilation strategies for improving heat loss in structural firefighter clothing ensembles. *AATCC Journal of Research*, 3(3), 9-14, DOI: 10.14504/ajr.3.3.2.

McQuerry, M., DenHartog, E., Barker, R., Ross, K. (2015). A review of garment ventilation strategies for structural firefighter protective clothing. *Textile Research Journal*, 86(7), 727-742, DOI: 10.1177/0040517515595029. (impact: 1.299)

McQuerry, M., Klausning, S., Cotterill, D., Easter, E. (2014). A post-use evaluation of turnout gear using NFPA 1971 standard on protective ensembles for structural fire fighting and NFPA 1851 on selection, care and maintenance. *Fire Technology*, 51(5), 1149-1166, DOI: 10.1007/s10694-014-0446-x. (impact: 1.297)

Manuscripts in Preparation for Submission:

McQuerry, M., DenHartog, E., Barker, R. Analysis of air gap volume in structural firefighter turnouts and its relationship to heat loss.

McQuerry, M., DenHartog, E., Barker, R. Effect of self-contained breathing apparatus on clothing ventilation in structural firefighter turnout suits.

McQuerry, M., DenHartog, E., Barker, R. Implementation of functional design process for heat loss improvement in firefighter protective clothing systems.

McQuerry, M., DenHartog, E., Barker, R. Heat loss and physiological strain in structural firefighter protective clothing systems.

McQuerry, M., DenHartog, E., Heat transfer model for validation of a heat loss test method in isothermal conditions.

Refereed Papers Published in Conference Proceedings:

McQuerry, M., DenHartog, E., Barker, R. (accepted for November 2016) Functional design of structural firefighter clothing systems for improved comfort. *2016 International Textile and Apparel Association Conference.*

McQuerry, M., Barker, R., DenHartog, E. (November 2015) Evaluation of a modular layering approach for heat loss improvement in structural firefighter turnout garments. *2015 International Textile and Apparel Association Conference.*

McQuerry, M., Barker, R., DenHartog, E., Ross, K., Deaton, S. (April 2015) Ventilation of firefighter turnout gear: reducing heat stress and improving physiological comfort. *2015 Proceedings of AATCC International Conference, 546-555.*

Cinnamon, M., Trenkamp, S., Cotterill, D., Easter, E. (June 2013). Post-use analysis of firefighter turnout gear: phases I, II, & III. *13th International Conference and Exhibition on Fire Science and Engineering, 1383-1394.*

Cinnamon, M. (April 2013). Post use analysis of firefighter turnout gear: phase III. *2013 Proceedings of AATCC International Conference, 68-77. [Received Herman & Myrtle Student Paper Competition First Place Award]*

Easter, E., Cinnamon, M., Baker, E. (April 2013). Assessing the impact of wash water temperature, detergent type, and laundering platform on basic clothing attributes. *2013 Proceedings of AATCC International Conference, 215-223.*

Trade Articles:

McQuerry, M., Barker, R., Hummel, A., Deaton, S. (2015). The cost of a pocket: how additional reinforcements impact THL & TPP. *Fire Engineering. 168 (12), 78-79.*

Book Reviews:

McQuerry, M. (submitted) Book review of "Textiles and human thermophysiological comfort in the indoor environment," by Dr. Radostina Angelova. *International Textile and Apparel Association Newsletter*.

Theses:

McQuerry, M. (2016). Clothing modifications for heat strain reduction in structural firefighter protective clothing systems. *North Carolina State University*. (p. 1-363).

Cinnamon, M. (2013). Post use analysis of firefighter turnout gear: phase III. *University of Kentucky*. (p. 1-202).

Research Presentations, Guest Lectures, and Invited Seminars:

McQuerry, M., DenHartog, E., Barker, R. (7/13/2016). Clothing modifications for heat strain reduction in structural firefighter protective clothing systems. *9th Textile Bioengineering and Informatics Symposium*. Melbourne, Australia.

McQuerry, M. (3/2/2016). Clothing modifications for heat strain reduction in protective clothing systems. *North Carolina State University, College of Textiles, Introduction to Fiber Science Course*. Raleigh, NC.

McQuerry, M., Barker, R., DenHartog, E., Hummel, A. (1/29/2016). Testing methodologies to evaluate garment ventilation in structural firefighter turnouts for heat loss improvement. *10th Symposium on Performance of Protective Clothing and Equipment*. San Antonio, TX.

McQuerry, M. (10/5/2015). Functional design for heat loss improvements in protective clothing. *North Carolina State University, College of Textiles, Introduction to Fiber Science Course*. Raleigh, NC.

McQuerry, M. (9/23/2015). Clothing modifications in structural firefighter protective clothing. *North Carolina State University, College of Textiles, Graduate Student Seminar*. Raleigh, NC.

McQuerry, M. (3/10/2015). The literature review. *Meredith College, Lecture for Family Resource Management Course*. Raleigh, NC.

McQuerry, M. (1/28/2015). Post-use analysis of firefighter turnout gear: phases I, II, & III. *ASTM F23.80 Subcommittee on Flame and Thermal Hazards*. New Orleans, LA. [**Received ASTM student paper competition First Place Award**]

McQuerry, M. (4/14/2014). The revolutionary firefighter suit: advanced garment design. *2014 International Textiles Summit*, Leeds University, Leeds, United Kingdom.

Poster Presentations:

McQuerry, M. & DenHartog, E. (4/20/2016). Evaluating clothing ventilation of firefighter turnout gear: a validation between test methods. *AATCC 2016 International Conference*.

McQuerry, M. (3/23/2016). Clothing design modifications for heat loss improvement in structural firefighter protective clothing. *11th Annual NC State University Graduate Student Research Symposium*. (nominated by Associate Dean for Academic Programs to represent College of Textiles doctoral programs)

McQuerry, M., Hernandez, J., Atkins, A., Francis, A., Dean, B. (10/17/2015). Measurements of ventilation in turnout suits using tracer gas method. *North Carolina State University, College of Textiles, Open House*.

TEACHING

Courses Taught at Florida State University:

FA 2016	CTE 4443	Quality Assurance of Textiles and Apparel	88 students
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Previous Courses Taught:

SP 2016	Apparel Merchandising	Meredith College	14 students	4.6 rating
FA 2015	Apparel Merchandising	Meredith College	30 students	4.5 rating
FA 2013	Textiles for Consumers	University of Kentucky	40 students	(n/a)

Student Advising & Mentorship:

Co-Advisor of Senior Design Project and Independent Research Study:

- Supervised team of undergraduate textile technology and textile engineering students in fall 2015 and spring 2016 as part of capstone project course.
- Assisted with curriculum development, created grading rubrics, and guided student research.

SKILLS & CERTIFICATION

Six Sigma Green Belt Certified: worked with General Electric appliance park in Louisville, KY to develop, complete, and present a project on the evaluation of measurement techniques for AHAM HLW-1-2010 Wash Performance.

ThermoAnalytics RadTherm Software: conducted thermal modeling to determine predicted physiological responses of human when wearing specified protective clothing.

Blackboard and Moodle: experience navigating software and managing course materials

Color Measurement Instrumentation Techniques: completed two X-Rite fundamental seminars including color appearance, instrumentation, and quality control. Participated in textile color measurement and application professional short course at North Carolina State University.

3D Body Scanning Software: utilized 3D body scanning as a tool for measuring clothing air gap volume. Experience conducting body measurements for customized patternmaking and clothing construction.

Lectra Product Life Cycle Management Software: completed two-day training seminar on software fundamentals.

AWARDS AND HONORS

- 2016 Rutherford Teaching Challenge, Third Place Award, ITAA
- 2015 International Textile and Apparel Association, Sara Douglas Fellowship for Professional Promise
Building Future Faculty Program, North Carolina State University
- 2014 ASTM International Student Paper Competition First Place Winner
Mentoring and Teaching Practicum Program, North Carolina State University
Graduate Fellowship & Assistantship, North Carolina State University
- 2013 AATCC, Herman and Myrtle Student Paper Competition, First Place Winner
Graduate Student of Excellence, Merchandising, Apparel, and Textiles
Department, School of Human Environmental Sciences, University of Kentucky
- 2012 Graduate Assistantship, University of Kentucky
Undergraduate Student of Distinction, School of Human Environmental Sciences
- 2011 Undergraduate Research Assistantship, University of Kentucky
Family and Consumer Sciences Undergraduate Student of Excellence, School of Human Environmental Sciences
- 2008-2012 Undergraduate Scholarships: Joe T. Davis Memorial, Carl F. Pollard, HES T.P. Cooper, Academic Excellence, Ginny Ellington KATFACS
Dean's List, University of Kentucky: August 2008-December 2013

LEADERSHIP AND SERVICE

International Textile and Apparel Association:

- 2014 ITAA Annual Conference Volunteer, Tour Guide

Merchandising, Apparel and Textiles Club, University of Kentucky:

- 2010 President
2009 Vice-President

Cotton Incorporated Denim Drive, University of Kentucky:

- 2009-2012 Cotton Incorporated Denim Drive Coordinator (collected over 50,000 pairs of denim which insulated over 5,000 Habitat for Humanity homes)
2009-2012 Big Blue Goes Green: A Sustainability Showcase University of Kentucky

University of Kentucky Official Plaid Advisory Board:

- 2010-2013 Product Development Committee
2009-2013 Student Representative & Minute Recorder

Educators of Family and Consumer Sciences Club University of Kentucky:

2010-2011 President

2009-2010 Secretary

College of Agriculture Student Ambassador, University of Kentucky:

2009-2012 College of Agriculture Student Ambassador

Reviewer/Referee: *Textile Research Journal, Journal of Strength and Conditioning Research, AATCC Journal of Research, American Society of Testing and Materials Selected Technical Papers, Journal of the Textile Institute*

PROFESSIONAL ORGANIZATIONS

- American Society for Testing and Materials (ASTM),
 - Member, F 23: Protective Clothing Committee, 2014 - Present
- International Textile and Apparel Association (ITAA), 2014 - Present
- Textile Association of Graduate Students (TAGS), NC State University, 2014 - Present
- American Association of Textile Colorists and Chemists (AATCC), 2013 - Present
- Phi Upsilon Omicron, National Honor Society in FCS, 2010-2012
- American Association of Family and Consumer Sciences (AAFCS), 2008 - 2012
- Family, Career, and Community Leaders of America Alumni Association (FCCLA), 2008 - 2012

Last Updated: 8/16/2016