UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF FLORIDA
CASE NO:

KIARA CRUZ,

Plaintiff,

vs.

LULULEMON ATHLETICA INCORPORATED,
a Delaware corporation,

Defendant.
_____/

NOTICE OF REMOVAL

Defendant Lululemon Athletica Inc. ("Lululemon"), by and through undersigned counsel, and pursuant to 28 U.S.C. §§ 1441 and 1446, hereby files this Notice of Removal to the United States District Court for the Southern District of Florida. As grounds for removal, Lululemon states as follows:

INTRODUCTION

1. Plaintiff filed this action naming Lululemon as defendant in the County Court of the Fifteenth Judicial Circuit in and for Palm Beach County, Florida, Case No. 50-2019-001814-XXXX-MB (the "State Court Action"). Lululemon was served with a copy of Plaintiff's Complaint on or about February 12, 2019. Accordingly, pursuant to 28 U.S.C. § 1446(b), this Notice of Removal is timely filed within thirty (30) days after Lululemon was served with process.

2. Copies of all process, summons, and pleadings served upon Lululemon in the State Court Action are attached as **Exhibit A**.

3. The Complaint alleges that Lululemon deceptively labels and markets one of its products, the Lululemon Muscle Love Crop Tank (the "Product"). *See* Complaint ¶¶ 5–20. Plaintiff contends that the Product label and advertising are deceptive because they state that the Product is made with "92% Pima Cotton." Plaintiff alleges that the Product does not contain that level of Pima Cotton. *See* Complaint ¶¶ 7–13. The federal government, by and through the United States Department of Agriculture (the "USDA"), sets the standards for cotton classification including what qualifies as "Pima Cotton." The USDA has promulgated these standards in the form of federal rules and regulations. *See* 7 C.F.R. § 28. The federal Textile Products Identification Act (the "Textile Act") governs the labeling of products made with cotton.[1] *See* 15 U.S.C. § 70. Thus, as explained below, removal of the State Court Action is proper under 28 U.S.C. §§ 1441 and 1331 because Plaintiff's claim arises under federal law.

4. Venue is proper in the United States District Court for the Southern District of Florida, as the County Court in which the action is pending is within the jurisdictional confines of the Southern District. *See* 28 U.S.C. § 1446(a).

5. Lululemon will file a copy of this Notice of Removal with the Clerk of Court, County Court of the Fifteenth Judicial Circuit in and for Palm Beach County, Florida, and provide written notice to the Plaintiff as provided by 28 U.S.C. § 1446(d).

FEDERAL QUESTION REMOVAL JURISDICTION

6. Removal of the State Court Action is appropriate under 28 U.S.C. §§ 1441(a) and 1331.

[1] Labeling requirements under the Textile Act are promulgated and enforced by the Federal Trade Commission ("FTC"). *See* 15 U.S.C. § 70; 16 C.F.R. § 303.

7. The general removal statute, 28 U.S.C. § 1441(a), provides for removal to federal court actions of which federal district courts have original jurisdiction including actions that qualify for federal question jurisdiction.

8. The federal question jurisdiction statute, 28 U.S.C. § 1331, provides that federal district courts "have original jurisdiction of all civil actions arising under the Constitution, laws, or treaties of the United States."

9. Plaintiff's action arises under federal law. Therefore, removal is proper.

STATE LAW ACTIONS MAY QUALIFY FOR FEDERAL QUESTION JURISDICTION

10. Plaintiff brought this action under state law. Plaintiff alleges that Lululemon's conduct violates the Florida Deceptive and Unfair Trade Practices Act ("FDUTPA"). *See* Complaint ¶¶ 19–27.

11. The Supreme Court has made clear that state law causes of action may arise under federal law for the purposes of federal question jurisdiction. *See Empire Healthchoice Assurance, Inc. v. McVeigh*, 547 U.S. 677, 699 (2006). That is, "a case may arise under federal law 'where the vindication of a right under state law necessarily turn[s] on some construction of federal law.'" *Merrell Dow Pharm. Inc. v. Thompson*, 478 U.S. 804, 808–09 (1986) (quoting *Franchise Tax Board v. Const. Laborers Vacation Trust*, 463 U.S. 1, 9 (1983)).

12. The Supreme Court has set out a four-part test ("the *Grable* test") to determine when state law claims sufficiently arise under federal law such that federal question jurisdiction is triggered. *See Grable & Sons Metal Products, Inc. v. Darue Eng. & Mfg.*, 545 U.S. 308, 314 (2005). "[F]ederal jurisdiction over a state law claim will lie if a federal issue is: (1) necessarily raised, (2) actually disputed, (3) substantial, and (4) capable of resolution without disrupting the

federal-state balance approved by Congress." *Gunn v. Minton*, 568 U.S. 251, 258 (2013) (citing *Grable*, 545 U.S. at 314).

13. Plaintiff's claim satisfies the *Grable* test. First, as a threshold matter, federal law, as interpreted by federal agencies, governs the classification, grading, and labeling of cotton products and prescribes the standards for such classification, grading, and labeling. The only issue in this case is whether Lululemon's product actually contained "92% Pima Cotton" as stated on the Product label and advertising.

In order to meet the elements of a FDUTPA claim, Plaintiff must show that the Product did not contain the amount of Pima Cotton stated. Resolution of this question necessarily turns on federal law and federal agency guidance. Whether a fiber can be classified as "Pima Cotton" is determined by federal cotton standards promulgated by the United States Department of Agriculture ("USDA").[2] *See* 7 C.F.R. § 28.304 (setting out the "staple-length" requirements for cotton to be classified as Pima). Such standards address how and when cotton is to be tested for classification, including the equipment and procedures to be used. *See e.g.*, 7 C.F.R. §§ 28.601–03; 28.8; 28.9. To be sure, federal law governs not only what products qualify as "Pima Cotton," but also the processes by which such qualification must occur. In addition, the Textile Act governs the labeling requirements for clothing products that contain cotton. *See* 15 U.S.C. § 70. This is particularly critical in light of the fact that (1) Plaintiff seeks relief under FDUTPA; and (2) FDUTPA expressly excludes from its coverage "[a]n act or practice required or specifically permitted by federal or state law." Fla. Stat. § 501.212(1); *see also Kuenzig v. Hormel Foods*

[2] The federal statutes authorizing the USDA to promulgate cotton classification standards include the U.S. Cotton Statistics & Estimates Act of 1927, the U.S. Cotton Standards Act of 1923, and the U.S. Cotton Futures Act of 1914.

Corp., 505 Fed. Appx. 937, 939 (11th Cir. 2013). Plaintiff's claim simply cannot be resolved without the interpretation and application of federal law. In such instances, removal is proper. *See, e.g., Bobo v. Christus Health*, 359 F. Supp. 2d. 552, 557 (E.D. Tex. 2005) (remand denied because interpretation of a substantial question of federal tax law regarding charitable entities was necessary to resolve Plaintiffs' state law claims); *Milano Hat Co. v. Haden & Co.*, No. 302CV2170-N, 2003 WL 282450, at *1, *2 (N.D. Tex. Feb. 5, 2003) (remand denied because Plaintiffs' state law claims turned on interpretation and application of the federal regulatory scheme in ERISA).

14. Second, the federal issues related to cotton classification and labeling are actually disputed. Plaintiff's Complaint submits, through its reliance on product testing results attached to the Complaint as Exhibit C, that the cotton classification and labeling requirements apply to the finished cotton-containing product. Plaintiff's position is that a finished cotton-containing product itself must be shown, through testing of that product, to contain the amount of Pima Cotton stated on its label and advertising. This position is also reflected in the factual allegations in the Complaint as Plaintiff contends that determining the "truth" of the label "requires sending the Product to a laboratory and removing fibers from the Product." Complaint ¶ 8. Federal law does not impose this standard. To the contrary, the USDA cotton standards refer to testing cotton for classification when it is in bale form. *See* 7 U.S.C. § 28 (numerous sections describe the testing process as involving samples from cotton bales; the testing is not performed on finished products). The USDA prescribes the standard for Pima Cotton classification and the tests to be performed to determine whether the product may qualify as Pima Cotton. Defendant's position puts the federal issues in dispute.

15. Third, the federal issues raised and disputed are substantial. Courts have made clear that the substantiality inquiry focuses on "the importance of the issue to the federal system as a whole." *Gunn*, 568 U.S. at 260. The federal government, through the USDA cotton classification scheme and the Textile Act, has fully occupied the field of cotton classification and product labeling. There is a substantial federal interest in the uniform application of the cotton classification standards and cotton labeling requirements established by federal law. Cotton is not a simple, fungible commodity. Prior to federal regulation of cotton classification there were numerous problems in the cotton market due to a lack of uniformity of market standards, definitions, and classification processes. Congress gave the USDA authority to regulate cotton standards to remedy these harms. Later, the FTC was empowered to regulate labeling of cotton products. The federal government has a substantial interest in ensuring consistent regulation of cotton and enforcement of labeling laws and guidance. This action is clearly an effort by Plaintiff's counsel to seek a judgement that can be used in subsequent actions.

16. Finally, adjudication of this matter in a federal forum will not disrupt "Congress's intended division of labor between state and federal courts." *Gunn*, 568 U.S. at 258. Resolution of the federal issues raised in this action will have broad effects on the federal system. Thus, there is a "serious federal interest in claiming the advantages thought to be inherent in a federal forum." *Grable*, 545 U.S. at 313.

17. Based on the foregoing, each of the elements of the four-part *Grable* test are satisfied and, therefore, removal of this action to federal court is appropriate. *See Gunn*, 568 U.S. at 258 ("[w]here all four of these requirements are met, we held, jurisdiction is proper").

WHEREFORE, Lululemon respectfully gives notice of removal of the State Court Action to this United States District Court for the Southern District of Florida, and respectfully requests that this Court assume jurisdiction over this action.

Dated: March 4, 2019

Respectfully submitted,

DLA PIPER LLP (US)

By: */s/ Fredrick H.L. McClure*

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Miami, Florida 33131
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Counsel for Defendant Lululemon Athletica Inc

CERTIFICATE OF SERVICE

I hereby certify that on March 4, 2019, I electronically filed the foregoing document with the Clerk of the Court using CM/ECF. I also certify that the foregoing document is being served this day on all counsel of record or plaintiff identified on the below Service List in the manner specified, either via transmission of Notices of Electronic Filing generated by CM/ECF or in some other authorized manner for those counsel or parties who are not authorized to receive electronically Notices of Electronic Filing.

/s/ Fredrick H.L. McClure
Fredrick H.L. McClure (FBN 147354)

Service List

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Singer Island, FL 33404
howardr@pdq.net

Counsel for Plaintiff

EXHIBIT A

IN THE COUNTY COURT OF
PALM BEACH COUNTY, FLORIDA

CASE NO.:
DIVISION:

KIARA CRUZ,

Plaintiff

vs.

LULULEMON ATHLETICA INCORPORATED,

Defendant.
_____/

COMPLAINT FOR INJUNCTIVE AND DECLARATORY RELIEF AND MOTION FOR SUMMARY DISPOSITION

Plaintiff, KIARA CRUZ, by and through the undersigned counsel, brings suit against Defendant, LULULEMON ATHLETICA INCORPORATED ("LULULEMON"), and alleges:

PARTIES, JURISDICTION, & VENUE

1. This is an action for injunctive and declaratory relief and for attorney's fees and costs. The value of the injunctive and declaratory relief requested is less than $5,000 exclusive of interest, attorney fees and costs.

2. Plaintiff is a natural person and resident of Palm Beach County, Florida, and has standing to bring this action by virtue of being the subject of Defendant's violations of law as better described herein, which occurred in Palm Beach Gardens, Florida.

3. Defendant, LULULEMON, is a Canadian corporation, which at all times material hereto was registered and conducting business in Florida, maintained agents for the customary transaction of business in Florida, and conducted substantial and not isolated business activity within this state.

4. Based on the foregoing, venue is proper in the above-captioned Court, and this Court has jurisdiction over the cause of action alleged herein as a county court possessing jurisdiction over the amount in controversy and having power to grant declaratory and injunctive relief. County court is Florida's small claims court.

FACTS

5. On or about December 16, 2016 Plaintiff purchased the LULULEMON Muscle Love Crop Tank product (hereinafter the "Product") at the Lululemon Athletica store located at 3101 P.G.A. Boulevard, P-229, Palm Beach Gardens, Florida 33410.

6. The Product had not been altered between manufacture and point of sale. Photographs of the Product label are attached hereto as "**EXHIBIT A**".

7. The Product claims to be made with "92% Pima cotton" through advertising and labeling.

8. In reliance on the Product label and advertising, Plaintiff believed she was purchasing a product made with "92% Pima cotton" and paid a premium for such a product. Before purchase, Plaintiff had no way to verify the truth of the "92% Pima cotton" claim on the Product, because to test the truth of this statement requires sending the Product to a laboratory and removing fibers from the Product

9. Plaintiff's purchase receipt listing the Product as purchased from LULULEMON is attached and incorporated herein as "**EXHIBIT B**".

10. After receiving the Product, Plaintiff doubted that the Product was in fact 92% Pima cotton. With the assistance of counsel, Plaintiff had the product tested at an ISO certified testing laboratory.

11. In fact the Product does not contain "92% Pima cotton" as labeled and advertised.

12. The Product contains only a fraction of the Pima cotton claimed. Testing by a third-party, industry accepted, ISO registered laboratory confirms the Product contains far less than 92% Pima cotton. A copy of that testing is attached and incorporated herein as "**EXHIBIT C**". The report of Dr. Sabit Adanur interpreting those test results is attached as "**EXHIBIT D**", which is also incorporated herein for all purposes. This expert report confirms the Product is not 92% Pima cotton, indeed, containing far less than 92% Pima cotton. Indeed the expert report concludes that only 36 to 40% of the cotton in the Product qualifies as Pima cotton.

13. The 92% Pima cotton claim is uniformly, consistently and prominently displayed on each individual packaging of the Product and is untrue, misleading, and deceptive.

14. Plaintiff has been aggrieved by LULULEMON's conduct, because LULULEMON's conduct (1) misrepresents the product to contain 92% Pima cotton when it does not; and (2) is illegal under Florida law.

15. LULULEMON unlawfully marketed, advertised, sold, and distributed the Product to Plaintiff in Florida.

16. LULULEMON sells the Product at a premium price, above other similar products in the marketplace that do not claim to be made with "92% Pima cotton".

17. LULULEMON's false and misleading representations and omissions deceived Plaintiff.

18. Plaintiff has performed all conditions precedent to bringing this action.

19. In a single cause of action, Plaintiff seeks a declaration that LULULEMON's conduct in selling the Product is deceptive, an unfair trade practice, and illegal under section 501.204(1), Florida Statutes.

20. There is an actual case and controversy because Plaintiff contends LULULEMON's conduct with respect to labeling, marketing and selling the Product is a deceptive and unfair trade practice and illegal, but LULULEMON denies this. As one aggrieved by LULULEMON's conduct as well as LULULEMON's violation of Florida law Plaintiff has standing under Florida law.

> To succeed on a claim for injunctive and declaratory relief under § 501.211(1), a plaintiff must prove that (1) the defendant engaged in a deceptive act or practice in trade, and (2) plaintiff is a person "aggrieved" by the deceptive act or practice. *Caribbean Cruise Line, Inc. v. Better Bus. Bureau of Palm Beach Cty., Inc.*, 169 So. 3d 164, 166-67 (Fla. 4th DCA 2015). In contrast, a claim for damages under § 501.211(2) has three elements: "(1) a deceptive act or unfair practice; (2) causation; and (3) actual damages." *Id.* While "subsection (1) affords declaratory relief to 'anyone aggrieved' by a violation of FDUTPA ..., subsection (2) provides that a person may recover 'actual damages' for a 'loss as a result of a violation' of FDUTPA." *Ahearn v. Mayo Clinic*, 180 So. 3d 165, 172 (Fla. 1st DCA 2015), *reh'g denied* (Dec. 18, 2015), *review denied sub nom. Ahearn v. Mayo Clinic of Florida*, No. SC15-2400, 2016 WL 2742844 (Fla. May 11, 2016). Accordingly, subsection (1) affords relief for a larger class of plaintiffs than subsection (2), including anyone who is "angry or sad on grounds of perceived unfair treatment." *Id.*

SMS Audio, LLC v. Belson, 9:16-CV-81308, 2017 WL 1533941, at *4 (S.D. Fla. Mar. 9, 2017)

CAUSE OF ACTION

DECLARATORY AND INJUNCTIVE RELIEF FOR VIOLATION OF THE FLORIDA DECEPTIVE AND UNFAIR TRADE PRACTICES ACT ("FDUTPA")

21. Plaintiff re-alleges and incorporates by reference the allegations set forth in the preceding paragraphs one (1) through twenty (20) of this Complaint as if fully set forth verbatim.

22. Plaintiff was at all times material an individual and is thus a "consumer," as defined by section 501.203(7), Florida Statutes.

23. Defendant was at all times materially engaged in advertising, providing, offering, and distributing by sale a tangible good, otherwise known as "trade or commerce", as defined by section 501.203(8), Florida Statutes.

24. Defendant advertised, distributed, and sold the Product through use of false representations of fact regarding fiber content, and by engaging in unfair and deceptive acts and practices all as contemplated in section 501.204(1), Florida Statutes.

25. Plaintiff is entitled to bring this action for declaratory and injunctive relief for the benefit of herself pursuant to section 501.211(1), Florida Statutes, because Plaintiff was aggrieved by Defendant's conduct. Plaintiff is angry and sad that LULULEMON would subject her to violation of state law by its conduct as alleged herein.

26. This action concerns a bona fide, actual, and existing need for declaration that the Product is deceptively labeled and marketed, and that its sale was illegal. LULULEMON has not admitted these facts.

27. Plaintiff has and will incur reasonable costs and attorney's fees in pursuit of this Action.

MOTION FOR SUMMARY DISPOSITION

Pursuant to Small Claims Rule 7.135, Plaintiff moves for Summary Disposition of her claim for Declaratory and Injunctive Relief. Rule 7.135 states, "[a]t pretrial conference or at any subsequent hearing, if there is no triable issue, the court shall summarily enter an appropriate order or judgment." *See* Fla. Sm. CI. R. Rule 7.135; *see also Bloodworth v. International Auto City, Inc.*, 10 Fla. L. Weekly Supp. 1046b (Fla. 17th Cir. Ct. 2003)(finding that under small claims rules, the plaintiff was not required to give any particular notice of motion for summary judgment before asking judge to consider motion).

The Exhibits attached to Plaintiff's Complaint for Injunctive and Declaratory Relief are properly considered by this Court because they are admissions of Defendant, the properly supported opinion of Plaintiff's expert witness and materials relied upon by the expert in rendering his opinion. These Exhibits establish facts entitling Plaintiff to the requested declaratory relief. Specifically, the Exhibits establish that Defendants claim that the Product is "92% Pima cotton" is false. Because this claim is false, the Product was deceptively marketed and sold, making the declaratory and injunctive relief proper under section 501.211(1), Florida Statutes.

WHEREFORE, Plaintiff prays this Court enter a judgment declaring the Product label to be materially misrepresentative of the Product, and that the Product is therefore deceptively, unfairly and illegally marketed and sold; enjoining Defendant from selling marketing, distributing, and selling the Product unless/until Defendant ceases all representations that the Product contains 92% Pima cotton; awarding Plaintiff her reasonable attorney's fees and costs pursuant to section 501.2105(1), Florida Statutes; and granting all other relief the Court deems just and proper.

DEMAND FOR JURY TRIAL

Plaintiff hereby demands trial by jury on any issues so triable and not decided by the Court on Summary Disposition.

Submitted January 28, 2019

/s/ Howard W. Rubinstein, Esq.
Howard W. Rubinstein, Esq.
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EXHIBIT A


why we made this:
Muscle Love Crop Tank
1. We designed this cropped tank with low armholes to help keep you cool to and through your practice
2. Made with breathable Pima Cotton fabric for the ultimate in softness and stretch
3. Added Lycra® fibre for stretch and shape retention
4. Cropped length pairs perfectly with high rise bottoms
5. Twist and tuck the back under your bra to keep in place during your workout
SIZE
8
$48.00
LW1AK8S BLK
000003700093
8
TT4522


8
lululemon athletica
Designed in Vancouver
Made in Peru
Body:
92% Pima cotton
8% Lycra® elastane

EXHIBIT B

lululemon athletica

3101 P.G.A. Blvd
Space P-229
Palm Beach Gardens, FL 33410
561-691-3782

Transaction #: 111804
Date: 12/16/16 Time: 3:00 PM
Store: 10715 Register: 2
Cashier: 10715001000090

SALE

Item	Qty	Price	Amount
Muscle Love Crop Tank BLK/8			
3706093	1	48.00	48.00
		Subtotal	48.00
		Tax	2.88

EXHIBIT C

TEXTEST LLC A registered ISO 9001:2008 laboratory

4207-1 Milgen Road, Columbus, GA 31907 Telephone: 844-309-6337 www.textest.com

TexTesT Report: 4522
Date: 4/4/17
Page: 1 of 3

CLIENT: LAW OFFICES OF HOWARD W. RUBENSTEIN
4000 North Ocean Drive East Tower 201
Singer Island, FL 33404

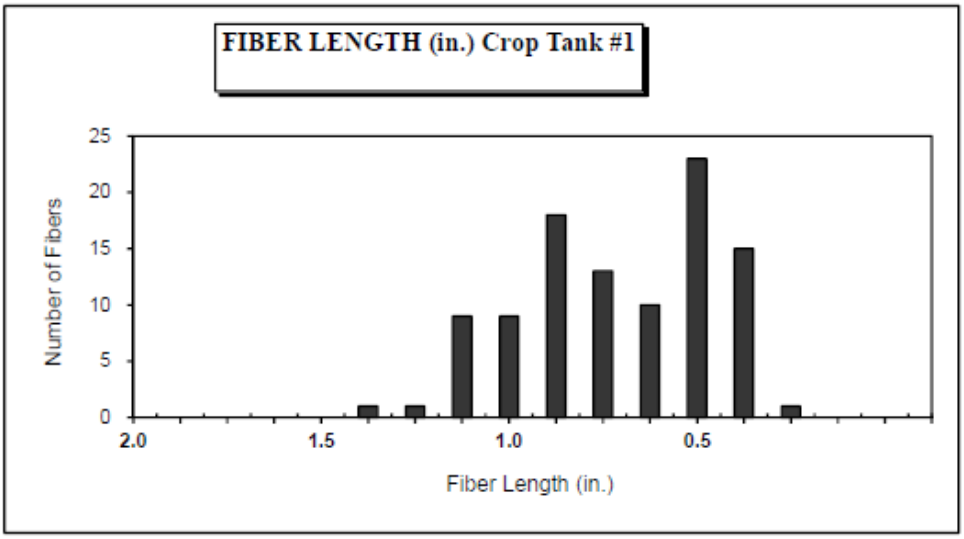
ATTN: Howard Rubenstein

SAMPLE IDENTIFICATION: LABELED 92% PIMA COTTON/8% LYCRA ELASTANE
SAMPLE #1 LULULEMON ATHLETICS MUSCLE LOVE TANK CROP TANK
LW1AKA8S Designed in Vancouver
Made in Peru

FIBER LENGTH AND DISTRIBUTION ASTM D 5103		Length Group Lower Limit (in.)	Number of Fibers	SAMPLE #1 Percent of Total	
		2.040	0	0	
		1.920	0	0	
		1.800	0	0	
		1.680	0	0	
	Extra Long	1.560	0	0	Probability
	Long	1.440	1	1	11% PIMA Cotton
	Medium	1.320	1	1	
	Short	1.200	9	9	
		1.080	9	9	
		0.960	18	18	
		0.840	13	13	
		0.720	10	10	
		0.600	23	23	
		0.480	15	15	
		0.360	1	1	
		0.240	0	0	
		0.120	0	0	
		0.000	0	0	
			100	100	
Total					
Average Length		0.864			
Standard Deviation		0.24			
Coefficient of Variation		0.28 %			

TEXTEST LLC
Ann R. Underwood
signed by

SAMPLE IDENTIFICATION:	LABELED 92% PIMA COTTON/8% LYCRA ELASTANE SAMPLE #1 LULULEMON ATHLETICS MUSCLE LOVE TANK CROP TANK LW1AKA8S Designed in Vancouver Made in Peru



SUMMARY COMPARISON	1
Average Length inches	0.864
Std. Deviation	0.241
Coefficient of Varation	0.28 %
Maximum	1.447
Minimum	0.402

American Pima Standard 1.2 to 1.48"
Supima Standard 1.25" to 1.56"
Egyptian ELS Std 1.5" to 2.5"
GIZA 87 93 Std. 1.4 to 1.45"
Short Fiber Content= Less the 0.5"

EXHIBIT D

Report by Dr. Sabit Adnur for Fiber Analysis #4522 follows.

[Remainder of page deliberately blank.]

EXPERT REPORT ON FIBER LENGTH OF LULULEMON ATHLETICS MUSCLE LOVE TANK CROP TANK

I. BACKGROUND AND QUALIFICATIONS

1. I have over 35 years of experience in the field of Textile Engineering and Polymer and Fiber Engineering. My experience is summarized in my *curriculum vitae* which is attached as **Appendix A** to this Expert Report.

2. I received my Bachelor of Science Degree in Mechanical Engineering from Istanbul Technical University, Istanbul, Turkey in 1982.

3. I received my Master of Science Degree in Textile Engineering and Science from North Carolina State University, Raleigh, North Carolina in 1985.

4. I received my Ph.D. Degree in Fiber and Polymer Science from North Carolina State University, Raleigh, North Carolina in 1989.

5. From 1983 through 1989, I worked at North Carolina State University as a Research/Teaching Assistant.

6. From 1989 through 1992, I worked at Asten Forming Fabrics, Inc., in Appleton, Wisconsin, as a Process Development Engineer, and a Product and Process Development Manager.

7. From 1992 through 1996, I worked at Auburn University in Auburn, Alabama, as an Assistant Professor in the Textile Engineering Department.

8. From 1996 through 2000, I worked at Auburn University in Auburn, Alabama, as an Associate Professor in the Textile Engineering Department.

9. From 2001 through 2015, I worked at Auburn University in Auburn, Alabama, as a Professor in the Polymer and Fiber Engineering Department.

10. From 2015 to present, I have worked at Auburn University in Auburn, Alabama, as a Professor in the Mechanical Engineering Department.

11. I testified in a deposition in the mid-1990s regarding a forming fabric design, in Opelika, Alabama.

12. I was retained as an expert in a patent infringement case involving air- jet weaving machine operations, from 2000-2001, in Tyler, Texas.

13. I was retained as an expert in a patent infringement case regarding fire resistant fleece knit fabric and garment in Atlanta, Georgia.

14. I was retained as an expert, and gave a deposition, in a patent infringement case regarding knitted fabric sports shoes in Atlanta, Georgia.

15. I was retained as an expert, and gave a deposition, in a case involving Tampico fiber brush manufacturing in Statesville, North Carolina.

16. I was retained as an expert, and gave testimony at trial against the Canadian Border Services Agency, in Ottawa, Canada.

17. I was retained as an expert in a patent case involving geotextiles, and gave deposition in Auburn, Alabama.

18. I was retained as an expert in a patent case involving bioabsorbable knit for which I prepared an expert report.

II. INDUSTRY STANDARD MEANING OF

A. PIMA COTTON

1. Species

The botanical name for Pima cotton is *Gossypium barbadense.*

2. Fiber Length

Pima cotton has extra-long staple fibers. The average fiber length of Pima cotton is 1.3125 inch (33.3375 mm) (1).

3. Geography

The Pima cotton is generally grown in the United States; however, it may be grown in other countries as well. Pima cotton was developed in a project by the United States Department of Agriculture (USDA) in 1951.

B. SUPIMA® COTTON

1. Species

The botanical name for Supima® (a trade name) cotton is *Gossypium barbadense.*

2. Fiber Length

Supima® cotton has extra-long staple fibers. The average fiber length of Supima® cotton is 1.41 inch (35.814 mm).

3. Geography

Supima® cotton is generally grown in the United States. It is reported that less than 1% of the cotton grown worldwide and less than 3% of the cotton grown in the U.S. is Supima® (2).

C. EGYPTIAN COTTON

1. Species

The botanical name for the Egyptian cotton is *Gossypium barbadense.*

2. Fiber Length

Egyptian cotton has extra-long staple fibers. It should be noted that Egyptian cotton has many grades. The average fiber length of Egyptian ELS cotton is 1.57 inch (39.878 mm). The average fiber length of Egyptian Giza 87 cotton fiber is 1.4173 inch (36 mm) and the average fiber length of Egyptian Giza 93 cotton fiber is 1.4566 inch (37 mm).

3. Geography

The Egyptian cotton is generally grown in Egypt, Sudan and Peru; however, it is grown in other countries as well such as China and India.

III. COTTON PRODUCTS AND BYPRODUCTS AT GINNING

Ginning is a process in which cotton seeds and cotton fibers are separated. Cotton ginning machine is made of several individual stations which dry, clean (remove trash, leaves, dirt, foreign materials, etc.), gin (actual separation of seed and fibers) and compress the cotton fibers into a bale. Once the seed cotton is fed into the ginning machine, first, it is dried using hot air. Then, pre-cleaning is done to remove trash (mainly small leaf particles). Then the stick machine removes burrs and pieces of cotton plant. The fibers are then passed to the second drier where moisture is reduced further. Then, the second stage cleaning is done to remove more trash, dirt, and leaves, etc. In the actual ginning process in the gin stand, the seed is separated from the lint (fibers), which is the primary function of the ginning process. Two types of gins are used: saw type is usually used for Upland cotton and roller gins are used for higher quality longer cotton fibers. The seeds fall at the bottom of the machine and are taken away for storage and further processing. The lint is cleaned further in final cleaning to remove the remaining trash using saw type or air-jet cleaners. Then, the fibers are condensed, pressed into bales and shipped to customers.

A. FULL LENGTH FIBERS

Full length fibers are the fibers obtained from cotton plant that are typically used to make yarns and fabrics. Depending on the cotton variety and therefore length, these cotton fibers can be classified as Pima, Supima®, and Egyptian cotton, etc.

B. BYPRODUCT: SHORTER FIBERS AND WASTE

Short fiber (less than 0.5 inch or 12.7 mm in length) byproducts include fibers that are not long enough to be used in yarn and fabric manufacturing; therefore, they cannot be classified as Pima, Supima®, or Egyptian cotton, etc., fibers. Waste products include foreign materials (trash) in the seed cotton such as dirt, leaf pieces, sticks, etc.

C. BYPRODUCT: LINTER FROM SEED

Linter is very fine fibers that surround the cotton seed to provide protection and cushioning. These fine fibers are obtained in a different process. Cotton linter can be used to produce regenerated cellulosic fibers (using spinning solution), powder, paper and paint materials.

D. BYPRODUCT: SEED

Cotton seed is rich in protein and oil, from which cottonseed oil is produced and used in food industry. Oil extracted seed is fed to the animals.

IV. CRITERIA TO DETERMINE IF COTTON IS PIMA, SUPIMA® OR EGYPTIAN

The main criteria to determine if cotton fiber is Pima, Supima®, Egyptian or another type is the fiber length. ASTM D7641 Standard Guide for Textile Fibers lists the staple length of cotton fibers such as American Upland, Egyptian, American Egyptian, etc.

There are standard test methods that can be used to determine cotton fiber length (3):

1. ASTM D1440 Standard Test Method for Length and Length Distribution of Cotton Fibers (Array Method). This method determines the fiber lengths of loose fibers.

2. ASTM D1447 Standard Test Method for Length and Length Uniformity of Cotton Fibers by Photoelectric Measurement (Fibrograph Method). This method is suitable to determine the length of raw or partially processed fibers as well as some cotton waste.
3. ASTM D4604 Standard Test Methods for Measurement of Cotton Fibers by High Volume Instruments (HVI) (Motion Control Fiber Information System). This method has been withdrawn.
4. ASTM D5103 Standard Test Method for Length and Length Distribution of Manufactured Staple Fibers (Single-Fiber Test). This is the test method that is suitable to determine the fiber lengths in finished products such as towels.
5. ASTM D5332 Standard Test Method for Fiber Length and Length Distribution of Cotton Fibers. This test method has been withdrawn.
6. ASTM D5867 Standard Test Methods for Measurement of Physical Properties of Raw Cotton by Cotton Classification Instruments

V. EFFECT OF MANUFACTURING PROCESS ON COTTON FIBERS

It is generally believed that the ginning process affects the length of cotton fibers. The effects of ginning and other processes on cotton fiber quality and fiber damage has been researched, sometimes with mixed results. Mangialardi stated that "Data on staple length and spinning performance in these experiments [lint cotton cleaning with saw cylinder type gin] showed some discrepancies and were, therefore, nonconclusive" (4).

Kirk and Leonard reported that a modified saw-type lint cleaner had no adverse effects on the fiber quality or spinning performance of Pima cotton fibers; i.e., "without significantly decreasing fiber length parameters" (5).

Mangialardi reported that "none of the length parameters measured were significantly affected by the seed-cotton cleaning treatments" prior to actual ginning. However, he reported 1.94% length decrease in the upper-quartile length after three experimental saw-cylinder lint cleaners (the difference between no lint cleaner and one lint cleaner was 0.80%; the difference between no lint cleaner and two lint cleaners was less than 1.69%; the difference between the first and second lint cleaners was less than 0.89%; the difference between the second and third lint cleaners was less than 0.25%). The mean length decrease was 3.9% with three experimental saw-cylinder lint cleaners for the same fibers (the difference between no lint cleaner and one lint cleaner was 2.25%; the difference between no lint cleaner and two lint cleaners was 3.23%; the difference between the first and second lint cleaners was 1.0%; the difference between the second and third lint cleaners was less than 0.70%). For the waste material in the same experiment, the upper-quartile length difference between one lint cleaner and two lint cleaners was 1.47% and the difference between one and three lint cleaners was 1.79% (the difference between two and three lint cleaners was 0.33%). The difference between the mean length of waste material extracted by one lint cleaner and two lint cleaners was 3.65%, and between one lint cleaner and three lint cleaners was 3.85% (the difference between two lint cleaners and three lint cleaners was 0.21%) (4). It should be noted that most saw gins use two stages of lint cleaners.

Hughs et al., examined the effects of ginning and lint cleaning on fiber length of medium staple Upland cultivar cotton and how this influenced textile processing. They concluded that "some long fiber was lost to lint cleaning at all stages but most of that fiber was not of significant textile value and more than 33% of the fiber lost at any stage was equal to or less than 1.27 cm (0.50 inch) in length". Roller ginning resulted in less shortening of fibers compared to saw

ginning. They found out that "although any saw-type lint cleaning clearly reduces fiber length, only excessive lint cleaning (three in this case) greatly reduces fiber length over one saw-type lint cleaner". Length difference between roller gin and saw gin with no lint cleaner was 3.27% for the upper quartile length and 7.05% for the mean length. In saw ginning, using one lint cleaner caused 1.69% length decrease for upper quartile length and 2.67% for mean length. Two lint cleaners resulted in 2.71% decrease in upper quartile length and 2.67% decrease in mean length. Three lint cleaners caused 7.1% decrease in upper quartile length and 8.03% decrease in number averaged length. The length difference between one and two lint cleaners was 1.03% for upper quartile length and 0% for number length average. Between two and three lint cleaners, the difference was 4.52% for upper quartile length and 5.5% for mean length. For the trash lint, the differences for the upper quartile and mean length were as follows, respectively: between one and two lint cleaners, 4.14% and 3.42%; between one and three lint cleaners, 5.80% and 4.57%; between the second and third lint cleaners, 1.73% and 1.18%. They also concluded that "…at least two thirds of the fiber lost to the trash, regardless of the number of series lint cleaners used, was less than 2.21 cm (0.87 inch) in length and not of great textile processing value. A significant percentage of fiber lost, regardless of the amount of saw lint cleaning, was relatively short with over 33% being equal to or less than 1.27 cm (0.50 inch) in length" (6). Their results show that long fibers are not generally lost to trash. The work of Hughs et al., was done on Upland cotton fibers, which are shorter than extra-long fibers such as Pima, Supima® or Egyptian cotton fibers. However, it is a relevant study which shows how extra-long staple fibers would be affected by the ginning process. It should also be mentioned that roller type gins are used for extra-long staple fibers; therefore, saw ginning is used for Upland cotton and roller

ginning is used for Pima or other extra-long cotton fibers. Roll gins are gentler to the fibers than saw-type gins.

Dyeing and steaming do not affect the cotton fiber length in general. Only in one study, it was reported that raw stock vat-dyeing process reduced fiber length slightly. However, it was also noted that the yarns vat-dyed after spinning have the maximum strength (7).

The final pressing of garments would not reduce the fiber length because it is usually done in moist conditions which reduce the brittleness of the cotton fibers and increase their tensile strength.

Pilling is an issue usually with synthetic fibers/cotton blends, such as polyester/cotton blends. 100% synthetic fibers can also have pilling. However, 100% cotton fabrics usually do not have pilling problem. Some anti-pilling treatments will remove the protruding fibers from the surface to prevent pilling (again usually in synthetic/cotton blends) and therefore may shorten the overall fiber length. However, there are no quantitative data on this length reduction. Even if a manufacturer uses an anti-pilling treatment on 100% cotton fabrics, the length of fiber protrusion from the fabric surface is small such that it would not reduce the length of Pima, Egyptian or other ELS cotton fibers from their original lengths to the lengths found in the tests. Otherwise, the fibers should have protruded a lot from the surface, making it a very hairy fabric to begin with, which is not the case in normal fabrics. It should be noted that for new, unused products, pilling is irrelevant.

It is reported that from yarn to finished fabric, the fiber length gets "slightly shorter" due to "spinning, knitting and weaving". As a result, the fiber length is shortened from 1.448 inch to 1.262 inch or by 12.84% (upper quartile length), from 1.174 inch to 1.016 inch or by 13.45%

(weighted length average), from 1.008 inch to 0.842 inch or by 16.46% (number length average) (8).

When interpreting results of ASTM D5103, any shortening by manufacturing process should be taken into account by the qualified individual who is interpreting those results.

From the aforementioned discussion, it is reasonable to conclude that maximum cotton fiber length reduction from the beginning to the end of the manufacturing processes would be 25% at most. This number is based on the worst case scenarios such as saw ginning with three lint cleaners and number length averages (rather than upper quartile or weighted length averages, which usually give smaller percentages of fiber shortening).

VI. DNA TESTING

Recently, it is claimed that DNA testing can be used to prevent cotton fraud. It should be noted that there is no scientific publication about this claim yet. It is believed that DNA testing may be able to confirm species of cotton but cannot determine fiber length. I would like to add that one institution that uses this technology discredits the DNA method of another institution (9).

VII. MIXING OF HIGH QUALITY AND LOW QUALITY COTTON VARIETIES

Important cotton fiber properties that result in high quality and stronger fabrics include fiber length, fiber strength and fiber fineness (micronaire). In general, longer fibers are also stronger and finer, and therefore more expensive.

Some manufacturers of yarns and fabrics, particularly manufacturers outside of the United States, have been found to mix cotton by-products, as explained above, and cheaper varieties of shorter fiber cotton with Pima, Supima® and Egyptian cotton and still claim that their products are made of 100% Pima, Supima® or Egyptian cotton. For example, it is reported

that a "garment already at retail labeled PIMA COTTON" had the weighted upper quartile length of 0.70 inch, weighted average length of 0.54 inch and numbered average length of 0.42 inch" (8). These numbers are well below the typical length of Pima, Supima® or Egyptian cotton fibers even after allowing the possible shortening during the manufacturing processes.

The motive is greed. By unfair and unethical practice, those manufacturers want to make more money due to the price difference in different varieties of cotton. Although it depends on supply/demand and market conditions, Pima, Supima®, or Egyptian cotton can be up to 3 or more times more expensive than the shorter fiber cotton such as Upland cotton and even more expensive than the shorter fiber by-products. Mixing shorter staple length and therefore less expensive cotton fibers with high staple length and therefore more expensive fibers gives an unfair advantage to those manufacturers. There are estimates that "90% of products labeled 'Egyptian Cotton' are fakes" (10).

VIII. DETERMINING THE TYPE OF COTTON IN YARNS, FABRICS AND FINISHED PRODUCTS

To determine if cotton in a yarn, fabric, or finished textile product is truly 100% Pima, Supima® or Egyptian cotton, the length of the cotton fibers in the sample of yarn, fabric or finished product can be tested by ASTM D5103.

IX. ASTM D5103

I have reviewed the process of testing by TexTest (Columbus, GA) company on Lululemon Athletics Muscle Love Tank Crop Tank sample (Labeled 92% Pima Cotton/8% Lycra Elastane), using ASTM D5103 test method. I am familiar with D5103 and TexTest's methods. I have been to TexTest's testing facility. TexTest is ANAB accredited and ISO 9001 certified testing facility that is capable of doing standard tests such as ASTM, AATCC, ANSI,

CSPS and MIL tests on fibers, yarns, fabrics and finished products. They are a member of ASTM, AATCC, AFMA and IFAI.

X. TESTING BY TEXTEST

I am relying on testing done by TexTest. In the past, I took my students to visit TexTest to see their facilities and testing capabilities. I also used materials from TexTest in my book entitled "Wellington Sears Handbook of Industrial Textiles", which was a best seller (11). ASTM D5103 is the proper test method to test Lululemon Athletics Muscle Love Tank Crop Tank sample to determine the cotton fiber length in the sample. TexTest is uniquely qualified to do this test and I have full confidence in their testing capability and test results.

XI. ASTM D5103 TEST DONE BY TEXTEST

To determine the length of cotton fibers used in the finished product, textile experts, like myself, would and do rely on ASTM D5103 testing done by a certified testing company such as TexTest on a textile product such as Lululemon Athletics Muscle Love Tank Crop Tank sample. TexTest professionals follow the proper testing guidelines as outlined in the ASTM D5103 test method including apparatus, sampling, conditioning, procedure, calculations and reporting requirements.

XII. FIBERS OF LULULEMON ATHLETICS MUSCLE LOVE TANK CROP TANK

I have reviewed the results of the testing done by TexTest. Based on those test results, my education, training and more than 35 years of experience in the textile industry, and taking into account any effects on cotton fiber length that may have resulted from manufacturing processes, it is my opinion that Lululemon Athletics Muscle Love Tank Crop Tank, to a reasonable degree of scientific certainty, is not made of 92% Pima cotton fibers as explained below.

XIII. PRODUCT MADE FROM A MIXTURE OF COTTON FIBERS

It is my further opinion based on my education, training, and experience that, rather than being 92% Pima cotton, Lululemon Athletics Muscle Love Tank Crop Tank, is instead made from a mixture of cotton and other fibers including a significant amount of less expensive shorter cotton fibers or cotton byproduct fibers. Based on the ASTM D5103 test results of Lululemon Athletics Muscle Love Tank Crop Tank, only 2% of the fibers can be classified as Egyptian Giza 87 93 cotton fiber; only 1% of the fibers can be classified as Egyptian ELS; only 11% of the fibers can be classified as Supima® and only 11% of the fibers can be classified as Pima. 89% of the fibers are shorter than 1.20 inch (30.48 mm), 80% of the fibers are shorter than 1.08 inch (27.432 mm) and 16% of the fibers are considered short fibers.

Although there is some shortening of fibers during the manufacturing processes as explained above, the reduction in fiber length during manufacturing would not affect the classification of fibers based on length. As tested, 89% of the fibers in Lululemon Athletics Muscle Love Tank Crop Tank are below the Pima cotton fiber length range as shown in Table 1. Even if we assume that all the fibers got shortened by 25% during the manufacturing processes *including* the shortening during ginning, which is based on the numbers reported in the literature as explained above and taken as the worst case scenario, then the total number of fibers that would fall under Pima cotton classification would be only 40%, as shown in the last column of Table 1. It should be noted that this is even after assuming that all the 13 fibers that are longer than 1.12 inch are also longer than 1.20 inch, which is highly unlikely. This still would not make Lululemon Athletics Muscle Love Tank Crop Tank to qualify to be made of 92% Pima cotton fibers. Moreover, from the TexTest Report 4522, it is understood that they only tested the length

of cotton fibers in the product. In that case, the total number of fibers that would fall under Pima cotton classification would be even lower, i.e., only 36.8%.

Table 1 Fiber lengths as tested and prior to manufacturing processes (based on TextTest results)

	As Tested Length Group Lower Limit (inch)	Number of Fibers	Prior to Manufacturing Processes Length Group Lower Limit (inch)
	2.040	0	2.720
	1.920	0	2.560
	1.800	0	2.400
	1.680	0	2.240
	1.560	0	2.080
Pima cotton range	1.440	1	1.920
	1.320	1	1.760
	1.200	9	1.600
	1.080	9	1.440
	0.960	18	1.280
	0.840	13	1.120
	0.720	10	0.960
	0.600	23	0.800
	0.480	15	0.640
	0.360	1	0.480
	0.240	0	0.320
	0.120	0	0.160
	0.000	0	0.000
	Total:	100	

Therefore, it is my conclusion that Lululemon Athletics Muscle Love Tank Crop Tank, to a reasonable degree of scientific certainty, is not made of 92% Pima cotton fibers.

References

1. 7 CFR 28.304 - Original representation of American Pima cotton staple lengths. https://www.gpo.gov/fdsys/pkg/CFR-2004-title7-vol2/pdf/CFR-2004-title7-vol2-subtitleB.pdf [Cited: 11/20/2017].

2. *Frequently Asked Questions - What is Supima Cotton?* http://supima.com [Cited: 11/12/2017].

3. ASTM International www.astm.org [Cited: 11/20/2017].

4. Mangialardi, G. J., *Multiple Lint-Cotton Cleaning: Its Effect on Bale Value, Fiber Quality, and Waste Composition,* Technical Bulletin No. 1456, USDA Agricultural Research Service, 1972.

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8. Sasso, D., Pima Cotton: Are you Getting the Real Thing? Buhler Quality Yarns, Corp. , 24 April 2014, www.buhleryarn.com [Cited: 10/26/2017].

9. The Truth About Testing Processes for Premium Cotton, http://adnas.com, [Cited: 11/12/2017]

10. *Egyptian, Pima or Supima Cotton. What is the Best Cotton for a Good Night's Sleep?* https://authenticity50.com [Cited: 6/28/2017].

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Prepared by:

Dr. Sabit Adanur, Professor

21 November 2018

APPENDIX A – Curriculum Vitae

SABIT ADANUR
Professor
Auburn University, Department of Polymer and Fiber Engineering, Auburn, AL 36849
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e-mail: sabitadanur@gmail.com (preferred), adanusa@auburn.edu, http://www.eng.auburn.edu/~adanusa

1. EDUCATION

June 1989	Ph.D. in Fiber and Polymer Science North Carolina State University, Raleigh, North Carolina.
Dec. 1985	M.S. in Textile Engineering and Science North Carolina State University, Raleigh, North Carolina.
July 1982	B.S. in Mechanical Engineering Istanbul Technical University, Istanbul, Turkey.

PROFESSIONAL EXPERIENCE

Aug. '15 – Present	Professor Auburn University, Mechanical Engineering Department, Auburn, Alabama.
Oct. '00 – Aug. '15	Professor Auburn University, Polymer and Fiber Engineering Department, Auburn, Alabama.
Oct. '96 – Sept. '00	Associate Professor Auburn University, Textile Engineering Department, Auburn, Alabama.
Sep. '92 - Sep. '96	Assistant Professor Auburn University, Textile Engineering Department, Auburn, Alabama.
Nov. '89-Aug '92	Product and Process Development Manager Asten Forming Fabrics, Inc., Appleton, Wisconsin.
July '89-Oct. '89	Process Development Engineer Asten Forming Fabrics, Inc., Appleton, Wisconsin.
Aug. '83-Jun. '89	Research/Teaching Assistant North Carolina State University, Raleigh, North Carolina.

Litigation Support Experience

1) I gave a deposition in a case involved Asten Forming Fabrics and their competitor regarding a patent infringement case regarding a forming fabric design, Opelika, AL, mid 1990s.
2) I was retained by Sulzer Textile as an expert in a lawsuit with Picanol in a patent infringement case involving air-jet weaving machine operations, 2000-2001. The jury trial lasted more than a week in September 2001 in Tyler, Texas.

3) I was retained as an expert by Southern Mills against Polartec in a patent infringement case regarding fire resistant fleece knit fabric and garment, Atlanta, GA, 2008 (gave deposition and expert testimony in the court).

4) I was retained as an expert by Adidas against Nike in a patent infringement case regarding knitted fabric sports shoes, Atlanta, GA, 2013- 2014 (gave deposition).

5) I was retained as an expert by Eclipse/FlexSol Packaging against Stewarts of America in a case involving Tampico fiber brush manufacturing, Statesville, NC, 2014-2016 (gave deposition and expert testimony in jury trial).

6) I was retained as an expert by Maples Industries, Scottsboro, AL against the Canadian Border Services Agency, 2015-2016 (gave expert testimony in court in Canada).

7) Currently working as an expert on a patent infringement case related to geotextiles.

Professional Development Activities

- Attended the Biggio Seminar "Engaging Students in Active Learning", 14 February 2013, Biggio Center, Auburn University.
- Attended the tutorial "Canvas Orientation", Sept. 20, 2011, Auburn University.
- Attended the workshop "Introduction to Performance Tasks", by [Cla]ssroom Academy, 15-16 August, 2011, Auburn, AL.
- Completed the Alabama Ethics Law Training, March 31, 2011.
- Developing Online Courses (July 14, 2010)
- Teaching with Powerpoint 2007 (July 13, 2010)
- Attended the Biggio Seminar, "Writing to Learn and Learning to Write", by Alyson Whyte, 13 Nov. 2008
- Attended the Biggio Seminar,"Nurturing the Expectancy Effect", March 11, 2008.

2. ASSIGNED DUTIES FOR THE PAST FIVE YEARS (average)

Quarter	Teaching (%)	Research (%)	Extension/Service (%)
Summers	0	92	8
Academic	63	32	5

3. HONORS AND AWARDS

- Our Poster entitled "Activated carbon fiber filter media for proton exchange membrane fuel cell cathode" by Liu, W. and Adanur, S., won the best poster award at the Fiber Society Meeting in Shanghai, China, June 2009.
- My graduate student Mr. Erdem Selver was chosen as one of the ten Outstanding Master's Students at Auburn University for 2008-2009 by the AU Graduate Council.
- Outstanding Faculty Award, Department of Polymer and Fiber Engineering, 2008-2009

- Best poster presentation for the NSF Research Experience for Undergraduates (REU) Program in Micron/Nano-Structured Materials, Therapeutics and Devices. Title: Addition of Nanoparticles to Electrospun Nanofibers. Authors: Roxanne Guarin, Wei Liu and Sabit Adanur. Auburn REU Fellows Research Poster Session, July 31, 2008. There were 10 undergraduate students from different parts of the US in this program who spent their summers in Auburn.
- Outstanding Faculty Award, Department of Polymer and Fiber Engineering, 2007-2008
- Outstanding Teacher Award, Department of Textile Engineering, 2002-2003.
- Outstanding Teacher Award, Department of Textile Engineering, 2001-2002.
- Auburn Alumni Professor Award (1999 – 2004).
- Outstanding Teacher Award, Department of Textile Engineering, 2000-2001.
- AU College of Engineering Birdsong Merit Teaching Award 2000
- Outstanding Teacher Award, Department of Textile Engineering, 1999-2000.
- Auburn Alumni Engineering Council Senior Faculty Research Award, 1999.
- My graduate student Mr. Baohua Xu is awarded the academic excellence award for international students (June 1998).
- Nominated two years in a row (1997 and 1998) as a potential participant in the National Academy of Engineering (NAE)'s Third and Fourth Annual Symposiums on Frontiers of Engineering, Irvine, CA.
- 1995 NSF Faculty Early Career Development (CAREER) Award, National Science Foundation, $ 210,000.00, duration: 4 years (Sept. 1, 96-Aug. 31, 2000).
- Nominated by Dr. William V. Muse two years in a row (1994 and 1995) to represent Auburn University in highly prestigious National Science Foundation, Presidential Faculty Fellows Award competition (only two candidates can be nominated by an institution).
- 1991 George Goldfinger Award. "This award is presented to the graduate of the North Carolina State University, College of Textiles, Fiber and Polymer Science Program who was judged to have submitted the most outstanding Ph.D. thesis over the past two years".

4. SCHOLARLY CONTRIBUTIONS

4. A. TEACHING

4.A.1 Courses Taught for the Past Five Years

ENGR 1110	Introduction to Engineering
FBEN 2250	Fabric Design and Engineering
PFEN 2270	Introduction to Engineered Fibrous Materials
PFEN 3200	Polymer Processing
PFEN 3300	Fibrous Product Testing and Instrumentation
TXTN 3450	Technical Textiles
PFEN 4300	Engineered Fibrous Structures
PFEN 4820	Senior Design
PFEN 5100	Fabrics for Papermaking
PFEN 6100	Fabrics for Papermaking
PFEN 6106	Fabrics for Papermaking (outreach)
PFEN 6250	Advanced Eng. Fibrous Str.
PFEN 7960	Adv. Polymer Processing lab
PFEN 7970	Advanced Polymer Processing
PFEN 7990	Research and Thesis
PFEN 7210	Fabric Formation and Properties
PFEN 7960	Special Problems in Polymers and Fibers
PFEN 7970	Special Topics

PFEN 7980	Graduate Project
PFEN 7990	Research and Thesis
PFEN 8200	Adv Textl Struct Desi & Develop
ITAS 8990	Research and Dissertation

4.A.2 Graduate Students Whose Work Has Been Completed

Students for Whom The Candidate Served as Major Professor

Student	Degree	Chair	Department	Graduation Date	Current Employer
Shen, Y.	PhD	Dr. Adanur	PFEN	Dec. 2015	Highland Composites
Shen, Y.	MS	Dr. Adanur	PFEN	Dec. 2013	Ph.D. student at PFEN
Meeks, S. B.	MS	Dr. Adanur	PFEN	May 2012	Interviewing
Zheng, H.	MS	Dr. Adanur	PFEN	Dec. 2010	Graduate Student
Gocek, I.	PhD	Dr. Adanur	PFEN	May 2010	Istanbul Technical Univ.
Keskin, R.	PhD	Dr. Adanur	PFEN	May 2010	Pamukkale University
Liu, W.	PhD	Dr. Adanur	PFEN	May 2010	A company in IL
Selver, E.	MS	Dr. Adanur	PFEN	May 2010	PhD Student/England
Liu, W.	MPFEN	Dr. Adanur	PFEN	May 2009	AU PhD student
Isikel, L.	MS	Dr. Adanur	PFEN	May 2007	A company in Turkey
Irsale, Swagat J.	PhD	Dr. Adanur	PFEN	Dec. 2005	Nexus Software Sol,Inc., MN
Ascioglu, Birgul	PhD	Dr. Adanur	PFEN	Aug. 2005	Valeo, Inc., Bursa, Turkey
Irsale, Swagat J.	MS	Dr. Adanur	Textile Eng.	Dec. 2003	Nexus Software Sol, Inc., PA
Hughes, Kevin	MTE	Adanur/Tippur	Textile Eng.	May 2005	GKN Aerospace
Vakalapudi, Sathendra	MS	Dr. Adanur	Textile Eng.	Aug. 2003	Detroit (software co.)
Onal, Levent	PhD	Dr. Adanur	Textile Eng.	May 2002	Erciyes University
Turel, Tacibaht	MS	Dr. Adanur	Textile Eng.	Aug. 2002	PhD, Consumer Aff.
Tascan, Mevlut	MS	Dr. Adanur	Textile Eng.	May 01	PhD, Clemson Univ.
Orak, Hakan	MS	Adanur/Tippur	Textile Eng.	May 01	PhD, Clemson Univ.
Kayathi, K. K.	MS	Dr. Adanur	Textile Eng.	January 01	India
Xu, BaoHua	MS	Dr. Adanur	Textile Eng.	Aug. 99	PhD Student, TE
Arumugam, Yuvaraj	MS	Dr. Adanur	Textile Eng.	July 98	Goodyear Tire Co.
Qi, Jing	MS	Dr. Adanur	Textile Eng.	May 98	Grad Student in EE
Tewari. Ashutosh	MS	Dr. Adanur	Textile Eng.	Dec. 97	California Co.
Hou, Zhenwei	MS	Dr. Adanur	Textile Eng.	Dec. 97	PhD Candidate
Gongalareddy, Sreekanth	MS	Dr. Adanur	Textile Eng.	Dec. 96	Telecom., Atlanta
Mallick, Sumita B.	MS	Dr. Adanur	Textile Eng.	Aug. 96	PhD (Boston Univ.)
Zhai, Honglian	MS	Dr. Adanur	Textile Eng.	Aug. 96	TCOM, Maryland
Yuksekkaya, M. Emin	MS	Dr. Adanur	Textile Eng.	June 96	Prof., Usak U., Turkey
Tsao, Yen P.	MS	Dr. Adanur	Textile Eng.	Dec. 95	Taiwan
Tam, Chi-Wen	MS	Dr. Adanur	Textile Eng.	March 95	Taiwan
Sartain, Stephen L.	MS	Dr. Adanur	Textile Eng.	Dec. 94	Own automotive business
Others:					
Inan, Gunes	PhD	Dr. Adanur	Textile Eng.	Aug. 04-Dec. 04	

Kilinc, F. Selcen	PhD	Dr. Adanur	Textile Eng.	Aug. 00 – Dec. 01
Unsal, Evren	PhD	Dr. Adanur	Textile Eng.	Aug. 00-Feb. 01
Xu, BaoHua	PhD	Dr. Adanur	Textile Eng.	June 99 – Dec. 99
Zhenwei Hou	PhD	Dr. Adanur	Textile Eng.	Jan. 99 – Sept. 99
Mallick, Sumita B.	PhD	Dr. Adanur	Civil Eng.	Aug. 96 – Aug. 98
Nalamati, R. Kumar	MS	Dr. Adanur	Mech. Eng.	Sept. 95- April 96

Students for Whom The Candidate Served as Committee Member

Student	Degree	Chair	Department	Graduation Date	Current Employer
Uday B. Sangars	MS	Dr. Beale	ME	Dec. 2015	Interviewing
Furlong, Shane	MS	Dr. Broughton	PFEN	Dec. 2015	Interviewing
Snead, Ed	MS	Dr. Thomas	PFEN	May 2015	PhD
Shirgaonkar, S.	MS	Dr. Beale	MECH	Dec. 2014	Hanwha, Opelika
White, Charles J.	PhD	Dr. Byrne	CHEN	Aug. 2014	FDA
Poyraz, Selcuk	PhD	Dr. Zhang	PFEN	June 2014	Assist. Prof., Turkey
Smith, James	MS	Dr. Zhang	PFEN	May 2014	Private Industry
Wang, Xialong	MS	Dr. Zhang	PFEN	Spring 2013	PhD student
Blackwell, C.	MPFEN	Dr. Thomas	PFEN	Dec. 2012	CSP
Liu, Yang	MS	Dr. Zhang	PFEN	Fall 2011	PhD student at AU
Liu, Zhen	PhD	Dr. Zhang	PFEN	Spring 2009	Un. of Maryland
Quinones ,Vladimir	PhD	Dr. Thomas	PFEN	Spring 2011	Post-doc at AU
Luna, Eric	PhD	Dr. Tatarchuk	Chemical Eng.	Summer 2009	Syngenta Crop P., NC
Anthony, Rebecca	MPFEN	Dr. Thomas	PFEN	Spring 2009	Unknown
Hasan Kocer	M.S.	Dr. Broughton	PFEN	Fall 2007	PhD student ITAS
Ray, Rebecca	M.S.	Dr. Thomas	PFEN	Fall 2006	Unknown
Ma, Erjian	PhD	Dr. Jang	Materials Eng.	Spring 01	Unknown
McCarthy, P. J.	MCE	Dr. Elton	Civil Eng.	Spring 96	Denver, CO
Xiao, Liming	PhD	Dr. Yang	Materials Eng.	Spring 98	Postdoc, AU EE
Hunt, Rich	MS	Dr. Nelms	Electrical Eng.	June 97	Unknown
Kirkpatrick, C. T.	MS	Dr. Jang	Materials Eng.	Spring 97	California Company
Kotha, S.	MS	Dr. Gowayed	Textile Eng.	Spring 97	India
Xi, Xiaomei	PhD	Dr. Yang	Materials Eng.	Aug. 96	California Company
Zhang, Qiang	PhD	Dr. Beale	Mechanical Eng.	Jan. 96	A Comp. in Maryland
Vickers, Daniel	MS	Dr. Beale	Mechanical Eng.	March 95	FMP/Rauma

Students for Whom the Candidate Served as Outside Reader

Student	Degree	Chair	Department	Defense Date
Donath, Gregory W.	PhD	Dr. Duke	Chemical Eng.	Nov. 10, 2008
Ajitsaria, Jyoti K.	PhD	Dr. Choe	Mech. Eng.	Aug. 29, 2008
Butts, Daniel Alan	PhD	Dr. Gale	Materials Eng.	May 9, 2005
ElBashir, Nimir	PhD	Dr. C. Roberts	Chemical Eng.	Nov 15. 2004
Gopalakrishnan, M.	PhD	Dr. ElHalwagi	Chemical Eng.	May 21, 2002

Noureldin, M.	PhD	Dr. ElHalwagi	Chemical Eng.	Oct.12, 00
Patil, A. R.	PhD	Dr. Crocker	Mechanical Eng.	Sept. 11, 00
Park, Y.	PhD	Dr. Roberts	Chemical Eng.	July 20, 00
Shelley, M. D.	PhD	Dr. El-Halwagi	Chemical Eng.	Apr. 20, 00
Abdo, Z. A. M.	PhD	Dr. Gale	Materials Eng.	Dec. 3, 99
Garrison, W.	PhD	Dr. El-Halwagi	Chemical Eng.	May 8, 97
Yim, J. H.	PhD	Dr. Jang	Materials Eng.	Apr. 25, 97
Hamad, A. A.	PhD	Dr. El-Halwagi	Chemical Eng.	Apr. 21, 97
Mallick, R. B.	PhD	Dr. Brown	Civil Eng.	Apr. 8, 97
Zhao, Li-Ren	PhD	Dr. Jang	Materials Eng.	Feb. 26, 96
Haque, Anwarul	PhD	Dr. Raju	Mechanical Eng.	Oct. 10, 95
Yim, Jong H.	PhD	Dr. Jang	Materials Eng.	April 25, 95

4.A.3 Graduate Students on Whose Committee the Candidate is Presently Serving

Students for Whom the Candidate is Serving as Committee Member

Student	Degree	Chair	Department	Date Started
Cernik, Ozdes	Ph.D.	Marghitu	ME	Fall 2010

Visiting Scholars/Students Supported

Name	Origin	Duration
Ms. Roxanne Guarin	Undergraduate student from Univ. of Mass-Amherst	May 21, 2008- July 31, 2008
Ms. Stacy Yee	Undergraduate student from Univ. of Michigan	May 21, 2007- July 27, 2007
Ms. Christina Yacoob	Undergraduate student from SUNY Buffalo	May 29, 2006-Aug. 4, 2006
Dr. Levent Gumusel	Turkey	Jan. – Feb. 2005, Jan. 2006
Dr. Hasan Bas	Turkey	Jan. – Feb. 2005, Jan. 2006
Ms. Abibe Maimaiti	China	Sept. 2001-Sept. 2002
Dr. Gulay Ozcan	Turkey	January 01 – February 01
Dr. Tianyi Liao	China	Aug. 96 - March 99
Dr. Sule Altun	Turkey	July 99-Sept. 99

4.A.4 Courses and Curricula Developed

New Undergraduate Courses Developed:

Dr. Adanur has developed the following courses which did not exist before.

1. PFEN 3200 Polymer Processing
2. ENGR 1110 Introduction to Polymer and Fiber Engineering
3. PFEN 3300 Fibrous Product Testing and Instrumentation
4. PFEN 4300 Engineered Fibrous Structures
5. PFEN 5100/6100 Fabrics for Papermaking
6. TXTN 3450 Technical Textiles

7. TE 225 Fabric Design and Manufacturing
8. TE 460 Mechanics of Textile Manufacturing Processes and Systems

New Graduate Courses Developed:

1. PFEN 7210 Fabric Formation and Properties
2. PFEN 6250 Advanced Engineering Fibrous Structures
3. PFEN 8200 Advanced Textile Structure Design and Development

4.A.5 Grants Received Related to Teaching (Total $ 241,864.00; see also 4.B.8)

1. Adanur, S., Graduate Outreach Program (GOP) Grant, $135.00, Spring 2009.

2. Two injection molding machines were donated to polymer processing lab by ThermoFisher Scientific of Auburn, May 2007, $9,000.00.

3. Travel fund for the ITMA 2003, Birmingham, England.
Funding Agent: Highland Takata Industries
Amount: $ 3,428.92
Duration: Oct. 21-30, 2003.

4. Developing a Course Based on Equipment Design for Introduction to Engineering
Funding Agent: AU College of Engineering
Amount: $ 24,050
PI: P. Jones (leader), C. A. Flood, S. Adanur
Duration: June 1, 1999-May 31, 2000

5. Title: Travel fund for IFAI Expo 1999, San Diego, CA
Funding Agent: Highland Takata Industries
Amount: $ 4,000.00
PI: W. Walsh, S. Adanur, R. Broughton, Y. ElMogahzy
Duration: Oct. 28-30, 1999.

6. Title: Travel fund for Messe Frankfurt Industrial Textiles Fair, Frankfurt, Germany
Funding Agent: Highland Takata Industries
Amount: $ 4,000.00
PI: S. Adanur (50%), W. Walsh (50%)
Duration: May 11-18, 1998

7. Title: Textile Structural Composites Laboratory
Funding Agent: National Science Foundation, Instrumentation and Laboratory Improvement (ILI)
Amount: $ 87,185.00
PI: S. Adanur (95 %), Co-PIs: W. Walsh, R. Walker, B. Jang
Duration: Sept. 1, 94- Aug. 31, 96

This NSF grant is specifically for undergraduate curriculum development purposes.

8. Title: Wellington Sears Handbook of Industrial Textiles
Funding Agent: Wellington Sears Company, Valley, Alabama.
Amount: $ 60.000.00
PI: Sabit Adanur
Duration: Oct. 1, 93 - March 15, 95.

9. Title : Discretionary Teaching Grant-in-Aid
Funding Agent: Auburn University
Amount: $ 200.00
PI: Sabit Adanur
Duration: Nov. 1, 92 - Apr. 30, 93.

10. Two shuttle looms and a warper were donated to weaving lab by West Point Stevens Company, AL, 1992/1993, $ 50,000.00.

4.A.6 Publications Pertaining to Teaching

Textbooks/Book Chapters

1. Chapter 8 – "Structure and Mechanics of Coated Fabrics", book chapter in "Structure and Mechanics of Fibre Assemblies", edited by Peter Schwartz. - Woodhead Publishing Limited and CRC Press LLC, 2008.
2. "Fabrics for Papermaking", first draft of the chapter prepared and submitted for the book, "Technology and Woven Fabrics" edited by Dr. Mansour H. Mohamed, Woodhead Publishing, Ltd.
3. Adanur, S., Wellington Sears Handbook of Industrial Textiles, Technomic Publishing Co., Inc., Lancaster, PA, 1995. Library of Congress Catalog Card No. 95-61229, ISBN No. 1-56676-340-1, 850 pages (519 figures and 140 tables).
4. Adanur, S., Paper Machine Clothing, Technomic Publishing Co., Inc., Lancaster, PA, 1997. Library of Congress Catalog Card No. 97-60981, ISBN No. 1-56676-544-7, 405 pages (338 figures, 55 tables).
5. Adanur, S., Handbook of Weaving, Technomic Publishing Co., Inc., 2001. Library of Congress Catalog Card No. 00-107625, ISBN No. 1-58716-013-7. 446 pages (539 Figures, 52 Tables).

Lecture Notes (Bound)

1. TE 425 Technical Textiles, Lecture Notes, Auburn University, 191 pages.
2. TE 460 Mechanics of Textile Manufacturing Processes and Systems, Lecture Notes, Auburn University, 154 pages.

4.A.7 Other Contributions to Teaching

- Accreditation Board for Engineering and Technology (ABET) Accreditation of Textile Engineering program in 1998 and Fiber Engineering program in 2004 (ABET Coordinator)
- Semester Transition (was responsible for the quarter to semester transition for the curriculums in the Department of Textile Engineering).

- Expansion of Master's Program (actively participated in expanding the Masters program in the Department. There were not adequate graduate level courses that covered certain aspects of the Master of Science program in Textile Engineering. Developed four new graduate level courses for this purpose).
- Establishment of Ph.D. Program (was a member of the Textile Engineering Department Committee to establish a joint Ph.D. program with the Consumer Affairs Department).

Establishment of High Performance Materials Laboratory

Dr. Adanur has established an industrial textiles/composites laboratory in the Department. The lab is equipped with state of the art equipment and is being used for teaching. Besides teaching, the laboratory provides an excellent opportunity for undergraduate and graduate students in their projects and independent studies. The lab will strengthen the University's interaction with industry. A new Instron was purchased and installed in the lab. Dr. Adanur received funding from National Science Foundation for a computerized braiding machine which has been installed in the lab. He has purchased and installed a new compression molding machine and Dynatup impact testing machines with the NSF EPSCoR funding. The value of these machines is around $ 600,000.00.

4.B RESEARCH / CREATIVE WORK

4.B.1 Books/Book Chapters (See 4.A.6)

1. Chapter 8 – "Structure and Mechanics of Coated Fabrics", book chapter in "Structure and Mechanics of Fibre Assemblies", edited by Peter Schwartz - Woodhead Publishing Limited and CRC Press LLC, 2008.
2. "Fabrics for Papermaking", first draft of the chapter prepared and submitted for the book, "Technology and Woven Fabrics" edited by Dr. Mansour H. Mohamed, Woodhead Publishing, Ltd.
3. Adanur, S., Wellington Sears Handbook of Industrial Textiles, Technomic Publishing Co., Inc., Lancaster, PA, 1995. Library of Congress Catalog Card No. 95-61229, ISBN No. 1-56676-340-1, 850 pages (519 figures and 140 tables).
4. Adanur, S., Paper Machine Clothing, Technomic Publishing Co., Inc., Lancaster, PA, 1997. Library of Congress Catalog Card No. 97-60981, ISBN No. 1-56676-544-7, 405 pages (338 figures, 55 tables).
5. Adanur, S., Handbook of Weaving, Technomic Publishing Co., Inc., 2001. Library of Congress Catalog Card No. 00-107625, ISBN No. 1-58716-013-7. 446 pages (539 Figures, 52 Tables).

4.B.2 Article-length Publications

Refereed Journal Articles (*: student)

1. Liu, W*., and Adanur, S, "Desulfurization Properties of Activated Carbon Fibers", Journal of Engineered Fibers and Fabrics, Vol. 9, Issue 2, June 2014, pp. 70-75.
2. Shen, Y*., Meir, A. J., Cao, Y., and Adanur, S., "Finite Element Analysis of Monofilament Woven Fabrics under Uniaxial Tension", Journal of the Textile Institute, published online: 10 April 2014, http://www.tandfonline.com/doi/full/10.1080/00405000.2014.906098.
3. Adanur, S., and Liu, W*., "Desulfurization Properties of Modified Activated Carbon Fibers and Activated Carbon Fiber Paper", Journal of Industrial Textiles, 5 September 2013, DOI:10.1177/1528083713502997.

4. Adanur, S., and Zheng, H*., "Synthesis and Characterization of Sulfonated Polyimide Based Membranes for Proton Exchange Membrane Fuel Cells", Journal of Fuel Cell Science and Technology, Aug. 2013, Vol. 10, 041001, pp. 1-5.
5. Liu, W*., Yee, S*., and Adanur, S., "Properties of Electrospun PVA/nanoclay Composites", Journal of the Textile Institute, 2013, http://www.tandfonline.com/doi/abs/10.1080/00405000.2013.819156
6. Adanur, S., and Vakalapudi, J. S*., "Woven Fabric Design and Analysis in 3D Virtual Reality, Part 1: Computer Aided Design and Modeling of Interlaced Structures", Journal of the Textile Institute, **DOI:** 10.1080/00405000.2012.753698, published January 10, 2013.
7. Gocek, I*., and Adanur, S., "Effect of Processing Parameters on Polypropylene Film Properties", International Journal of Modern Engineering Research (IJMER), Vol. 2, Issue 5, Sep.-Oct. 2012, pp. 3056-3060.
8. Gocek, I*., and Adanur, S., "Effect of Nanoclay Amount and Compatibilizer Presence on Thermal, Morphological and Mechanical Behaviour of Nanoclay Reinforced Composite Polypropylene Cast Film", Materials Testing, 54 (2012) 5, pp. 318-329 (German/English).
9. Adanur, S., and Vakalapudi, J. S., "Woven Fabric Design and Analysis in 3D Virtual Reality, Part 2: Predicting Fabric Properties with the Model", Journal of the Textile Institute (DOI:10.1080/00405000.2012.745236, published 3 December 2012).
10. Adanur, S., and Selver, E., "Nanoclay/Polypropylene Composite Monofilament Processing and Properties using Twin and Single Screw Extruders", International Journal of Polymeric Materials (published 5/17/2012: http://www.tandfonline.com/doi/abs/10.1080/00914037.2011.641696).
11. Keskin, R*., and Adanur, S., "Improving Toughness of Polypropylene with Thermoplastic Elastomers in Injection Molding", Polymer-Plastics Technology and Engineering, 50:20-28, 2011 (January 2011).
12. Selver, E*., and Adanur, S., "Processing and Property Relationship of Nanoclay Reinforced Polypropylene Monofilaments, Journal of Industrial Textiles", Vol. 40, No. 2, Oct. 2010, pp. 123-137.
13. Isikel, L*., Gocek, I*., and Adanur, S., "Design and Characterization of Nonwoven Fabrics for Gas Diffusion Layer in Polymer Electrolyte Membrane Fuel Cell", The Journal of the Textile Institute, Vol. 101, No. 11, Nov. 2010, pp. 1006-1014.
14. Yacoob, C*., Liu, W.*, and Adanur, S., "Properties and Flammability of Electrospun PVA and PVA/Laponite® Membranes", Journal of the Industrial Textiles, Vol. 40, No. 1., July 2010, pp. 33-48.
15. Liu, W*., and Adanur, S., "Properties of Electrospun Polyacrylonitrile Membranes and Chemically-Activated Carbon Nanofibers", Textile Research Journal, Vol. 80(2), pp. 124-134, Jan. 2010.
16. Ascioglu, B*., Adanur, S., Gumusel, L., and Bas, H., "Transverse Direction Thermal Conductivity Modeling of Nano-micro Fiber Reinforced Composites", Textile Research Journal, Vol. 79 (12), 2009, pp. 1059-1066.
17. Yuksekkaya, M. E*., and Adanur, S., "Analysis of Polymeric Braided Tubular Structures Intended for Medical Applications", Textile Research Journal, 2009, Vol. 79, No. 2, pp. 99-109.
18. Yuksekkaya, M.E.*, Thomas, H., and Adanur, S., "Influence of the Fabric Properties on Fabric Stiffness for the Industrial Textiles", Tekstil and Konfeksiyon (English), April 2008, pp. 263-267.
19. Adanur, S., and Qi, J*., "Property Analysis of Denim Fabrics Made on Air-Jet Weaving Machine, Part 2: Effects of Tension on Fabric Properties", Textile Research Journal, Vol. 78(1), Jan. 2008, pp. 10-20.
20. Adanur, S., and Qi, J*., "Property Analysis of Denim Fabrics Made on Air-Jet Weaving Machine, Part 1: Experimental System and Tension Measurements", Textile Research Journal, Vol. 78(1), Jan. 2008, pp. 3-9.
21. Adanur, S., and Ascioglu, B.*, "Nanocomposite Fiber Based Web and Membrane Formation and Characterization", Journal of Industrial Textiles, Vol. 36, No. 4, April 2007, pp. 311-327.

22. Elton, D. J., Hayes, D. W.*, and Adanur, S., "Bubblepoint Testing of Geotextiles: Apparatus and Operation", American Society for Testing Materials (ASTM) Geotechnical Testing Journal, Vol. 30, No. 1, Jan. 2007.
23. Onal, L.*, and Adanur, S., "Modeling of Elastic, Thermal and Strength/Failure Analysis of 2D Woven Composites – A Review", Applied Mechanics Reviews (AMR), Vol. 60, Issue 1, pp. 37-49, Jan. 2007.
24. Irsale, S.*, and Adanur, S., "Design and Characterization of Polymeric Stents, Journal of Industrial Textiles, Vol. 35, No. 3, January 2006, pp. 189-199.
25. Onal, L.*, and Adanur, S., "Optimization of Compression Molding Process in Laminated Woven Composites", Journal of Reinforced Plastics and Composites", Vol. 24, No. 7, 2005, pp. 775-780.
26. Adanur, S., and Onal, L.*, "Analysis of a Novel 3D Hybrid Woven/Knitted Fabric Structure, Part II: Mechanical Model to Predict Modulus and Extension", Textile Research Journal, 74(10), 865-871, October 2004.
27. Onal, L.*, and Adanur, S.,, "Analysis of a Novel 3D Hybrid Woven/Knitted Fabric Structure, Part I: Geometric Model and Verification", Textile Research Journal, 74(9), 827-832, September 2004.
28. Adanur, S., and Turel, T.*, "Effects of Air and Yarn Characteristics in Air-Jet Filling Insertion, Part II: Yarn Velocity Measurements with a Profiled Reed", Textile Research Journal, 74(8), 657-661, August 2004.
29. Adanur, S., "Dynamic Analysis of Air-Jet Filling Insertion: Effect of Timing on Air and Yarn Velocity", Developments in Theoretical and Applied Mechanics, Eds. H. Mahfuz and M. V. Hosur, Vol. XXII, 2004, pp. 202-207.
30. Turel, T.*, Bakhtiyarov, S., and Adanur, S., "Effects of Air and Yarn Characteristics in Air-Jet Filling Insertion, Part I: Air Velocity and Air Pressure Measurements", Textile Research Journal, 74(7), 592-597, July 2004.
31. Adanur, S., Mcclain, A., and Xu, B.*, "A Novel Approach to Fast Net-Shape Manufacturing of Braided Epoxy Composites", Journal of Elastomers and Plastics, Vol. 35, No. 3, July 2003.
32. Adanur, S., and Arumugham, Y.*, "Characteristics of Ultraviolet Cured Glass/Epoxy Composites, Part 2: Results and Discussion", Journal of Industrial Textiles, Vol. 32, No. 2, October 2002, pp. 107-118.
33. Adanur, S., and Arumugham, Y.*, "Characteristics of Ultraviolet Cured Glass/Epoxy Textile Composites, Part 1: Experimental Procedures and Testing", Journal of Industrial Textiles, Vol. 32, No. 2, October 2002, pp. 93-106.
34. Onal, L.*, and Adanur, S., "Effect of Stacking Sequence on the Mechanical Properties of Glass/Carbon Hybrid Composites Before and After Impact", Journal of Industrial Textiles, Vol. 31, No. 4, April 2002, pp. 255-271.
35. Adanur, S., and Onal, L.*, "Factors Affecting the Mechanical Properties of Laminated Glass/Graphite-Epoxy Hybrid Composites", Journal of Industrial Textiles, Vol. 30, No. 3, January 2002.
36. Elton, D. J., Mohamed, T.*, and Adanur, S., "BubblePoint and AOS Testing of Geotextiles", Proceedings of the Geosynthetics Conference, 2001, Portland, Oregon, Feb. 12-14, 2001.
37. Yang*, B. (30%), Kozey, V. (30%), Adanur, S. (20%), and Kumar, S. (20%), "Bending, Compression and Shear Behavior of Woven Glass Fiber-Epoxy Composites", Composites: Part B: Engineering, 31 (2000), pp. 715-721.
38. Liao, T. (50%), and Adanur, S. (50%), "3D Structural Simulation of Tubular Braided Fabrics for Net-Shape Composites", Textile Research Journal, 70(4), pp. 297-303, April 2000.
39. Vickers, A. D. (30%), Beale, D. G. (40%), Wang, Y. T. (15%), and Adanur, S. (15%), "Analysis of Yarn-to-Surface Friction Via Data Acquisition and Digital Imaging Techniques", Textile Research Journal, 70(1), 36-43, January 2000.
40. Adanur, S. (50%), and Liao, T. (50%), "Fiber Arrangement Characteristics and Their Effects on Nonwoven Tensile Behavior", Textile Research Journal, 69(11), 816-824, Nov. 1999.

41. Bakhtiyarov, S. (50%), and Adanur, S. (50%), "Airflow over Wavy Yarn in Air-jet Filling Insertion", Mathematical & Computational Applications, Vol. 4, No. 1, pp. 1-7, 1999.
42. Adanur, S. (50%), and Bakhtiyarov, S. (50%), "Numerical Study of Collision Efficiency of Dust Particles", Mathematical & Computational Applications, Vol. 4, No. 1, pp. 297-303, 1999.
43. Liao, T. (50%), and Adanur, S. (50%), "Computerized Failure Analysis of Nonwoven Fabrics Based on Fiber Failure Criterion", Textile Research Journal, 69(7), 489-496, July 1999.
44. Zhang, Q. (30%), Beale, D. (50%) , Broughton, R. M. (10%), and Adanur, S. (10%), "Analysis of Circular Braiding Process, Part 2: Mechanics Analysis of the Circular Braiding Process and Experiment", ASME Journal of Manufacturing Science and Engineering, August 1999, Vol. 121, pp. 351-359.
45. Adanur, S. (50%), and Liao, T. (50%), "3D Modeling of Textile Composite Preforms", Composites, Part B: Engineering, 29B (1998), pp. 787-793.
46. Liao, T. (50%), and Adanur, S., (50%)"A Novel Approach to Three Dimensional Modeling of Interlaced Fabric Structures", Textile Research Journal, 68(11), November 1998, pp. 841-847.
47. Adanur, S. (60%), Hou, Z. (20%), and Broughton, R. M. (20%), "Recovery and Reuse of Waste PVC Coated Fabrics, Part 2: Analysis of the Components Separated from PVC Coated PET Fabrics", Journal of Coated Fabrics, Vol. 28, October 1998.
48. Adanur, S. (60%), Hou, Z. (20%), and Broughton, R. M. (20%), "Recovery and Reuse of Waste PVC Coated Fabrics, Part 1: Experimental Procedures and Separation of Fabric Components", Journal of Coated Fabrics, Vol. 28, July 1998, pp. 37-55.
49. Adanur, S. (50%), and Liao, T. (50%), "Computer Simulation of Mechanical Properties of Nonwoven Geotextiles in Soil-Fabric Interaction", Textile Research Journal, 68(3), March 1998, pp. 155-162.
50. Adanur, S. (80%), and Tewari, A.* (20%), "An Overview of Military Textiles", Indian Journal of Fibre & Textile Research (IJFTR), 22(4), December 1997, pp. 348-352.
51. Wang, S*. (50%), Adanur, S. (30%). and Jang, B. Z. (20%), " Mechanical and Thermo-Mechanical Failure Mechanism Analysis of Fiber/Filler Reinforced Phenolic Matrix Composites", Composites Part B, 28B, (1997), pp. 215-231.
52. Liao, T. (50%), Adanur, S. (40%), and Drean, J. (10%),"Predicting the Mechanical Properties of Nonwoven Geotextiles with the Finite Element Method", Textile Research Journal, Vol. 67, No. 10, October 1997, pp. 753-760.
53. Zhang*, Q.(25%), Beale, D. (30%), Adanur, S. (30%), Broughton, R. M. (10%), Walker, R. P. (5%), "Structural Analysis of Two Dimensional Braided Fabric", Journal of the Textile Institute, Vol. 88, Part 1, No. 1, 1997, pp. 41-52.
54. Adanur, S. (80%), and Tam, C. A* (20%)., "On-machine Interlocking of 3D Laminate Structures for Composites", Composites, Part B: Engineering, 28B, 1997, pp. 497-506.
55. Basu Mallick, S.* (50%), Elton (25%), D. J., and Adanur, S. (25%), "An Experimental Characterization of Soil-Woven Geotextile Interface in Large Box Pullout Tests", Geosynthetics, March 1997, pp. 927-940.
56. Adanur, S., (70%) and Bakhtiyarov, S., (30%), "Analysis of Air Flow in Single Nozzle Air-Jet Filling Insertion: Corrugated Channel Model", Textile Research Journal, 66(6), June 1996, pp. 401-406.
57. Mallick, S. B.* (30%), Zhai, H.* (30%), Adanur, S. (25%), and Elton, D. J. (15%), "Pullout and Direct Shear Testing of Geosynthetic Reinforcement: A State of the Art Report", Transportation Research Record, No. 1534,

Soils, Geology and Foundations, Transportation Research Board, National Research Council, National Academy Press, Washington, DC, 1996, pp. 80-90.

58. Zhai, H.* (30%), Basu Mallick, S.* (30%), Elton, D. (10%), and Adanur, S. (30%), "Performance Evaluation of Nonwoven Geotextiles in Soil-Fabric Interaction", Textile Research Journal, Vol. 66, No. 4, April 1996, pp. 269-276.
59. Adanur, S. (80%), and Allen*, B. (20%), "First Results on the Effects of ISO 9000 in the United States Textile Industry", Benchmarking for Quality Management and Technology, Vol. 2, No. 3, 1995, pp. 41-52.
60. Adanur, S. (70%), Tsao*, Y. P. (20%), and Tam*, C. W. (10%), "Improving Fracture Resistance of Laminar Textile Composites by Third Direction Reinforcement", Composites Engineering, Vol. 5, No. 9, 1995, pp. 1149-1158.
61. Adanur, S., "Effects of Fabric Structural Parameters on Fabric Modulus", Melliand Textilberichte, Vol. 76, No. 6, June 1995 (German/English), pp. E 106-108 (396-399).
62. Adanur, S., "Effects of Forming Fabric Structural Parameters on Sheet Properties", TAPPI Journal, Vol. 77, No. 10, October 1994, pp. 187-195. .
63. Adanur, S. (60 %), Walker, R. P. (10 %), Broughton, R. M. (10%), and Beale, D. (20%), "Weaving Technology - What Next?", Melliand Textilberichte, English/German, Vol. 75, No. 4, April 1994, pp. E 69-70 (267-272).
64. Adanur, S. (95 %), and Mohamed, M. H. (5 %), "Analysis of Yarn Motion in Single-nozzle Air-Jet Filling Insertion, Part II: Experimental Validation of the Theoretical Models and Statistical Analysis", Journal of the Textile Institute, Vol. 83, No. 1, 1992, pp. 56-68.
65. Adanur, S. (95 %), and Mohamed, M. H. (5 %), "Analysis of Yarn Motion in Single-nozzle Air-Jet Filling Insertion, Part I: Theoretical Models for Yarn Motion", Journal of the Textile Institute, Vol. 83, No. 1, 1992, pp. 45-55.
66. Adanur, S. (95 %), and Mohamed, M. H. (5 %), "Analysis of Yarn Tension in Air-Jet Filling Insertion", Textile Research Journal, Vol. 61, No. 5, May 1991, pp. 259-266.
67. Adanur, S. (95 %), and Mohamed, M.H. (5 %), "Analysis of Air Flow in Air-Jet Filling Insertion", Textile Research Journal, Vol. 61, No. 5, May 1991, pp. 253-258.
68. Adanur, S. (90 %), and Mohamed, M. H. (10 %), "Weft Insertion on Air-Jet Looms: Velocity Measurement and Influence of Yarn Structure, Part II: Effects of System Parameters and Yarn Structure", Journal of the Textile Institute, Vol. 79, No. 2, 1988, pp. 316-329.
69. Adanur, S. (90 %), and Mohamed, M. H. (10 %), "Weft Insertion on Air-Jet Looms: Velocity Measurement and Influence of Yarn Structure, Part I: Experimental System and Computer Interface", Journal of the Textile Institute, Vol. 79, No. 2, 1988, pp. 297-315.
70. Salama, M. (50 %), Adanur, S. (40 %), and Mohamed, M. H. (10 %), "Mechanics of a Single Nozzle Air-Jet Filling Insertion System, Part III: Yarn Insertion Through Tubes", Textile Research Journal, Vol. 57, No.1, January 1987, pp. 44-54.

Refereed Journal Articles Accepted

1. Broughton, R. M. (25%), Bakhtiyarov, S. I. (25%), Brady, P. (25%), and Adanur, S. (25%), "Design Considerations of Nonwoven Fabrics for Air Filtration", Textile Research Journal (accepted, needs modification), 18 pages.

Refereed Journal Articles Submitted

1. Liu, W., and Adanur, S., Mechanism Analysis and Model Development of Sulfur Dioxide Removal with KMnO4 Modified Activated Carbon Fibers – Part II Adsorption in the Presence of Water, submitted to Carbon, 30 August 2013, 11 pages.
2. Liu, W., and Adanur, S., Mechanism Analysis and Model Development of Sulfur Dioxide Removal with KMnO4 Modified Activated Carbon Fibers – Part I Adsorption in the Absence of Water, submitted to Carbon, 29 August 2013, 23 pages.
3. Shen, Y., Meir, A. J., Cao, Y., and Adanur, S., "Finite Element Analysis of Monofilament Woven Fabrics under Uniaxial Tension", submitted to the Journal of the Textile Institute, 19 August 2013, 14 pages.
4. Adanur, S., Gumusel, L., Bas, H., and Aglan, H., "Improvement of 3D Composite Preform Manufacturing", submitted to Reinforced Plastics and Composites, June 16, 2010.
5. Gocek, I., and Adanur, S., "Effect of Processing Parameters on Polypropylene Film Properties", submitted to Textile Research Journal, 3 Nov. 2009, 28 pages.
6. Guarin, R., Liu, W., and Adanur, S., "Mechanical and thermal characterization of electrospun polyacrylonitrile/montmorillonite nanocomposites", submitted to Polymer Engineering & Science, 25 June 2009.
7. Yee, S., Liu, W., and Adanur, S., "Properties of Electrospun PVA/nanoclay Composites", submitted to Journal of Engineered Fibers and Fabrics (JEFF), Feb. 11, 2009, 11 pages.

Refereed Journal Articles under Preparation

1. Irsale, S., and Adanur, S., "Blood Flow Characterization of Polymeric Textile Stents", submitted to the Journal of Industrial Textiles, 1 August 2006, 17 pages (reviewer comments have been received).
2. Adanur, S., and Irsale, S., "Modeling Polymeric Textile Stents: Predicting Young's Modulus and Compression Force", submitted to the Journal of Industrial Textiles, 1 August 2006, 23 pages (reviewer comments have been received).
3. Adanur, S. , "Impact Absorbing Characteristics of Fabrics as Vehicle Covers Against Hail Storms", submitted to Textile Research Journal, 24 pages. Will include more experimental results to support the theory developed in the paper.

Invited Feature Articles

1. Interviewed by Turkish daily Hurriyet during the Fiber Society Conference in Bursa, Turkey (May 2010) which was published on-line entitled "Tekstil Nanoteknoloji ile gelisecek: Textiles will be improved with nanotechnology", : http://www.hurriyet.com.tr./teknoloji/14712535.asp (accessed 6/16/2010).
2. Adanur, S., "American Textile Machinery Exhibition-International (ATME-I) 2004 Review", Tekstil Teknoloji-International Textile Technology Magazine (Turkish/English), October 2004, pp. 68-71.
3. Adanur, S., "Weaving: What Next?", Weaver's Digest, No. 2, September 2003.
4. Adanur, S., "Beyond 2000: Weaving Prep., Weaving Speeds Up", America's Textile Industries (ATI), pp. 62-68, May 2000.
5. Adanur, S. (50%), and Xu, B. (50%), "Characteristics of Microwave-Cured Braided Glass/Epoxy Composites", Composites in Manufacturing, Published by the Composites Manufacturing Association of the Society of Manufacturing Engineers, Third Quarter 1998, Vol. 14, No. 3.
6. Adanur, S., "Fabric That Moves", Industrial Fabric Products Review, IFAI, April 1997, pp. 46-49.

Conference Proceedings

1. *Adanur, S.*, and Liu, W, "Desulfurization Properties of Activated Carbon Fibers in Dry Conditions", Proceedings of the International Istanbul Textile Congress 2013, New Materials, May 30-31, 2013, Istanbul, Turkey.
2. Adanur, S., "A Novel Braided Structure to Increase Compression and Torsion Resistance of Composites", Proceedings of the 5th International R&D Project Brokerage Event, Bursa, Turkey, 4-5 April, 2013.
3. Adanur, S., "Prevention of PEM Fuel Cell Poisoning via Adsorption using Activated Carbon Fiber Based Cathode Filters", Proceedings of the 5th International R&D Project Brokerage Event, Bursa, Turkey, 4-5 April, 2013.
4. Adanur, S., "Health and Safety Effects of Nanoparticles Embedded in Textile Materials", Proceedings of the 5th International R&D Project Brokerage Event, Bursa, Turkey, 4-5 April, 2013.
5. Selver, E., and Adanur, S., Properties of Nanoclay Added Composite Polypropylene Monofilaments Using Twin and Single Screw Extruders, Fiber Society International Symposium on New Frontiers in Fiber Materials Science, Oct. 11-13, 2011, Charleston, SC.
6. Adanur, S., A Novel Filling Insertion System for Weaving, The 3rd International R&D Project Brokerage Event, Bursa, Turkey, Feb. 10-11, 2011.
7. Adanur, S., Conceptual Design and Characterization of 3D Interlaced Fibrous Structures, The 3rd International R&D Project Brokerage Event, Bursa, Turkey, Feb. 10-11, 2011.
8. Zheng, H., and Adanur, S., "Synthesis and Characterization of Sulfonated Polyimide Based Membrane for Proton Exchange Membrane Fuel Cell Applications", Alabama Composites Conference, Aug. 24-26, 2010, Birmingham, AL (presented as poster as well).
9. Liu, W., and Adanur, S., "Activated Carbon Fiber Filter Media in Proton Exchange Membrane Fuel Cells for Automotives", Techtextil North America Symposium, May 18-20, 2010, Georgia World Congress Center, Atlanta, GA.
10. Adanur, S., and Selver, E., "Processing and Properties of nanoclay reinforced polypropylene monofilaments", The 4th International Technical Textiles Congress Proceedings, 16-18 May, 2010, Istanbul, Turkey.
11. Liu, W., and Adanur, S., "Application of Activated Carbon Fibers in Fuel Cell Cathode Filter Media", The Fiber Society 2009 Spring Conference: International Conference on Fibrous Materials 2009, Shanghai, China, May 27-29, 2009.
12. Adanur, S., "Nanotechnologies are Coming Your Way", Industrial Fabrics Association International (IFAI) Expo '08, October 21-23, 2008, Charlotte, NC.
13. Adanur, S., and Irsale, S., "Textile Stent Prototyping and Modeling", Proceedings of the IFAI Expo 2006 Medical Textiles Symposium, Atlanta, Oct. 31, 2006.
14. Adanur, S., Isikel, L., and Abdelhady, F., "Coated and Laminated Fabrics for Fuel Cells", Proceedings of the TechTextil Symposium North America, March 28-30, 2006, Atlanta, GA.
15. Ascioglu, B., and Adanur, S., "Heat Transfer Behavior of Particle Reinforced Nanofibers", Developments in Theoretical and Applied Mechanics, Eds. H. Mahfuz and M. V. Hosur, Proceedings of the SECTAM XXII, 22nd Southeastern Conference on Theoretical and Applied Mechanics, August 15-17, 2004, Tuskegee, AL.
16. Irsale, S., and Adanur, S., "Compression Force Modeling of Braided Textile Stents", Developments in Theoretical and Applied Mechanics, Eds. H. Mahfuz and M. V. Hosur, Proceedings of the SECTAM XXII, 22nd Southeastern Conference on Theoretical and Applied Mechanics, August 15-17, 2004, Tuskegee, AL.
17. Adanur, S., and Ascioglu, B., "Processing Characterization of PVA Nanofibers in Electrospinning", Proceedings of the ICCE-11, 11th Annual International Conference on Composites/Nano Engineering, Ed. D. Hui, August 8-14, 2004, Hilton Head, SC.

18. Ascioglu, B., and Adanur, S., "Modeling of Thermal Conductivity in Nanofiber Composites", Proceedings of the ICCE-11, 11th Annual International Conference on Composites/Nano Engineering, Ed. D. Hui, August 8-14, 2004, Hilton Head, SC.
19. Irsale, S., and Adanur, S., "Monofilament Yarns in Braided Vascular Prosthesis", Proceedings of the TechTextil Symposium North America, March 30-April 1, 2004.
20. Ascioglu, B., Adanur, S., Patra, P. K., Inan, G., Kim, Y., and Warner, S., "Heat Transfer Modeling in Nanofiber Reinforced Composites", Proceedings of the ICCE-10, New Orleans, July 20-26, 2003.
21. Onal, L., and Adanur, S., "A Novel 3D Structure, 3D Hybrid Woven/Knitted Fabric", Proceedings of the The Fiber Society 2003 Spring Symposium, "Advanced Flexible Materials and Structures: Engineering with Fibers", June 30-July 2, 2003, Loughborough, England.
22. Adanur, S., and Onal, L., "Design Characterization of a Novel 3D Hybrid Knitted/Woven Fibrous Structure for Composites", Proceedings of the 2003 NSF Design, Service and Manufacturing Grantees and Research Conference, January 6-9, 2003, Birmingham, AL.
23. Adanur, S., Bakhtiyarov, S., and Turel, T., "Dynamic Analysis of Air Flow in Air-jet Filling Insertion, Part II: Air Velocity Measurements", Proceedings of IMECE 2002 ASME International Mechanical Engineering Congress & Exposition, Nov. 17-22, 2002, New Orleans.
24. Bakhtiyarov, S., Adanur, S., and Turel, T., "Dynamic Analysis of Air Flow in Air-jet Filling Insertion, Part I: Air Pressure Measurements", Proceedings of IMECE 2002 ASME International Mechanical Engineering Congress & Exposition, Nov. 17-22, 2002, New Orleans.
25. Adanur, S., and Onal, L., "Experimental Analysis of Textile Composites", Proceedings of the TechTextil North America Symposium, 2002, Atlanta, GA.
26. Elton, D. J., Howie, D. L., and Adanur, S., "Bubblepoint Testing of Nonwoven Geotextiles", Proceedings of the 37th Symposium on Engineering Geology and Geotechnical Engineering", 2002.
27. Onal, L., and Adanur, S., "Effect of Fiber Content and Stacking Sequence on Low Velocity Impact Behavior of Glass/Carbon Hybrid Epoxy Composites", ICCE/8, Proceedings of the Eighth Annual International Conference on Compsites Engineering, August 5-11, 2001, Tenerife, Spain.
28. Adanur, S., and Onal, L., "Effects of Production Variables on Stress-Strain Behavior of Glass/Epoxy Textile Composites in Compression Molding", Proceedings of the American Society of Mechanical Engineers (ASME), Aerospace Division, AD-Vol. 63, pp. 43-49, Nov. 2000.
29. Adanur, S., and Onal, L., "Impact Failure Analysis of Glass/Epoxy Textile Composites" in Dynamic Failure in Composite Materials and Structures, Proceedings of American Society of Mechanical Engineers (ASME), AMD-Vol. 243, pp. 105-114, Nov. 2000.
30. Adanur, S., Xu, B., and Orak, H., "Braided Composite Automotive Chassis Frame", Proceedings of the ICCE/7 Seventh International Conference on Composites Engineering, July 2-8, 2000, Denver, CO, p. 5.
31. Elton, D. J., and Adanur, S., "Varying Pore Sizes in Hydroentangled Geotextiles", Proceedings of the Techtextil North America International Trade Fair for Technical Textiles and Nonwovens, Vol. 3, March 22-24, 2000, Atlanta, GA.
32. Adanur, S. (50%), and Xu, B. (50%), "Design and Manufacturing Automotive Chassis Frame with Net Shape Braided Composite Structures", Proceedings of the 2000 NSF Design and Manufacturing Research Conference, January 3-6, 2000, Vancouver, British Columbia, Canada.
33. Hou, Z.* (50%), and Adanur, S. (50%), "Direct Use of Waste PVC Coated Fabrics to Reinforce Composites", Proceedings of the 1999 International Mechanical Engineering Congress & Exposition, 99-IMECE/TEX-5, November 14-19, 99, Nashville, Tennessee.
34. Adanur, S. (50%), and Xu, B.*, (50%), "Process Development of Microwave Preheating and Infrared Post Curing of Braided Polymer/Epoxy Composites", Proceedings of the 1999 National Science Foundation (NSF) Design and Manufacturing Grantees Conference, January 5-8, 1999, Long Beach, CA.

35. Adanur, S., (50%) and Xu, B.*, (50%), "Influence of Microwave Fast-Preheating on Epoxy Resin Chemorheology Properties", American Society of Mechanical Engineers (ASME) Congress, Textile Engineering Division, November 1998, Anaheim, CA.
36. Adanur, S. (50%), and Liao, T. (50%), "3D Modeling of Textile Composite Preforms", Proceedings of the ICCE/5 Fifth International Conference on Composites Engineering, July 5-11, 1998, Las Vegas, NV.
37. Adanur, S. (50%), and Xu, B.* (50%), "Impact Resistance of Microwave Cured Glass/Epoxy Composites", Proceedings of the Second International Conference on Composite Science and Technology, ICCST/2, June 9-11, 1998, Durban, South Africa.
38. Mallick, S. B*. (50%), Elton, D. J. (25%), and Adanur, S. (25%), "A New Approach in Modeling of Soil-Geotextile Interface Behavior in Pullout Tests", Proceedings of the Sixth International Conference on Geosynthetics, March 25-29, 1998, Atlanta, GA.
39. Adanur, S.(50%), and Xu, B.* (50%), "Fast, Net Shape Manufacturing of Textile Composites", Proceedings of the Design and Manufacturing Grantees Conference, National Science Foundation, Monterrey, Mexico, January 1998.
40. Adanur, S. (50%), Hou, Z. * (50%), "Recycling and Reuse of PVC Coated Polyester Fabric", TCL7, Proceedings of the 7th International Conference on Textile Coating and Laminating, Charlotte, NC, November 1997.
41. Adanur, S. (50%), and Xu, B.* (50%), "Characteristics of Microwave-Cured Braided Glass/Epoxy Composites", Proceedings of the Composites at Lake Louise, CALL '97, Lake Louise, Canada, October 1997.
42. Adanur, S. (50%), Arumugam, Y. S.* (5%), and Xu, B.* (45%), "Fast Net Shape Manufacturing of Braided Textile Composite Structures", Proceedings of the Fourth International Conference on Composites Engineering (ICCE/4), Hawaii, July 1997.
43. Adanur, S. (50%), and Sreekanthreddy, G.* (50%), "Compression Behavior of 3D Reinforced Glass/Epoxy Laminar Composite Profiles", ICAPC-97, Proceedings of the International Conference on Advanced Polymer Composites, Materials, Processing and Applications, Beijing University of Aeronautics and Astronautics, Beijing, China, June 1997.
44. Basu Mallick, S.* (40%), Elton, D. J. (30%), and Adanur, S. (30%), "An Experimental Characterization of Soil-Woven Geotextile Interface in Large Box Pullout Tests", Proceedings of the Geosynthetics '97, Long Beach, CA, March 1997, pp. 927-940.
45. Adanur, S., "Manufacturing of Industrial Textiles", 10 pages, Proceedings of the NSF sponsored Symposium, December 1996, Alexandria, Egypt.
46. Adanur, S. (40%), Mallick, S.*(30%) , and Zhai, H.*(30%), "Analysis of Geotextile-Soil Interaction in Pull-Out Tests", Proceedings of the IS Kyushu '96, International Symposium on Earth Reinforcement, Fukuoka, Japan, November 1996.
47. Warren, A.* (50%), El-Halwagi, M. (25%) and Adanur, S. (25%), "Design of a New Process for Converting Textile Solid Waste into Transportation Fuel", Proceedings of the First Trabzon International Energy and Environment Symposium, Karadeniz Technical University, Trabzon, Turkey, July 1996.
48. Adanur, S. (50%), and Gongalareddy, S.*(50%), "Compressive Properties of Stitched Woven Fiberglass Fabric Reinforced Composite Sections for Civil Engineering Applications", ICCE/3, Proceedings of the Third International Conference on Composites Engineering, New Orleans, LA, July 1996.
49. Adanur, S., (80%) and Tam, C. A*. (20%), "On-machine Stitching of 3-D Laminate Structures for Composites", Proceedings of the 2nd International Conference on Composites Engineering (ICCE/2), New Orleans, LA, August 1995.
50. Wang, S.* (40%), Adanur, S. (40%) and Jang, B. Z. (20%), "Thermo-Mechanical Behavior of Fiber/Filler Reinforced Phenolic Matrix Composites", Proceedings of the 2nd International Conference on Composites Engineering (ICCE/2), New Orleans, LA, August 1995.

51. Wang, S.* (40%), Adanur, S (40%). and Jang, B. Z. (20%), "Mechanical Behavior of Fiber/Filler Reinforced Phenolic Matrix Composites", Proceedings of the 2nd International Conference on Composites Engineering (ICCE/2), New Orleans, LA, August 1995.
52. Adanur, S. (50%), Mallick, S. B.* (25%), and Zhai, H.* (25%), "Design and Characterization of Geotextiles for High Performance Applications", Proceedings of the Hi-Tech Textiles Exhibition and Conference, Textile World and INDA, Greenville, SC, July 1995.
53. Mallick, S. B.* (40%), and Zhai, H.* (40%), "A Laboratory Study on Pull-out Performance of Woven Geotextiles", Geosynthetics '95 Conference Proceedings, Nashville, TN, February 1995. This student paper, directed by Dr. Adanur (10%) and Dr. Elton (10%), was one of the 6 papers accepted for the conference.
54. Adanur, S. (60%), and Tsao, Y. P.* (40%), "Stitch Bonded Textile Structural Composites", SAMPE, Proceedings of the 26th International Technical Conference, Atlanta, GA, October 94.
55. Kozey, K.* (40%), Kumar, S. (20%), (Ga Tech), Adanur, S. (20%), and Mohamed, M. H. (20%), (NC State), "Compressive Failure Mechanisms in Woven and Laminate Glass/Epoxy Composites", SAMPE, Proceedings of the 26th International Technical Conference, Atlanta, GA, October 94.
56. Adanur, S. (60%), Tsao, Y. P.* (20%), and Tam, C. W.* (20%), "Improving Fracture Resistance in Laminar Textile Composites", Proceedings of International Conference on Composite Engineering, ICCE/1, New Orleans, LA, August 1994.
57. Adanur, S., "Design and Structure of Fabrics for Papermaking", 3rd Annual International Hi-Tech Textiles Conference, Textile World and INDA, Greenville, SC, June 1994.
58. Adanur, S., (50%) and Walker, R. P. (50%), "Yarn Preparation for Weaving in the Future", Proceedings of the 33rd Annual Textile Slashing Short Course, Auburn University, AL, September 1993.
59. Adanur, S., "Effects of Forming Fabric Design on Paper Properties", Second International Hi-Tech Textiles Exhibition and Conference Proceedings, Greenville, SC, July 1993.

Non-refereed Journal Articles

1. O'Dell, H., "Narrow Fabrics in Broad Use", Industrial Fabrics Products Review, Nov. 2007, pp. 48-51 (Adanur was interviewed and quoted in this article).
2. "Your Firm Has ISO Certification: What Comes Next?", This editorial paper was published based on our article: Allen, B*. (50%), and Adanur, S.(50%), "ISO 9000: First Results After Implementation", Textile World, August 1994.
3. Adanur, S., "Forming Fabrics in Papermaking", Textile and Technique, Turkish/English, August 1994, pp. 115-118.
4. Adanur, S., "Latest Developments in Weaving Machinery at ATME-I 93 Show", Textiles and Technique, Turkish/English, September 1993 (in Turkish).

Tech Briefs:

1. Bakhtiyarov, S., Overfelt, R. A., and Adanur, S., "Improvements in Fabrication of Sand/Binder Cores for Casting", NASA Tech Briefs, July 2005.
2. "US-Turkey Cooperative Research", AL EPSCoR, 2004 Annual Report to the AL Commission on Higher Education, 10 Dec. 2004, pp. 18-19.
3. A summary report was submitted to Ms. Jennifer Braxton, Economic Development Analyst with the Economic Development Partnership of Alabama, Birmingham, entitled "Fiberglass Composite Research", Sept. 3, 2004, 4 pages.

4. Bakhtiyarov, S., Overfelt, R. A., and Adanur, S., "Improvements in Fabrication of Sand/Binder Cores for Casting", NASA Tech Brief, April 9, 2002.

4.B.3 Technical Presentations Made (presenter's name is in *Italic*)

1. *LaBombard, K.*, and Adanur, S., "Manufacturing of Nanofibrous Structures Through Electrospinning", Fiber Society Fall Conference, Nov. 9-10, 2017, Athens, GA.
2. Shen, Y., Broughton, R., Beale, D., Foster, W., Branscomb, D., and *Adanur, S.*, "Failure Analysis of Open-Architecture Composite Structures Under Compression", The Fiber Society 2015 Fall Meeting and Technical Conference, October 28-30, 2015, College of Textiles, North Carolina State University, Raleigh, NC.
3. Shen, Y., Sangars, U., Adanur, S., Broughton, R., *Beale, D.*, and Foster, B., "Failure Analysis of Micro-joints in Open-architecture Composite Structures (O-ACS)", TEXCOMP-12, 12th International Conference on Textile Composites, NC State University, College of Textiles, Raleigh, NC, USA, May 26-29, 2015.
4. *Shen, Y.*, Adanur, S., Broughton, R., Beale, D., and Foster, B., "Buckling Analysis of Open-Architecture Composite Structures (O-ACS)", This is Research: Student Symposium 2015, Auburn University, 13 April 2015.
5. *Adanur, S.*, "Application of Fluid Dynamics in PFEN", presentation given to AU Fluid Dynamics Working Group, 5 March 2015, Auburn, AL (Fluid Dynamics Working Group was established as a result of the SGCOE Interdisciplinary Faculty Research Colloquium).
6. *Shen, Y.*, and Adanur, S., "Modeling of tensile properties of multi-layer fabrics by multi-scale finite element method", Auburn University Graduate Scholar Forum, 5 March 2014.
7. *Shen, Y.*, and Adanur, S., "A Biaxial Braiding Tubular Structure Based on Helical Auxetic Yarns", The Fiber Society International Symposium on Fibers Interfacing the World, Oct. 23-25, 2013, Clemson, SC.
8. *Adanur, S.*, and Liu, W, "Desulfurization Properties of Activated Carbon Fibers in Dry Conditions", International Istanbul Textile Congress 2013, New Materials, May 30-31, 2013, Istanbul, Turkey.
9. *Shen, Y.*, Adanur, S., Meir, A. and Cao, Y., "Finite Element Analysis of Uniaxial Tension of Polyester Monofilament Woven Fabric", Auburn Research Week, 3 April 2013.
10. *Adanur, S.*, and Broughton, R., "Recovery and Reuse of Waste PVC Coated PET Fabrics", The 4rd International R&D Project Brokerage Event, Bursa, Turkey, Feb. 2-3, 2012 (presented as poster as well).
11. *Adanur, S.*, "PVA Nanofiber Based Membrane for Proton Exchange Membrane Fuel Cells", The 4rd International R&D Project Brokerage Event, Bursa, Turkey, Feb. 2-3, 2012 (presented as poster as well).
12. Selver, E., and *Adanur, S.*, Properties of Nanoclay Added Composite Polypropylene Monofilaments Using Twin and Single Screw Extruders, Fiber Society International Symposium on New Frontiers in Fiber Materials Science, Oct. 11-13, 2011, Charleston, SC.
13. *Adanur, S.*, A Novel Filling Insertion System for Weaving, The 3rd International R&D Project Brokerage Event, Bursa, Turkey, Feb. 10-11, 2011.
14. *Adanur, S.*, Conceptual Design and Characterization of 3D Interlaced Fibrous Structures, The 3rd International R&D Project Brokerage Event, Bursa, Turkey, Feb. 10-11, 2011.
15. Zheng, H., and *Adanur, S.*, "Synthesis and Characterization of Sulfonated Polyimide Based Membrane for Proton Exchange Membrane Fuel Cell Applications", Alabama Composites Conference, Aug. 24-26, 2010, Birmingham, AL (presented as poster as well).
16. Liu, W., and *Adanur, S.*, "Activated Carbon Fiber Filter Media in Proton Exchange Membrane Fuel Cells for Automotives", Techtextil North America Symposium, May 18-20, 2010, Georgia World Congress Center, Atlanta, GA.
17. *Adanur, S.*, and Selver, E., "Processing and Properties of nanoclay reinforced polypropylene monofilaments", The 4th International Technical Textiles Congress, 16-18 May, 2010, Istanbul, Turkey.
18. *Adanur, S.*, and Gocek, I., "Nanoclay and Compatibilizer Effects on Polypropylene Cast Film Processing and Properties", Fiber Society Spring 2010 International Conference, May 12-14, 2010, Bursa, Turkey.

19. Keskin, R., and *Adanur, S.*, "Improving Toughness of Polypropylene Injection Molded Parts with Thermoplastic Elastomer Materials", The Fiber Society 2009 Fall Meeting and Technical Conference, The University of Georgia, Athens, GA, Oct. 28-30, 2009.
20. *Gocek, I.*, and Adanur, S., "Effect of Processing Parameters on Polypropylene Film Properties", The Fiber Society 2009 Fall Meeting and Technical Conference, The University of Georgia, Athens, GA, Oct. 28-30, 2009.
21. *Selver, E.*, and Adanur, S., "Processing and Property Relationship of Nanoclay Reinforced Polypropylene Monofilaments", The Fiber Society 2009 Fall Meeting and Technical Conference, The University of Georgia, Athens, GA, Oct. 28-30, 2009.
22. *Liu, W.*, and Adanur, S., "Application of Activated Carbon Fibers in Fuel Cell Cathode Filter Media", The Fiber Society 2009 Spring Conference: International Conference on Fibrous Materials 2009, Shanghai, China, May 27-29, 2009.
23. *Adanur, S.*, Nanotechnology Applications in Textiles, The 6th Textile Congress, Suleyman Demirel University, Isparta, Turkey, May 1-3, 2009.
24. *Liu, W.*, and Adanur, S., "Activated carbon fiber filter media for PEM fuel cell cathode", AU Annual Research Forum, 10 March 2009.
25. *Adanur, S.*, "Nanotechnologies are Coming Your Way", Industrial Fabrics Association International (IFAI) Expo '08, October 21-23, 2008, Charlotte, NC (invited presentation).
26. *Adanur, S.*, and Isikel, L., "Manufacturing of Carbon Nonwoven Gas Diffusion Layers with Wet-Laying Process", Techtextil North America Symposium, April 1-3, 2008, Atlanta, GA.
27. *Adanur, S.*, Gumusel., L. and Bas, H., "A Novel 3D Woven-Knit Hybrid Fabric for Composites", Techtextil North America Symposium, April 1-3, 2008, Atlanta, GA.
28. *Adanur, S.*, and Isikel, L., "Nonwoven Fabrics for Gas Diffusion Layers in Polymer Electrolyte Membrane Fuel Cells", Conference on Structural Composites Applications in Defense, Infrastructure, Transportation, Corrosion-Prevention and Power Industry, March 4-6, 2008, Birmingham, AL.
29. *Auad, M. L.* , Mosiewicki, M. A., Richarson, T., Adanur, S., Aranguren, M. I. , Marcovich, N. E., Medeiros, E. S., and Mattoso, L. H. C., "Shape Memory Polyurethanes Reinforced with Electrically Conductive Cellulose Crystals" , COMAT 2007, December, 2007, Brazil.
30. *Ascioglu, B.*, and Adanur, S., "Nanofiber Coating and Nanofiber Based Continuous Yarn Manufacturing" (including proceedings), 2nd Textile Technology and Textile Machinery Congress, 19-20 October, 2007, Gaziantep, Turkey.
31. *Adanur, S.*, "Innovation in Textiles, Nanotechnology Practices and Technical Textiles", 1st International Textile and Apparel Summit, June 2-3, 2007, Denizli, Turkey.
32. *Adanur, S.*, and Isikel, L., "Design and Characterization of Nonwoven Fabrics for Gas Diffusion Layer in Polymer Electrolyte Membrane Fuel Cells", May 23, 20007, Karadeniz Technical University, Trabzon, Turkey.
33. *Ascioglu, B.*, and Adanur, S., "Hexagonal Unit Cell Model for Thermal Conductivity of Nano-Micro Fiber Composites", ULIBTK '07, The 16th Heat Transfer Congress, May 30- June 2, 2007, Erciyes University, Kayseri, Turkey.
34. *Isikel, L.*, and Adanur, S., "Manufacturing of Gas Diffusion Layers for Polymer Electrolyte Membrane Fuel Cell", Auburn University 17th Annual GSC Research Forum, 7 March 2007, Foy Union, AU.
35. *Adanur, S.*, and Irsale, S., "Textile Stent Prototyping and Modeling", IFAI Expo 2006 Medical Textiles Symposium, Atlanta, Oct. 31, 2006.
36. *Adanur, S.*, "Wide World of Industrial Textiles", presentation given to the teachers of the Istanbul Textile Vocational School, June 22, 2006, Istanbul, Turkey.
37. *Adanur, S.*, "Dynamics of Air-Jet Weaving", The First Istanbul International Textile and Textile Machinery Congress, June 1-2, 2006, Istanbul, Turkey.

38. *Adanur, S.*, Aglan, H., Gumusel, L., and Bas, H., "Textile Machinery and Processes for Composite Preform Manufacturing", The First Istanbul International Textile and Textile Machinery Congress, June 1-2, 2006, Istanbul, Turkey.
39. *Adanur, S.*, Isikel, L., and Abdelhady, F., "Coated and Laminated Fabrics for Fuel Cells", TechTextil Symposium North America, March 28-30, 2006, Atlanta, GA.
40. *Adanur, S.*, Schwartz, P., Broughton, R., S., Thomas, H., Byrne, M., and Hong, J. W., "Novel Polymeric Materials and Structures for Biomedical/Health Applications", presentation given to the AU internal committee for NSF Major Research Instrumentation (MRI) Program, 9 Dec. 2005.
41. *Adanur, S.*, "Application of Industrial Textiles", Seminar given to ITAS 8960 Class, 8 Sept. 2005.
42. *Adanur, S.*, "High Tech Textiles", Bossa, Adana, Turkey, 18 July 2005.
43. *Adanur, S.*, "Coated and Laminated Fabrics for Fuel Cells", 2nd International Technical Textiles Congress, Istanbul, Turkey, 13-15 July 2005.
44. *Adanur, S.*, and Ascioglu, B., "Challenges and Opportunities in Nano Fiber Manufacturing and Applications", 2nd International Technical Textiles Congress, Istanbul, Turkey, 13-15 July 2005.
45. *Adanur, S.*, "Higher Education in the U.S", Suleyman Demirel University, Isparta, Turkey, 8 July 2005.
46. *Adanur, S.*, "High Tech Textiles", Suleyman Demirel University, Isparta, Turkey, 8 July 2005.
47. *Adanur, S.*, "High Tech Textiles", Denizli Chamber of Commerce, Turkey, 7 July 2005.
48. *Adanur, S.*, "High Tech Textiles", Pamukkale University, Denizli, Turkey, 6 July 2005.
49. *Adanur, S.*, "Higher Education in the U.S", Karadeniz Technical University, Trabzon, Turkey, 30 June 2005.
50. *Irsale, S.*, and Adanur, S., "Exporing Textile Stents: Prototyping and Modeling", Fiber Society Spring 2005 Conference, May 25-27, 2005, St. Gallen, Switzerland.
51. *Adanur, S.*, "High Performance and Nano Fibers", Twtichell Corporation, Dothan, AL, Sept. 2, 2004.
52. *Adanur, S.*, "Dynamic Analysis of Air-Jet Filling Insertion: Effect of Timing on Air and Yarn Velocity", SECTAM XXII, 22nd Southeastern Conference on Theoretical and Applied Mechanics, August 15-17, 2004, Tuskegee, AL.
53. *Ascioglu, B.*, and Adanur, S., "Heat Transfer Behavior of Particle Reinforced Nanofibers", SECTAM XXII, 22nd Southeastern Conference on Theoretical and Applied Mechanics, August 15-17, 2004, Tuskegee, AL.
54. *Irsale, S.*, and Adanur, S., "Compression Force Modeling of Braided Textile Stents", SECTAM XXII, 22nd Southeastern Conference on Theoretical and Applied Mechanics, August 15-17, 2004, Tuskegee, AL.
55. *Ascioglu, B.*, and Adanur, S., "Modeling of Thermal Conductivity in Nanofiber Composites", ICCE-11, 11th Annual International Conference on Composites/Nano Engineering, Hilton Head, SC, August 8-14, 2004.
56. *Adanur, S.*, and Ascioglu, B., "Processing Characterization of PVA Nanofibers in Electrospinning", ICCE-11, 11th Annual International Conference on Composites/Nano Engineering, Hilton Head, SC, August 8-14, 2004.
57. *Adanur, S.*, "Geotextiles", Unsa, Inc., Istanbul, Turkey, July 19, 2004.
58. *Adanur, S.*, and Vakalapudi, J. S., "Fabric Design and Analysis System in 3D Virtual Reality", The 2nd International Istanbul Textile Congress, April 22-24, 2004, Istanbul, Turkey.
59. *Irsale, S.*, and Adanur, S., "Monofilament Yarns in Braided Vascular Prostheses", TechTextil Symposium North America, Atlanta, GA, March 30-April 1, 2004.
60. *Ascioglu, B.*, Adanur, S., Patra, P. K., Inan, G., Kim, Y., and Warner, S., "Heat Transfer Modeling in Nanofiber Reinforced Composites", ICCE-10, New Orleans, July 20-26, 2003.
61. *Inan, G.*, Patra, P. K., Warner, S. B., Kim, Y. K., Ascioglu, B., and Adanur, S., "In-Situ Polymerized Flame Retardant Nanocomposites", ICCE-10, New Orleans, July 20-26, 2003.

62. *Onal, L.*, and Adanur, S., "A Novel 3D Structure, 3D Hybrid Woven/Knitted Fabric", Proceedings of the The Fiber Society 2003 Spring Symposium, "Advanced Flexible Materials and Structures: Engineering with Fibers", June 30-July 2, 2003, Loughborough, England .
63. *Adanur, S.*, "Wide World of Industrial Textiles", June 19, 2003, Marmara University, Istanbul, Turkey,
64. *Sathendra, V.*, and Adanur, S., "Fabric Design and Analysis System in 3D Virtual Reality", Auburn University Annual Research Forum, Auburn, AL, 20 March 2003.
65. *Adanur, S.*, "Wide World of Industrial Textiles", Dong Hua University, Shanghai, China, 26 Sept. 2002.
66. *Adanur, S.*, and Onal, L., "Experimental Analysis of Textile Composites", TechTextil North America Symposium, Atlanta, GA. April 9-11, 2002, April 9-11, 2002.
67. *Elton, D. J.*, Howie, D. L., and Adanur, S., "Bubblepoint Testing of Nonwoven Geotextiles", 37th Symposium on Engineering Geology and Geotechnical Engineering, Boise, Idaho, March 27-29, 2002.
68. *Adanur, S.*, and Turel, T., "Mechanics of Air-Jet Filling Insertion", 2001 ASME International Mechanical Engineering Congress & Exposition, New York, NY, Nov. 14, 2001.
69. *Adanur, S.*,, "Role of Technical Fabrics in Papermaking: An Overview", Techtextil Symposium North America, March 13-15, 2001, Atlanta, Georgia.
70. *Adanur, S.*, and Onal, L., "Effects of Production Variables on Stress-Strain Behavior of Glass/Epoxy Textile Composites in Compression Molding", The 2000 American Society of Mechanical Engineers (ASME) Congress & Exposition, Orlando, FL, Nov. 5-10, 2000.
71. *Adanur, S.*, and Onal, L., "Impact Failure Analysis of Glass/Epoxy Textile Composites", The 2000 American Society of Mechanical Engineers (ASME) Congress & Exposition, Orlando, FL, Nov. 5-10, 2000.
72. *Adanur, S.*, and Orak, H., "Textile Composites", DOE/TACOM Army 21st Century Truck Program, Auburn University, Auburn, Al. 3 August, 2000.
73. *Adanur, S.*, Xu, B., and Orak, H., "Braided Composite Automotive Chassis Frame", ICCE/7 Seventh International Conference on Composites Engineering, July 2-8, 2000, Denver, CO.
74. *Elton, D. J.*, and Adanur, S., "Varying Pore Sizes in Hydroentangled Geotextiles", Techtextil North America International Trade Fair for Technical Textiles and Nonwovens", March 22-24, 2000, Atlanta, GA.
75. *Adanur, S.*, Bakhtiyarov, S., and Beale, D., "Characterization of Air-Yarn Interface in Air-Jet Weaving", National Textile Center Annual Forum, January 27-29, 2000, Myrtle Beach, SC.
76. Hou, Z., and *Adanur, S.*, "Direct Use of Waste PVC Coated Fabrics to Reinforce Composites", 1999 International Mechanical Engineering Congress & Exposition, November 17, 1999, Nashville, Tennessee.
77. *Bakhtiyarov, S.* (50%), and Adanur, S. (50%), "Airflow over Wavy Yarn in Air-jet Filling Insertion", Second International Symposium on Mathematical & Computational Applications, Baku, Azerbaijan, September 1-3, 1999.
78. Adanur, S. (50%), and *Bakhtiyarov, S.* (50%), "Numerical Study of Collision Efficiency of Dust Particles", Second International Symposium on Mathematical & Computational Applications, Baku, Azerbaijan, September 1-3, 1999.
79. *Yuksekkaya, M. E.*, Thomas, H., and Adanur, S.,, "Analysis of Elastic Deformation of Braided Tubular Structures for Medical Applications, The Fiber Society 58th Annual General Conference, Symposium on Textile and Polymer Based Biomaterials, Philadelphia, PA, May 3-4, 1999.
80. *Adanur, S.*, Gowayed, Y., and Thomas, H., "On-Line Measurement of Fabric Properties ", National Textile Center Annual Forum, January 28-30, 1999, Myrtle Beach, SC.
81. *Adanur, S.*, and Xu, B., "Influence of Microwave Fast Preheating on Epoxy Resin Chemorheology Properties", The 1998 International Mechanical Engineering Congress and Exposition, November 15-20, 1998, Anaheim, CA.

82. *Adanur, S.*, and Liao, T., "3D Modeling of Textile Composite Preforms", ICCE/5 Fifth International Conference on Composites Engineering, July 5-11, 1998, Las Vegas, NV.
83. *Adanur, S.*, and Xu, B., "Impact Resistance of Microwave Cured Glass/Epoxy Composites", ICCST/2, Second International Conference on Composite Science and Technology, Durban, South Africa, June 9-11, 1998.
84. Mallick, S. B., Elton, D. J., and *Adanur, S.*, "A New Approach in Modeling of Soil-Geotextile Interface Behavior in Pullout Tests", Sixth International Conference on Geosynthetics, March 25-29, 1998, Atlanta, GA.
85. *Adanur, S.*, and Hou, Z., "Recycling and Reuse of PVC Coated Polyester Fabric", TCL7, The 7th International Conference on Textile Coating and Laminating, Nov. 17-18, 1997, Charlotte, NC.
86. *Adanur, S.*, and Xu, B., "Characteristics of Microwave-Cured Braided Glass/Epoxy Composites", Composites at Lake Louise, CALL '97, October 12-17, 1997, Canada.
87. *Adanur, S.*, Arumugam, Y. S., and Xu, B., "Fast Net Shape Manufacturing of Braided Textile Structures", ICCE/4, Fourth International Conference on Composites Engineering, July 6-12, 1997, Big Island of Hawaii.
88. *Adanur, S.*, and Sreekanthreddy, G., "Compression Behavior of 3D Reinforced Glass/Epoxy Laminar Composite Profiles", ICAPC-97, International Conference on Advanced Polymer Composites, Materials, Processing and Applications, Beijing University of Aeronautics and Astronautics, Beijing, China, June 3-5, 1997.
89. *Adanur, S.*, "Geotextiles: Design and Applications in Alabama", Presentation to Alabama Congressional Delegation , May 9, 1997.
90. Basu Mallick, S., Elton, D. J., and *Adanur, S.*, "An Experimental Characterization of Soil-Woven Geotextile Interface in Large Box Pullout Tests", Geosynthetics '97, March 10-13, 1997, Long Beach, CA.
91. Yuksekkaya, M., *Thomas, H.*, Adanur, S., Chaikof, E., "Polymeric Braided Stents for Medical Applications", 1996 ASME International Mechanical Engineering Congress and Exposition, Nov. 17-22, 1996, Atlanta, GA.
92. *Ghosh, T.*, and Adanur, S., Design and Characterization of Geotextiles for High Performance Applications, Nonwovens Cooperative Research Center, Semi-Annual Meeting, Year 5, Nov. 20, 1996, Raleigh, NC.
93. *Adanur, S.*, Mallick, S., and Zhai, H., "Analysis of Geotextile-Soil Interaction in Pull-Out Tests", IS Kyushu '96, International Symposium on Earth Reinforcement, November 12-14, 1996, Fukuoka, Japan.
94. Warren, A., El-Halwagi, M. and *Adanur, S.*, "Design of a New Process for Converting Textile Solid Waste into Transportation Fuel", *TIEES-96*, The First Trabzon International Energy and Environment Symposium, July 29-31, 1996, Karadeniz Technical University, Trabzon, Turkey.
95. *Adanur, S.*, and Gongalareddy, S., "Compressive Properties of Stitched Woven Fiberglass Fabric Reinforced Composite Sections for Civil Engineering Applications", ICCE/3, Third International Conference on Composites Engineering, July 21-26, 1996, New Orleans, LA.
96. *Adanur, S.*, Design and Characterization of Geotextiles for High Performance Applications, Nonwovens Cooperative Research Center, 5th Annual Meeting, May 29, 1996, Raleigh, NC.
97. *Adanur, S.*, "Manufacturing of Industrial Textiles: Requirements and Opportunities", Sulzer-Ruti Technical Fabric Symposium, February 21-23, 1996, Spartanburg, SC.
98. *Adanur, S.*, "State of the Art in Technical Textiles", Discover EXPO '95, Industrial Fabric and Equipment Exposition, Industrial Fabrics Association International, Charlotte, NC, Oct. 12-14, 1995.
99. Wang, S., *Adanur, S.* and Jang, B. Z., "Thermo-Mechanical Behavior of Fiber/Filler Reinforced Phenolic Matrix Composites", 2nd International Conference on Composites Engineering (ICCE/2), August 21-24, 1995, New Orleans, LA.
100. *Adanur, S.*, and Tam, C. A., "On-machine Stitching of 3-D Laminate Structures for Composites", 2nd International Conference on Composites Engineering (ICCE/2), August 21-24, 1995, New Orleans, LA.

101. Wang, S., *Adanur, S.* and Jang, B. Z., "Mechanical Behavior of Fiber/Filler Reinforced Phenolic Matrix Composites", Proceedings of the 2nd International Conference on Composites Engineering (ICCE/2), August 21-24, 1995, New Orleans, LA.

102. *Adanur, S.*, Mallick, S. B., and Zhai, H., "Design and Characterization of Geotextiles for High Performance Applications", Hi-Tech Textiles Exhibition and Conference, July 24-26, 1995, Greenville, SC.

103. *Broughton, R. M.*, Bakhtiyarov, S. I., Brady, P., and Adanur, S., "Initial Design of Nonwoven Fabrics for Air Filtration", Hi-Tech Textiles Exhibition and Conference, July 24-26, 1995, Greenville, SC.

104. *Adanur, S.*, and Tsao, Y. P., "Stitch Bonded Textile Structural Composites", The 26th International Technical Conference, SAMPE, October 24-27, 94, Atlanta, GA.

105. *Adanur, S.*, Tsao, Y. P., and Tam, C. W., "Improving Fracture Resistance in Laminar Textile Composites", First International Conference on Composites Engineering, August 28-31, 1994, New Orleans, LA.

106. *Adanur, S.*, "Design and Structure of Fabrics for Papermaking", Third International Hi-Tech Textiles Exhibition & Conference, June 21-22, 1994, Greenville, SC.

107. *Adanur, S.*, and Walker, B., "Yarn Preparation for Weaving in the Future (Yarn Preparation for the Second Loom)", 33rd Annual Textile Slashing Short Course, September 22, 1993, Auburn University, AL.

108. *Adanur, S.*, "Paper Machine Clothing", Istanbul Technical University, Textile Engineering Department, August 4, 1993.

109. *Adanur, S.*, "Effects of Forming Fabric Design on Paper Properties", 2nd International Hi-Tech Textiles Conference, July 21, 1993, Greenville, SC.

110. ElMogahzy, Y., Gowayed, Y. and Adanur, S., "Mechanical Characterization of Geotextiles/Soil Interaction", The Fiber Society Spring Meeting, May 1993, Raleigh, NC.

111. *Adanur, S.*, "Design and Applications of Forming Fabrics in Papermaking", North Carolina State University, College of Textiles, Fiber, Polymer and Textile Seminar Program, March 17, 1993, Raleigh, NC.

Graduate Student Presentations:

1. Isikel, L., "Comparative Evaluation of GDL Media for PEMFCs", Auburn University Annual Graduate Student Research Paper Competition, 9 March 2006, Foy Union, AU.
2. Ascioglu, B., "Heat Transfer Modeling in Nanofiber Reinforced Composite", Auburn University Annual Graduate Student Research Paper Competition, 10 March 2005, Foy Union, AU.
3. Irsale, S., "Textile Prosthesis for Vascular Applications", NTC Paper presentation, 10 January 2005, Spidle Hall, AU.
4. Ascioglu, B., "Heat Transfer Modeling in Nanofiber Reinforced Composite", NTC Paper presentation, 10 January 2005, Spidle Hall, AU.

4.B.4 Poster Sessions Presented

1. Shen, Y., and Adanur, S., "Finite Element Analysis of Monofilament Woven Fabrics under Uniaxial Tension", 2nd Annual Graduate Engineering Research Show Case, Auburn University, Oct. 24, 2013.
2. Adanur, S., "A Novel Braided Structure to Increase Compression and Torsion Resistance of Composites", The 5th International R&D Project Brokerage Event, Bursa, Turkey, 4-5 April, 2013.
3. Adanur, S., "Prevention of PEM Fuel Cell Poisoning via Adsorption using Activated Carbon Fiber Based Cathode Filters", The 5th International R&D Project Brokerage Event, Bursa, Turkey, 4-5 April, 2013.

4. Adanur, S., "Health and Safety Effects of Nanoparticles Embedded in Textile Materials", The 5th International R&D Project Brokerage Event, Bursa, Turkey, 4-5 April, 2013.
5. Adanur, S., and Broughton, R., "Recovery and Reuse of Waste PVC Coated PET Fabrics", The 4rd International R&D Project Brokerage Event, Bursa, Turkey, Feb. 2-3, 2012.
6. Adanur, S., "PVA Nanofiber Based Membrane for Proton Exchange Membrane Fuel Cells", The 4rd International R&D Project Brokerage Event, Bursa, Turkey, Feb. 2-3, 2012.
7. *Adanur, S.*, A Novel Filling Insertion System for Weaving, The 3rd International R&D Project Brokerage Event, Bursa, Turkey, Feb. 10-11, 2011.
8. *Adanur, S.*, Conceptual Design and Characterization of 3D Interlaced Fibrous Structures, The 3rd International R&D Project Brokerage Event, Bursa, Turkey, Feb. 10-11, 2011.
9. Liu, W., and Adanur, S., "Activated carbon fiber filter media for proton exchange membrane fuel cell cathode", The Fiber Society 2009 Spring Conference: International Conference on Fibrous Materials 2009, Shanghai, China, May 27-29, 2009 (chosen as one of the 4 best posters).
10. Liu, W., and Adanur, S., "Activated carbon fiber filter media for proton exchange membrane fuel cell cathode Fiber Society Meeting, Shanghai, China, June 2009. Won the best poster award.
11. Adanur, S., and Irsale, "Development of Drug Eluting Textile Stents", NTC Forum, June 3, 2008, Greenville, S.C.
12. Lee, S., Liu, W., and Adanur, S., "Nonwoven Fibrous Structures from Electrospun Nanofibers", NSF Research Experience for Undergraduates REU Program in Micro/Nano-Structured Materials, Therapeutics and Devices Poster Session, AU Saugahatchee Club, July 26, 2007.
13. Liu, W., and Adanur, S., "Characterization of PVA and PAN Electrospun Nonwoven Fibers", Auburn University 17th Annual GSC Research Forum, 7 March 2007, Foy Union, AU.
14. Isikel, L., Adanur, S., Tatarchuk, B., Isikel, L., (Auburn University), Warner, S., Fan, Q., and Narvekar, V., "Coated and Laminated Fabrics for Fuel Cells", NTC Forum, Feb. 25-27, 2007, Hilton Head, S.C.
15. Thomas, H., Riggs, L., Elton, D., and Adanur, S., "Reinforcement Fabrics with Electronic Antenna Capabilities", NTC Forum, Feb. 25-27, 2007, Hilton Head, S.C.
16. Yacoob, S., Isikel, L., and Adanur, S., "Nonwoven Fabric Manufacturing and Testing Using Electrospinning", NSF Research Experience for Undergraduates (REU) Program, Moores Mill Club, Auburn, 4 August 2006.
17. Adanur, S., Isikel, L., and Abdelhady, F., "Coated and Laminated Fabrics for Fuel Cells", TechTextil Symposium North America, March 28-30, 2006, Atlanta, GA.
18. Adanur, S., Choe, B., Fan, Q., and Warner, S., "Coated and Laminated Fabrics for Fuel Cells", National Textile Center 14th Annual Forum, February 19-21, 2006, Hilton Head, SC.
19. Adanur, S., Swagat, I., Warner, S., and Chaikof, E., "Textile Prostheses for Vascular Applications", National Textile Center 14th Annual Forum, February 19-21, 2006, Hilton Head, SC.
20. Adanur, S., Choe, B., Fan, Q., and Warner, S., "Coated and Laminated Fabrics for Fuel Cells", National Textile Center 13th Annual Forum, March 20-22, 2005, Raleigh, NC.
21. Adanur, S., Swagat, I., Warner, S., and Chaikof, E., "Textile Prostheses for Vascular Applications", National Textile Center 13th Annual Forum, March 20-22, 2005, Raleigh, NC.
22. Adanur, S., Ascioglu, B, Prabir, K. P., Warner, S. B. et al, "Nano Engineered Fire Resistant Composite Fibers", National Textile Center 13th Annual Forum, March 20-22, 2005, Raleigh, NC.
23. Irsale, S., and Adanur, S., "Exploring Textile Stents: Prototyping and Modeling", AU Annual Graduate Student Research Forum, March 10, 2005, Auburn, AL.
24. Adanur, S., and Irsale, S., "Textile Prosthesis for Vascular Applications", Presentation and Poster Session, TechTextil Symposium North America, Atlanta, GA, March 30-April 1, 2004.
25. Adanur, S., Ascioglu, B, Prabir, K. P., Warner, S. B. et al, "Nano Engineered Fire Resistant Composite Fibers", National Textile Center Annual Forum, February 15-17, 2004, Hilton Head, SC.

26. Adanur, S., Swagat, L., Warner, S., and Chaikof, E., "Textile Prostheses for Vascular Applications", National Textile Center Annual Forum, February 15-17, 2004, Hilton Head, SC.
27. Ascioglu, B., and Adanur, S., "Nano Engineered Fire Resistant Composite Fibers", Auburn University Annual Research Forum, Auburn, AL, 20 March 2003. This poster won the 2nd place in Engineering.
28. Adanur, S., Ascioglu, B, Prabir, K. P., Warner, S. B. et al, "Nano Engineered Fire Resistant Composite Fibers", National Textile Center Annual Forum, February 16-18, 2003, Hilton Head, SC.
29. Adanur, S., and Sathendra, V., "Fabric Design and Analysis System in 3D Virtual Reality", National Textile Center Annual Forum, February 16-18, 2003, Hilton Head, SC.
30. Adanur S., and Onal, L., "Design and Characterization of a Novel 3D Hybrid Knitted/Woven Fibrous Structure for Composites", 2003 NSF Design, Service and Manufacturing Grantees and Research Conference, January 6-9, 2003, Birmingham, AL.
31. Turel, T., Adanur, S., Bakhtiyarov, S., Ahmed, A., and Beale, D., "Filling Yarn Insertion in Air-Jet Weaving", National Textile Center Annual Forum, February 10-12, 2002, Charlotte, NC.
32. Sathendra, V., and Adanur, S., "Fabric Design and Analysis System in 3D Virtual Reality", National Textile Center Annual Forum, February 10-12, 2002, Charlotte, NC.
33. Adanur, S., and Onal, L., "Factors Affecting the Mechanical Properties of Laminated Glass/Graphite-Epoxy Hybrid Composites", 2002 NSF Design, Service and Manufacturing Grantees and Research Conference, January 7-10, 2002, San Juan, Puerto Rico.
34. Tascan, M., and Adanur, S., "Filling Yarn Insertion in Air-Jet Weaving", 11th Research Forum, Auburn University, March 19, 2001.
35. Onal, L., and Adanur, S., "Impact Properties of Textile Composites", 11th Research Forum, Auburn University, March 19, 2001.
36. Kilinc, F. S., and Adanur, S., "3D Fabric Design and Analysis", 11th Research Forum, Auburn University, March 19, 2001.
37. Tascan, M., Adanur, S., Bakhtiyarov, S., Ahmed, A., and Beale, D., "Filling Yarn Insertion in Air-Jet Weaving", National Textile Center Annual Forum, February 11-13, 2001, Myrtle Beach, SC.
38. Kilinc, F. S. and Adanur, S., "Fabric Design and Analysis System in 3D Virtual Reality", National Textile Center Annual Forum, February 11-13, 2001, Myrtle Beach, SC.
39. Adanur, S., and Orak, H. , "Design and Manufacturing Automotive Chassis Frame with Net Shape Braided Composite Structures", 2001 NSF Design and Manufacturing Research Conference, January 7-10, 2001, Tampa, FL.
40. Adanur, S., Bakhtiyarov, S., and Beale, D., "Filling Yarn Insertion in AirJet Weaving", National Textile Center Annual Forum, January 27-29, 2000, Myrtle Beach, SC.
41. Adanur, S., and Xu, B., "Design and Manufacturing Automotive Chassis Frame with Net Shape Braided Composite Structures", 2000 NSF Design and Manufacturing Research Conference, January 3-6, 2000, Vancouver, British Columbia, Canada.
42. Adanur, S., Gowayed, Y., and Thomas, H., "On-Line Measurement of Fabric Properties ", National Textile Center Annual Forum, January 28-30, 1999, Myrtle Beach, SC.
43. Adanur, S., and Xu, B., "Fast Net Shape Manufacturing of Braided Textile Composites", NSF CAREER Awardees Meeting, January 10-12, 1999, Washington D.C.
44. Adanur, S., and Xu, B., "Process Development of Microwave Preheating and Infrared Post Curing of Braided Polymer/Epoxy Composites", The 1999 National Science Foundation (NSF) Design and Manufacturing Grantees Conference, January 5-8, 1999, Long Beach, CA.

45. Adanur, S., Liao, T., and Ghosh, T., "Design and Characterization of Geotextiles for High Performance Applications", National Textile Center Annual Forum, January 29-31, 1998, Panama City, FL.
46. Adanur, S., Gowayed, Y., and Thomas, H., "On-Line Measurement of Fabric Properties", National Textile Center Annual Forum, January 29-31, 1998, Panama City, FL.
47. Adanur, S., and Xu, B., "Fast, Net Shape Manufacturing of Textile Composites", National Science Foundation, Design and Manufacturing Grantees Conference, January 5-8, 1998, Monterrey, Mexico.
48. Adanur, S., Gowayed, Y., Ghosh, T., Goswami, B., Mallick, S. B., Zhai, H., "Design and Characterization of Geotextiles for High Performance Applications", National Textile Center Annual Forum, January 28-30, 1997, Myrtle Beach, SC.
49. Adanur, S., Thomas, H., Gowayed, Y., "On-Line Monitoring", National Textile Center Annual Forum, January 28-30, 1997, Myrtle Beach, SC.
50. Adanur, S., and Xu, B., "Fast, Net Shape Manufacturing of Textile Composites", National Science Foundation, Design and Manufacturing Grantees Conference, Seattle, Washington, Jan. 7-10, 1997.
51. Adanur, S., Mallick, S., and Zhai, H., "Analysis of Geotextile-Soil Interaction in Pull-Out Tests", IS Kyushu '96, International Symposium on Earth Reinforcement, November 12-14, 1996, Fukuoka, Japan.
52. Adanur, S., Mallick, S., and Zhai, H., "Design and Characterization of Geotextiles for High Performance Applications", National Textile Center Annual Forum, January 24-26, 1996, Raleigh, NC.
53. Adanur, S., et al., "Textile Structural Composites", National Textile Center Annual Forum, January 24-26, 1996, Raleigh, NC.
54. Adanur, S., Mallick, S., and Zhai, H., Design and Characterization of Geotextiles for High Performance Applications, National Textile Center, Annual Forum, Atlanta, GA, January 26-28, 1995.
55. Mohamed, M., Adanur, S., et al., "Textile Structural Composites", National Textile Center, Annual Forum, January 26-28, 1995, Atlanta, GA.
56. Adanur, S., and Tam, C. W., "Fabrication and Testing of On-loom Stitched 3-D Glass/Epoxy Laminar Composites", The 8th Annual Alabama Materials Research Conference, Tuscaloosa, AL, Sept. 26-27, 1994.
57. Walker, B., Beale, D., Broughton, R., and Adanur, S., "Improving the Woven Fabric Production Rate by Braiding Process", National Textile Center, Annual Forum, Greenville, SC, February 1994.
58. Mohamed, M., Adanur, S., et al., "Textile Structural Composites", National Textile Center, Annual Forum, Greenville, SC, February 1994.
59. Walker, B., Beale, D., Broughton, R., and Adanur, S., "Improving the Woven Fabric Production Rate by Braiding Process", National Textile Center, Annual Forum, Auburn, AL, February 1993.
60. Mohamed, M., Adanur, S., et al., "Textile Structural Composites", National Textile Center, Annual Forum, Auburn, AL, February 1993.

4.B.5 Senior Design Projects Supervised

1. Webb Broussard and Blake Townsend, "Normalizing Autoclave Heat Rate Regardless of Mass or Mold Material", PFEN 4820, Fall 2014-Spring 2015.
2. Chris Lee, Chris Porter and Austin Yuill, "Formula SAE Composite Wheel", Fall 2012-Spring 2013.
3. Mason Brummal and James Smith (PFEN 4810-4820), "Weight Reduction of Mandrels Used in Composite Manufacturing", GKN Aerospace Alabama, Tallassee, AL, Fall 2011-Spring 2012.
4. Melanie McDonald and Charles Blackwell (PFEN 4820), "Bulkhead Core Crushing", GKN Aerospace Alabama, Tallassee, AL.

5. Joseph Rossi Schell, Steven Crace and James Clay Graben (PFEN 4820), "Carbon Tow Tension Control in Malimo Stitch Bonding Process for Composite Preform Manufacturing", V2 Composites, Auburn, AL.
6. Sam A. Missioum and Betsy Claunch (PFEN 4820), "Engineering Solutions for Increased Efficiency in Hollow-fiber Production of Hemodialysis", Gambro Renal Products, Opelika, AL.
7. Ozbasli, Halil, "Stadium Covers", TXMT 4900, Fall 2006.
8. Anthony, Rebecca, and Hudson, Katie, "Hail Storm Protective Fabrics, FBEN 4910-4920, Fall-Spring 2006.
9. George, Mellany, "Performance of Coated and Laminated Fabrics for Fuel Cells", FBEN 4920, Fall 2005.
10. Bates, Tiffany, and Williams, Jennie, "Medical Stents: Textile Materials versus Metals", FBEN 4920, Spring 2005.
11. Willams, Gerald, "Endovascular Stent Grafts", TXMT 4910, Spring 2005.
12. Cooper, Jared, "Biocompatible Polyester Stents for Vascular Applications", FBEN 4920, Fall 2004.
13. McCollum, Brian, "Composite Drumsticks", FBEN 4920, Fall 2004.
14. Stroud, Megan, "The Price of Turf", FBEN 4920, Fall 2004.
15. Nicole Sizemore, "Bubble Point Test Method", TXEN 4920, Summer 2004.
16. Andrea Rogers, "Operating Room Material Requirements", TXMT 4910, Spring 2004.
17. Joseph Godfrey, "Fiber Optics Woven into Fabrics", TXEN 4920, Fall 2003.
18. Melissa Mitchell, "UV Resistance of Coated Fabrics for Stadium Covers", Summer 2003.
19. Andrea Janel Smith, "Turfgrass Reinforcement", Spring 2003.
20. Thomas Hogan, "Composite Tree Climber", Spring 2003.
21. Carlos Eduardo Handal, "Recycling of T-shirt Waste, Spring 2003.
22. Jason Mattox, "Geocomposite Design", Spring 2003.
23. Kalitha Mitchell, "Carpet Tile Manufacturing Problems", Fall 2002.
24. Eric Chambers, "Composite Baseball Bat", Fall 2002.
25. Jeremy Legg, "Heat Stress Analysis: Making Aubie Cooler", Fall 2002.
26. Paula Bates, "An Examination of Acoustic Textile Structures", Spring 2002.
27. Margaret Harris, "Design of a Polymeric Y Shaped Braided Stent for Aortic Implantation", Spring 2002.
28. Colin Dawson, "The Design, Construction and Testing of Composite Canoes", Spring 2002.
29. Sarah Robinson, "Western Saddle Design", Spring 2002.
30. Dan C. Siggers, "Canine Body Armor", Spring 2002.
31. Leslie Alexander, "Development of Golf Driver Shaft Using Industrial Textiles", Fall 2001.
32. Rebecca A. Bevis, "Interfacial Shear Strength Evaluation of Thermplastic and Thermoset Resins by the Single Fiber Pullout Test", Fall 2001.
33. Kevin Hughes, "Carbon Composite Billiard Cue", Spring 2001.
34. Meredith Kaye Fetner, "Evaluation of Quality Problems Associated with the Manufacture of Inflatable Evacuation Systems", Spring 2001.
35. Fatma Erdonmez, "Fiber Reinforced Bricks", Spring 2000.
36. Heather M. Anders and Daniel A. Butts, "Fiber Reinforced Concrete", Spring 2000.
37. Mary M. Jacobs, Leia A. Cutcliffe and Ron Levitzke, Jody Aaron, "Composite Golf Club", Spring 2000.
38. Julee E. Diplacido, "Design and Fabrication of a Three Dimensional Woven Fabric Structure Using a Jacquard Loom", Winter 2000
39. Dina R. Tareea, "Composite Bone", Winter 2000.
40. Elizabeth A. Bray, "Braided Tennis Racquet", Winter 2000.
41. Tareek Mohamed, "Permeability of Geotextiles", Winter 99.
42. Leigh N. Haugseth, "Application of Sampling Plan for Codon Airbag Fabric", Winter 99.
43. Robert Gallardo and Dustin Jowers, "Design of a Polymer Stent", Winter 99.

44. Jason Eisele, "Puncture Resistant Military Textiles", Winter 99.
45. Rebecca Kenney and Charles Moore, "Design and Development of a New Geotextile Structure for Soil Reinforcement", Winter 99.
46. Casey Blythe and Wesley Greer, "Incorporating Polypropylene Filament Yarns and Nonwoven Structures for Geotextile Applications", Fall 98.
47. Jeannie Stephens, Erica Graves and Ryan Radel, "Composite Bicycle Frame", Spring 1998 (co-advisor with Dr. Gowayed).
48. James Collier and Kasey Myers, "Flame Resistant Military Fabrics", Spring 1998.
49. Mary Elizabeth Stahr, "Properties of Airbag Fabric Contributing to Strength and Foldability", Winter 1998.
50. Paul Roberts, "Geotextile Pullout Test: Study of Geotextile-Soil Interaction", Fall 1997.
51. Kenneth Cole and Russell Matoy, "Effects of Forming Fabrics on Paper Formation", Spring 1997.
52. Jonathan Douglas and Samuel Mooney, "Design and Development of a Y-Shaped Braided Polyester Aortic Stent", Winter 1997.
53. Barclay Payne, "Warp-out Process", Winter 1997.
54. Leanna Land, "Design of Polyester Stent for Aortic Implantation", Fall 1996.
55. Tara Schaneville and Rotricia Smith, "Design and Applications of Biomaterials for Coronary Artery Reinforcement", Spring 1996.
56. Michelle Struth, "Tiger Textiles", Winter 1996.
57. Stephanie Carnley, "Computers and Computer Aided Design in the Textile Industry", Winter 1995.
58. Coley Jay Smith, "Effects of Fabric Structure on Bending Stiffness", Winter 95.
59. Karen Countess, "Performance Comparison of Woven Geotextiles in Fabric-Soil Interaction", Winter 95.
60. Keith Rollins, "Adhesion Characteristics of Reinforcement Fabrics to Rubber", Fall 1994.
61. Amy N. Goddard, "Ultrasonic Seaming", Spring 94.
62. Dayna M. Smith, "Medical Textiles: Design of Absorbency Tester for Medical Toweling", Spring 94.
63. Brian Allen, "The Effects of ISO 9000 Quality Systems on Textile Product Quality", Winter 94.
64. Mike McCauley and Eva Shelton, "Design and Fabrication of a New Textile Structural Composite Racket" Winter 1994.
65. Brian Wingfield, "Pack Design for a 3/4" Laboratory Extruder", Winter 94.
66. Thomas L. Pritchard, "The Properties of Non-crimp Fabric Based Composites", Winter 94.
67. Westley Mixon, "The Effects of Forming Fabric Design Parameters on Tissue Paper Properties", Spring 93.
68. Philip Douglas Tierce, Jr., "The Effect of Forming Fabric Design on Final Sheet Qualities", Winter 93.
69. David C. Terrell, "Laminated Textile Structural Composites", Winter 93.

4.B.6 Patents / Inventions / Disclosures

1. Adanur, S, and Zheng, H., "A novel way of measuring proton conductivity of fuel cell membranes", AU Technology Disclosure, filed on 7/9/2010.
2. Adanur, S., Vakalapudi, J. S., and Liao, T., "VirtualFabric Design and Analysis System", Auburn University Software Disclosure, 20 July 2006.
3. Adanur, S., and Ascioglu, B., "Modification of Smooth Polymeric Surfaces with Nanofibers using Electrospinning", Auburn University Technology Disclosure, 12 October 2005.
4. Adanur, S., and Irsale, S., "Polymeric Textile Prostheses for Vascular Surgery Applications", Auburn University Technology Disclosure, 25 July 2005.
5. Adanur, S., "Air-Jet Filling Insertion Simulator", Auburn University Patent Technology Disclosure, Dec. 16, 2003.

6. Adanur, S., "Rotational Curing Device for Fast Net-shape Manufacturing of Braided Composites", Auburn University Patent Technology Disclosure, July 20, 2000.
7. Bakhtiyarov, S. I., Overfelt, R. A., and Adanur, S., "Reinforced Sand-Binder System for Coremaking Process", Patent Disclosure, November 1998.
8. Adanur, S., Hou, Z., and Broughton, R. M., "A New Method to Separate the Components of Coated Fabrics", Patent Disclosure, July 22, 1997.
9. McCumsey, K., and Adanur, S., "Two Layer Fabric with Two Extra Strands", Patent Disclosure, April 15, 1992.

4.B.7 Other Research Contributions

1. Irsale, S., "Exploring Textile Stents: Prototyping and Modeling", submitted to the Fiber Society Graduate Student Research Competition, March 3, 2006.

Technical Reports Submitted

- National Science Foundation annual reports
- Adanur, S., Gowayed, Y., Elton, D., and Ghosh, T. K., Design and Characterization of Geotextiles for High Performance Applications, Nonwovens Cooperative Research Center, Annual Report, Year 5, May 29, 1996, Raleigh, NC.
- National Textile Center (NTC) quarterly and annual reports
- Semi-annual and annual reports to US Army Natick
- NSF EPSCoR annual reports
- Final report to NSF for Instrumentation and Laboratory Improvement Program
- Monthly progress reports to Wellington Sears Company, Valley, AL.

Thesis and Dissertation

1. Adanur, S., "Dynamic Analysis of Single Nozzle Air-Jet Filling Insertion", Ph.D. Thesis, North Carolina State University, May 1989, 219 pages.
2. Adanur, S., "Air-Jet Filling Insertion: Velocity Measurement and Influence of Yarn Structure", Master's Thesis, North Carolina State University, 1985, 133 pages.

4.B.8 Grants and Contracts

Grants and Contracts Completed

1. National Science Foundation, REU Site for Micro/Nano-Structured Materials, Therapeutics, and Devices, PI: M.E. Byrne, Co-PI: S. Duke, Period: 03/1/11 - 02/28/14; $357,191. Faculty Mentors: S. Adanur, M. Auad, M. Byrne, S. Duke, A. Gorden, E. Davis, V. Davis, O. Fasina, R. Gupta, J.W. Hong, E. Lipke, B. Prorok, W. Ravis, C. Roberts (couldn't participate in student advising the first two summers since I was out of the country).
2. Adanur, S., "Development of Composite and Sandwich Structured Fuel Cell Membranes", Sept. 2009-Aug. 2010, $100,000.00, 9/1/2009-8/31/2010.
3. 10, 862 kg of polymers and color additives were donated to the Polymer and Fiber Engineering by Thermo Fisher, whose value is around $21,600 (April 2010).

4. Adanur, S., Graduate Outreach Program (GOP) Grant, $135.00, Spring 2009 (teaching).

5. Adanur, S., "Nanoparticle Reinforced Hybrid Fibers and Films", Department of Commerce, $119,999.00, 6/1/08-5/31/09.

6. Davis, Ed (PI/Mentee), and Adanur, S. (Mentor), "Imogolite/PEO Nanocomposite Fibers and Membranes", $4,000.00, AU 2008 Faculty Mentoring Program.

7. Adanur, S., and 4 other researchers from Clemson University, "Development of Drug Eluting Textile Stents", $4,000, NTC, 2008-2009.

8. Tatarchuk, B. (PI), Adanur, S., and Broughton, R., Tank and Automotive Command Center (TACOM) Project, PFEN share $72,000, Fall 2005-Spring 2010.

9. Ikiz, Y., "Development of Nanofibers for Filtration Using Electrospinning", Pamukkale University, sponsored by TUBITAK of Turkey, 80,500 YTL (~$ 61,923), Jan. 2006-Dec. 2008, (Dr. Adanur is a "consultant" with no compensation).

10. Duke, S. (PI), Byrne, M. E. (Co-PI), Adanur, S., and 10 other researchers, "REU Site for Micro/Nano-Structured Materials, Therapeutics, and Devices", NSF Research Experiences for Undergraduates (REU), $297,846, Summer 2006-Summer 2008.

11. Adanur, S. (PI), and Aglan, H. (Co-PI, Tuskegee University), "U.S.-Turkey Cooperative Research: Design and Processing Characteristics of Novel Three Dimensional Fibrous Preforms for Composite Reinforcement", $34,201.00, Sept. 1, 2004-Aug. 31, 2007, National Science Foundation.

12. Adanur, S. (PI), Choe, B., Fan, Q., and Warner, S., "Coated and Laminated Fabrics for Fuel Cells", $318,074.00, May 1, 2004-April 30, 2008, National Textile Center.

13. Thomas, H., (PI), Adanur, S., Elton, D., and Riggs, L., "Reinforcement Fabrics with Electronic Transmission Capabilities", $278,390.00, May 1, 2005-April 30, 2008, National Textile Center.

14. Two injection molding machines were donated to Auburn University on May 3, 2007 by Thermofisher Scientific of Auburn:
    - FU CHIN SHIN 75 TON, MODEL: KT-75G, SERIAL # H03185, YEAR: 1988, Value: $4,500.00
    - FU CHIN SHIN 75 TON, MODEL: KT-75, SERIAL # H03172, YEAR: 1988, Value: $4,500.00.

15. Adanur, S., (PI), and Warner, S., "Textile Prostheses for Vascular Applications", $389,753.00, Auburn's share $241,510.00, May 1, 2003-April 30, 2006, National Textile Center.

16. Patra, P. (PI), Adanur, S., and 4 other researchers, "Nano Engineered Fire Resistant Composite Fibers", Auburn's share: $90,920.00, May 1, 2002-April 30, 2005, National Textile Center.

17. Parker, F., Dyer, D. (leaders), Adanur, S., and several other Engineering Faculty, "AU Priority Areas; Transportation Pinnacle: Commercial Highway Systems", October 1, 99-September 30, 2004 (total budget amount is unknown at this time). Budget for Adanur: $24,000.

18. Adanur, S., (leader) ElMogahzy, Y., and Abdelhady, F., "Yarn and Fabric Design and Analysis in 3D Virtual Reality", National Textile Center, $ 177,938, May 1, 2000 - April 30, 2003.

19. Adanur, S. (PI), Bakhtiyarov, S., and Beale, D., "Characterization of Air-Yarn Interface in Air-Jet Weaving", National Textile Center, $ 262,742.00, May 1, 1999-April 30, 2002.

20. Equipment Secured for Air-Jet Research
    L5200 S 210 N2 IK TE Air-Jet Weaving Machine (L5200 series, filament execution, 210 cm max. reed width, low built (without superstructure), two color pick at will, crank shedding motion, electronic filling feeders)
    Manufacturing # 031166
    Serial # JA 2663
    Machine # 0003

Manufacturing date: 1997.08
Market Value: $15,000.00.
Donor: Sulzer Textile, Inc.
Date Received: Nov. 22, 2002

21. Adanur, S. , Fast Net-Shape Manufacturing of Polymer Composite Structures, 1995 NSF Faculty Early Career Development (CAREER) Program, National Science Foundation, $ 210,000.00; duration: 5 years, Sept. 1, 96-Aug. 31, 2001.

22. ElHalwagi, M. (leader), Adanur, S., and 15 other faculty, "Bicomplexity Incubation Project Proposal FY 2000-2002", $ 220,000.00, National Science Foundation, Duration: 1 year, Sept. 2000- August 2001.

23. Adanur, S., and Shalaby, S. E. (Egypt), "Design and Manufacture of Stitch Bonded, Thermoplastic Textile Composites", US-Egypt Science and Technology Joint Fund, $ 39,978, September 1, 1998 - August 31, 2001.

24. P. Jones (leader), C. A. Flood, S. Adanur, "Developing a Course Based on Equipment Design for Introduction to Engineering"; AU College of Engineering; $ 24,050; June 1, 1999-May 31, 2000.

25. Adanur, S. (team leader), Thomas, H., Gowayed, Y. and Ghosh, T., On-line Measurement of Fabric Mechanical Properties for Process Control, National Textile Center, $ 446,912.00; duration: 3 years, March 1, 96 – April 31, 2000.

26. Jang, B. Z., Yang, X. F., and Adanur, S. (30%), "Solid Free Form Fabrication of Advanced Alloys and Metal Matrix Composites", College of Engineering Graduate Research Assistantship, $ 20,000.00; duration: October 1, 1997-September 30, 1999.

27. Elton, D., and Adanur, S. (50%), "Waterjet Manufacturing of Custom Geotextiles", College of Engineering Infrastructural Awards, $ 62,524.00; duration: October 1, 1997-September 30, 1999.

28. Utilization of Solid Waste in Alabama, Y. Gowayed (Project Coordinator), S. Adanur and 15 other researchers, NSF/EPSCoR, $ 3 million, Dr. Adanur's share: $ 150,000.00; duration: 4 years, Aug. 95-July 99.

29. Design and Characterization of Geotextiles for High Performance Applications, National Textile Center, Sabit Adanur (PI) and 5 other researchers from 4 universities; amount: $ 915,000.00; Auburn's share $ 520,000.00; duration: March 1, 1994 - April 30, 1998.

30. A New Military Fabric with Flame Resistance Properties; US Army Natick R&D and Engineering Center, PI: S. Adanur (100%), $ 40,000.00; 24 months, Dec. 1995 - Dec. 97.

31. Fingerprinting and Backward Quality Projection in Textile Products, PIs: Y. Elmogahzy (leader), R. Broughton, S. Adanur, Y. Gowayed (Auburn), S. Jayaraman (Ga Tech), M. Suh, W. Oxenham, J. Woo, J. Rust (NC State), E. Backe (ITT), $ 540,000.00, Dr. Adanur's share: $ 40,000.00, National Textile Center, Duration: 1 year, March 1, 1995 - February 28, 1996.

32. Textile Structural Composites Laboratory, National Science Foundation, Instrumentation and Laboratory Improvement (ILI) Award, $ 87,185.00 (42.5% NSF, 42.5 % Auburn cost share, 15% Private Industry Contribution), PI: S. Adanur (95%), Co-PIs: W. Walsh, R. Walker, B. Jang, 30 months, September 1, 94 - August 31, 96 (See 4.A.5).

33. Textile Structures for Composites: Stitch Bonded Laminar Composites, National Textile Center, $ 2,310,000 for 4 universities; Auburn's share $ 223,656.00, PI: S. Adanur (50 %), Yasser Gowayed (50%), March 1, 1993 - February 28, 1996.

34. Wellington Sears Handbook of Industrial Textiles, Wellington Sears Company, Valley, AL, PI: Sabit Adanur (100%), $ 60,000.00, October 1, 1993-March 15, 1995.

35. Design of a Braiding Machine to Produce Wide, Flat Woven Structures at a Significantly Increased Production Rate, PIs: R. Walker (leader), R., Broughton , S. Adanur, D. Beale, M. Nelms, National Textile Center, $ 570,000.00, Adanur's share: $ 90,000.00, March 92 - February 94.

Contracts/Grants in Force

1. Adanur, S., "Polymeric and Textile Materials for Spherical Air Ships", $75,351.00. Sponsor: Skyborne International, Duration: 2 years (2/1/2015-1/31/2017).

2. Broughton, R. (PI), Beale, D., Adanur, S., and Foster, W., Design and Analysis of Stiffeners and Tension Compression Struts Using Braided, Open-Architecture Composite Structures (O-ACS), $150,000.00, Nov. 2013-Dec. 2015.

3. Adanur, S., Meir, A. J., and Cao, Y., "Virtual 3D Interlaced Fabric Design and Characterization", $37,500.00, AU-IGP, 1 February 2012 - 31 Dec. 2015.

Fully Developed Proposals Submitted (Pending)

1. Fibers and Textiles Revolution, submitted to the U.S. Army as part of the Manufacturing Innovation Institute federal initiative, $150,000,000.00. Adanur is the PI from Auburn University along with other six co-PIs, 21 September 2015.

4.C. OUTREACH

Short Courses / Workshops / Seminars (presenter's name is in *Italic*)

1. *Adanur, S.*, Composite Materials, Short course given to Boy Scouts at Merit Badge University, March 2, 2013, Auburn University.
2. *Adanur, S.*, "Higher Education in Alabama", Panelist and presenter in "Workshop: Restructuring of Higher Education in Turkey, Problems and Solutions", Marmara University, Istanbul, Turkey, 6 July 2012.
3. *Adanur, S.*, Composite Materials, Short course given to Boy Scouts at Merit Badge University, March 3, 2012, Auburn University.
4. *Adanur, S.*, Composite Materials, Short course given to Boy Scouts at Merit Badge University, March 5, 2011, Auburn University.
5. *Adanur, S.*, Composite Materials, Short course given to Boy Scouts at Merit Badge University, March 6, 2010, Auburn University.
6. *Adanur, S.*, Composite Materials, Short course given to Boy Scouts at Merit Badge University, March 7, 2009, Auburn University.
7. *Adanur, S.*, Composite Materials, Short course given to Boy Scouts at Merit Badge University, March 17, 2007, Auburn University.
8. *Adanur, S., and Isikel, L.*, Fuel cell research at PFE, presentation and demonstration given to Civil Air Patrol students, July 17, 2006, Auburn.
9. *Adanur, S.*, and Demir, A., Manufacturing of Industrial Textiles, Workshop given to Hassan Textile Inc., Istanbul, Turkey, July 20, 1999.
10. *Adanur, S.*, " Manufacturing of Geotextiles", 5th NSF/IFAI Professor Training Course for Geosynthetics, AU Engineering Extension Service, Auburn, AL, August 9-14, 1998 (also, gave an instructional tour of the Geotextiles and Fabric Formation labs to the course participants).
11. *Adanur, S.*, "Wide World of Industrial Textiles", Seminar given to the faculty of the Department of Textile Science, University of Port Elizabeth, Port Elizabeth, South Africa, June 8, 1998.

12. *Adanur, S.*, "Testing of Technical Textiles", Industrial Textiles Short Course, Clemson University, January 28-29, 1998, Clemson, SC.
13. *Adanur, S.*, "Textile Research Update", presented at the Georgia Association of Family and Consumer Sciences District K Meeting, Tuesday, Nov. 11, 1997, Columbus, GA.
14. *Adanur, S.*, and Broughton, R. M., "Manufacturing, Properties and Testing of Geotextiles", AU-IFAI (Industrial Fabrics Association International) Educate the Educators Short Course, July 20-25, 1997, Auburn, AL (also, gave an instructional tour of the Geotextiles and Fabric Formation labs to the course participants).
15. *Adanur, S.*, and Hou, Z., "Recycling of Coated Fabrics", Workshop on Added Value Reclamation of Solid Waste, NSF EPSCoR, July 22-23, 1997, Auburn, AL.
16. Adanur, S. (90%), and *Mohamed, M. H. (10%)*, "Manufacturing of Industrial Textiles", US-Egypt Workshop on Manufacturing Technologies, Dec. 6-9, 1996, Alexandria, Egypt.
17. Prepared the Weaving and Knitting sessions for the short course Introduction to Textiles for Industry Professionals (ITIP-96), May 14-15, 1996 (cancelled).
18. *Adanur, S.*, "Overview of Industrial Textile Applications", Industrial Fabrics Association International (IFAI) Tutorial "Textiles Used in Structural Composites", 41st International SAMPE Symposium and Exhibition, March 24-28, 1996, Anaheim, CA.
19. *Adanur, S.*, "ISO 9000", Total Quality Management in the Textile Industry (SPC & Quality Engineering), Quality Tech, March 20-22, 1996, Pine Mountain, GA.
20. *Adanur, S.* (70%), and Broughton, R. M. (30%), "Manufacturing, Properties and Testing of Geotextiles", AU-IFAI (Industrial Fabrics Association International) Educate the Educators Short Course, July 7-12, 1996, Auburn, AL (also, gave an instructional tour of the Geotextiles and Fabric Formation labs to the course participants)..
21. *Adanur, S.* (50%) and Walker, R. P. (50%), "Yarn Preparation for Weaving in the Future (Yarn Preparation for the Second Loom)", the 33rd Annual Textile Slashing Short Course, September 20-22, 1993, Auburn University, AL ; enrollment: 81.
22. Member of the committee for AMTEX short course: Textile Fundamentals, 1994
    - AMTEX Textile Fundamentals Short Course: Weaving, March 27-April 1, 1994, Atlanta, GA (cancelled)
    - AMTEX Textile Fundamentals Short Course: Knitting, March 27-April 1, 1994, Atlanta, GA (cancelled)

Technical Sessions Developed/Chaired

1. International Istanbul Textile Congress 2013, Session: New Materials, Room 3, May 30-31, 2013, 13.40-15.40, Istanbul, Turkey.
2. Session 202: Composites, Techtextil North America Symposium, Wednesday, April 2, 2008, 8.30 a.m. - 11:00 a.m., Atlanta, GA.
3. Session 3 (afternoon session) at the First Istanbul International Textile and Textile Machinery Congress, June 2, 2006, Istanbul, Turkey.
4. Session 4, 2nd International Technical Textiles Congress, Istanbul, Turkey, 13-15 July 2005.
5. Session TC-1: Computational Mechanics, 1.45 pm – 3.15 pm, Tuesday, August 17, 2004, SECTAM XXII, Twenty Second Southeastern Conference on Theoretical and Applied Mechanics, August 15-17, 2004, Tuskegee University, Tuskegee, AL.
6. Session 4a, NANO 4, 7.20 pm-10.00 pm, Monday August 9, 2004, ICCE-11, 11th Annual International Conference on Composites/Nano Engineering, Hilton Head, SC, August 8-14, 2004.
7. Session 203 Paper Making Fabrics, Techtextil Symposium North America, March 13-15, 2001, Atlanta, Georgia. Developed and chaired the session with 5 speakers.

8. ICCE/5, Fifth International Conference on Composites Engineering, Session 7a, Textile I, 3.40 pm-6.00 pm, July 5-11, 1998, Las Vegas, NV.
9. ICAPC-97, International Conference on Advanced Polymer Composites, Materials, Processing and Applications, Session 2, Mechanics of Composite Materials (I), Beijing University of Aeronautics and Astronautics, Beijing, China, June 3-5, 1997.
10. ICCE/4, Fourth International Conference on Composites Engineering, Session 16c, Textile V, 8.00 am-11.00 am, July 6-12, 1997, Big Island of Hawaii.
11. The Fiber Society, Fall 1996 General Technical Conference, Session IV: Marine Applications of Textiles, Wednesday, Oct. 16, 1996, Newport, Rhode Island.
12. ICCE/3 Third International Conference on Composites Engineering, July 21-26, 1996, New Orleans, LA. Session 12b , July 25, 96, 3.45 pm-5.45 pm, Textile Composites III, Adanur, S., and Wang, Y.
13. ICCE/2 Second International Conference on Composites Engineering, August 21-24, 1995, New Orleans, LA.
    - Session 4d, Aug. 22, 1995, 10.10 am-12.10 pm, Textiles: 3D structures.
    - Session 5d, Aug. 22, 1995, 1.20 pm - 3.20 pm, Textiles: Applications.
    - Session 9d, Aug. 23, 1995, 3.35 pm-5.35 pm, Textiles: Analysis.
14. Paper Machine Clothing: Materials and Technologies. Third International Hi-Tech Textiles Exhibition & Conference, June 21-22, 1994, Greenville, SC. Planned and organized the presentation topics and found five speakers.

Workshops Attended

1. Attended the ITM Texpo Eurosia 2013, in Istanbul, Turkey, May 29, 2013.
2. Composite Manufacturing Workshop, March 30-31, 2005, Auburn, AL.

Editorships

1. Member of the Editorial Board for Journal of Industrial Textiles, Sage Publications (Jan. 2000 - present).
2. Member of the Editorial Board for the Electronic Journal of Textiles (August 2002 – present)
3. Member of the Editorial Board for the POLITEKNIK (Turkish/English), Dec. 2004-2009.
4. Member of the Editorial Board for the Electronic Journal of Textiles (August 2002 – 2009.
5. Member of the Editorial Board for Journal of Coated Fabrics, Technomic Publishing, Co., Inc., Lancaster, PA, (January 1998 – Jan. 2000).
6. Member of the editorial board for Textile and Technique which is a specialized monthly textile magazine published in Turkey (Turkish/English), 1993-2003.

Other Extension Activities

- Judge for AU SG College of Engineering Fall 2015 Graduate Engineering Research Showcase, 22 October 2015.
- Judge for eight proposals submitted to UTIB International R&D Brokerage Event, 27-29 May 2015, Bursa, Turkey.
- Judge for oral session, This is Research: Student Symposium 2015, Auburn University, 13 April 2015.
- Feb. 27, 2015; gave polymer processing lab tours during the E-day.
- Judge, Fall 2014 Graduate Engineering Research Showcase, Auburn University, Oct. 23, 2014.
- Member of the Fiber Society Award Committee, 2011-2013.

- Member of the Scientific Committee for the International Congress of Innovative Textiles, ICONTEX2011, 20-22 October, 2011, Tekirdag, Turkey. Reviewed manuscripts for acceptance to the conference.
- Gave the commencement speech at Marmara University, College of Engineering Graduation Ceremony, Istanbul, Turkey, 6 July 2011.
- Presented the NTC booth, 1.00-5.00 pm, Techtextil North America Symposium, April 2, 2008, Atlanta, GA.
- Organized the AU Textile Engineering booth for the Techtextil North America International Trade Fair for Technical Textiles and Nonwovens, March 23-25, 2000, Atlanta, GA.
- Gave a lecture to Prof. Richard Penaskovic's class RELG 0304 – Western Religions on June 1, 1999.
- Attended the Milliken Summer Challenge University/Industry Programs (1997 and 1998).
- Served as judge in the Industrial Fabrics Association International (IFAI)'s annual International Achievement Awards competitions (1995-present)
- International Advisory Board Member, International Conference on Composites Engineering (ICCE), ICCE/9 (2002 San Diego, CA), ICCE/8 (2001 Tenerif, Spain), ICCE/7 (2000, Denver, Colorado), ICCE/6 (1999, Florida Resort, FL), ICCE/5 (1998, Las Vegas, NV), ICCE/4 (1997, Big Island of Hawaii).
- Reviewer of Proposals for National Science Foundation (NSF)
- Attended the workshop "Integrating Design into the Engineering Curriculum", which was offered by the Southern Methodist University, in Dallas, TX on March 19-21, 1998. This was part of ABET preparation activities.
- "Two-man, Three Season, Double Walled Tent for the US Marine Corps Systems Command (MARCORSYSCOM)". Proposal prepared on behalf of National Apparel, Inc., of Montgomery, AL for the US Marine Corps. Project Total: $ 18,750,000.00; 150 pages, July 97.
- Gave a presentation to Alabama Congressional Delegation on Geotextiles, May 9, 1997.
- Prepared and presented the AU Textile Engineering booth during the 3rd International High-Tech Textiles Conference, Greenville, SC, June 94.
- Prepared and presented the AU Textile Engineering booth during the 2nd International High-Tech Textiles Conference, Greenville, SC, July 93.

4.D. SERVICE

Department, College and University Service Work

1. Member of the Faculty Salaries and Welfare Committee, Aug. 2015 – Aug. 2018.
2. Prepared and submitted SLO7 report for SACS, 20 November 2014.
3. Member of the Calendar and Schedules Committee, Aug. 2014 – Aug. 2017.
4. Member of the Academic Program Review Committee, Aug. 2013-Aug. 2016.
5. Prepared the SACS assessment reports for PFEN B.S., M.S., and Ph.D. programs for the SACS visit, March 21-22, 2013; updated the reports Oct. 14, 2013.
6. Participated in the AU Strategic Planning Focus Group sponsored by the Office of the Provost, 19 March 2013.
7. Member of the Academic Standards Committee, Aug. 2012-Aug. 2015.
8. Member of the Post Tenure Review Committee, Aug. 2012-Aug. 2015.
9. Prepared the 2011 SACS assessment reports for PFEN B.S., M.S., and Ph.D. programs, Jan.-Feb. 2012.
10. Member of the PFEN faculty search committee, Aug. 2011- Aug. 2012.
11. Member of the Faculty Handbook Review Committee, Aug. 2011-Aug. 2014.
12. Member of the Faculty Dismissal Committee, Aug. 2010-Aug. 2013.
13. Mentor - AU Early Career Faculty Mentoring Program, Sept. 2009-present.
14. Chair of the AU Faculty Grievance Committee, Aug. 2009-Aug. 2010.
15. Member of the Student Discipline Committee, Aug. 2009-Aug. 2012.

16. Hosted TALON exhibit for incoming engineering freshman with Julia Freeman at the AU Hotel and Conference Center, Feb. 18, 2008.
17. Member of the new PFEN PhD Program Committee, Apr. 2008-present.
18. Member of the AU Faculty Grievance Committee, Nov. 2007-May 2009.
19. Member of the PFEN Faculty Search Committee (Chair: Dr. Buschle-Diller), Aug. 2007-Apr. 2008.
20. Member of the CoE Graduate Student Recruiting Committee (appointed by the Dean), Chair of the Best Practices Subcommittee, March. 2007-present (unofficially started Fall semester 2006).
21. Chair of the PFEN Faculty Search Committee, Fall 2006-Spring 2007.
22. Member of the Alumni Engineering Research Award Committee (meeting held on March 10, 2008).
23. Responsible for the polymer processing equipment purchase (visited University of Akron, Oct. 2006).
24. Chair of the AU Student Academic Grievance Committee, Jan. 2006-Aug. 2008.
25. Member of the AU Student Academic Grievance Committee, Aug. 2005- Dec. 2005.
26. Member of the AU Academic Honesty Committee, 2003-2006.
27. PFEN ABET Coordinator, Spring 2003-present (Attended the Learning Outcomes Seminar, Apr. 7, 2008, 200 Allison Lab).
28. Member of the Alumni Professorship Committee, 2002-2005.
29. Member of the Budget Advisory Committee, Feb. 2003-2005.
30. Graduate Faculty (reappointed November 2002)
31. Member of the Ginn Professorship Selection Committee, 2002.
32. Member of the Engineering Faculty Council (EFC), 2002-2205.
33. Member of the AU Diversity Leadership Council, May 2002-2004.
34. TE Department Futures Committee Member, 2001.
35. Mentoring Committee member for Dr. Aliecia McClain, Assistant Professor. February 2001- 2004.
36. Member of the AU Senate Research Grant-in-Aid Committee, Fall 2000- Fall 2003.
37. Member of the Textile Engineering Department Head Search Committee, 1999-2000.
38. Member of the College of Engineering Freshman Computing Initiative (FCI) Committee (1999-2000)
39. National Textile Center (NTC) Site Director for Department of Textile Engineering (June 1998 to October 2001). Responsible for the overall coordination of NTC proposals, projects and budgets for the Textile Engineering Department.
40. Chairman of the Textile Engineering Curriculum Committee (1993-2000).
41. Coordinated the Semester Transition activities for TXEN, TXCH, TXMT, TXTS and ITAS programs. Prepared/edited the departmental semester transition package (162 page document)
42. College of Engineering Priorities Task Force Member (1998). Participated in two task force teams: one in research and one in teaching.
43. Member of the College of Engineering Curriculum Committee (1993 to present)
44. Chairman of the Textile Engineering Award Committee. The committee nominated Pat Smith and Paul Brady for the Spirit of Excellence Award which they won (1992-2000).
45. Member of the new PhD program in Integrated Textiles and Apparel (ITAS) preparation committee (1994 - 1998).
46. Member of the three new faculty and two new technician search committees in Textile Engineering (1994-2000).
47. Participated in the 1994-1995 and 1995-96 Faculty/Student Mentor Program
48. Honorary Member of the Phi Psi Textile Fraternity.
49. Freshmen scholarship interviewer (1993-2000)

Professional Society Activities

- Member of the TASSA (Turkish-American Scientists and Scholars Association) Interim Council, 2004-2006.
- Member, Industrial Fabrics Association International (IFAI) Safety & Protective Products Division, 2003-present.
- Chair of the American Society of Mechanical Engineers-Textile Engineering Division, ASME-TED (2000-2001). Attended the ASME Technical Executives Committee (TEC) meeting in New York, NY, November 2001.
- Vice-Chair of the American Society of Mechanical Engineers-Textile Engineering Division, ASME-TED (1998-2000). Attended the ASME Technical Executives Committee (TEC) meeting in Houston, TX, March 3-5, 2000.
- Newsletter Editor of the American Society of Mechanical Engineers-Textile Engineering Division, ASME-TED (1995-present). Prepared and published the ASME Textile Engineering Division Newsletter - Fall 1996 issue.
- Secretary-Treasurer of the American Society of Mechanical Engineers-Textile Engineering Division, ASME-TED (1995-1997).
- Program Chairman of the American Society of Mechanical Engineers (ASME), Chattahoochee Section (1995-96)
- Secretary of the American Society of Mechanical Engineers (ASME), Chattahoochee Section (1994-95).
- Treasurer of the American Society of Mechanical Engineers (ASME), Chattahoochee Section (1993-94).
- Member of the American Society of Mechanical Engineers-Textile Engineering Division (ASME-TED) Revitalization Task Force. There has been a lack of enough activity in recent years in TED and the objective of the Task Force is to retain Textile Engineering as an active ASME technical division (1994 - 1995).

Membership

- Manufacture Alabama
- The Fiber Society
- Honorary member of the Phi Psi Textile Fraternity

Proposals Reviewed:

1. NSF Panelist for Nanomanufacturing Proposals (Panel #: P100737), Dec. 14, 2009, Arlington, VA. Reviewer/Lead/Scribe for 8 proposals, Panelist for 26 proposals.
2. Panelist for NSF SBIR-STTR Program, Aug. 23, 2007, National Science Foundation, Arlington, VA.
3. NSF Proposal No. 0242891 entitled "Human Powered Wearable Computers" by Hechmi Hamouda and Warren J. Jasper, November 2002.
4. Proposal No: INT-9811022, National Science Foundation
   PI: C. L. Smith, North Carolina State University, June 1998.
5. Reviewer for the National Textile Center Proposals (Fabrication Competency), 1998-2001.
6. Visited National Science Foundation on Nov. 4, 1999 as a panel reviewer of 15 CAREER proposals.

Reviewing for Journals:

Textile Research Journal, Journal of Elastomers and Plastics, International Composites Engineering Journal, Journal of Cotton Science, Journal of the Textile Institute (England). 67 articles have been reviewed to date.

Other:

- Judge for the "Turkey Innovation Week", Dec. 6-8, 2012, Istanbul, Turkey. Judged 10 proposals.
- Recommendation letter for promotion of a professor at an NTC University, December 2004.

- Helped with the Engineering Technologies Academy for Civil Air Patrol cadets, July 8-12, 2003, Auburn University.

Companies and Organizations Served

Majority of the work done was on a no charge bases. Inquiries varied; some visits, some by analysis and transmittal of samples and/or data, some literature search, technical reports, etc. The following list does not include companies that I served through the phone.

- State of Maine/AAAS
- Flexol Packaging
- Adidas
- KilpatrickStocktonTownsend
- U.S. CRDF Science Center
- Dority-Manning
- Milliken
- Gallery Co.
- Southern Mills
- Berry Plastics
- NSF Panelist
- InterVascular
- Eastern Technologies
- Zyvex Corporation
- Mr. Les Letlow
- Tyco Industries, AL.
- Townsend and Townsend
- Unsa, Istanbul, Turkey.
- EverCare Co.
- TrustForte Corporation.
- Mesa Associates.
- A-Carb LLC
- Illinois Tool Works
- Cordis Corp.
- SulzerTextil.
- Textrade.com
- N. V. Bekaert S. A., Belgium.
- Amoco Fabrics and Fibers Company, Bainbridge, GA.
- Hassan Textile Inc., Istanbul, Turkey.
- Kinedyne Corporation, Prettville, AL.
- Allied Signal, Medical Textiles, Virginia.
- 3Tex, Raleigh, NC. Analysis of McGinley System.
- PE Technikon and CSIR of South Africa. Textile Engineering education and research.
- Commissariat A L'energie Atomique and Aerospatiale of France. Composite research.
- Asten Forming Fabrics, Appleton, WI.
- Milliken & Company, Specialty Industrial Business, LaGrange, GA. Geotextiles, composites.

- Johnston Industries, Utilization Plant, Valley, AL. Fibrograph.
- Startex, Spartanburg, SC. Recycling of coated fabrics.
- National Apparel, Inc., Montgomery, AL. Combat tent.
- Sulzer-Ruti, Inc., Spartanburg, SC. Forming fabrics.
- Clark Schwebel, Inc. 3D weaving.
- Eaton Corp, Milwaukee, Woven and knit reinforcements for composites
- Industrial Textile Associates, Greer, SC. Analysis of a rayon fabric carbonized after weaving.
- Environmental Technical Services. Recycling.
- Wellington Sears Co., Valley, AL.
- Emory University, Atlanta, GA. Polymeric stents.
- Bo-Tex Sales Corporation, Hogansville, GA. Recycling.
- Johnston Composite Reinforcements, Inc., Phenix City, AL. Process improvement.
- Twitchell Corporation, Dothan, AL. Weaving.
- Cooley Inc. Recycling.
- C. M. Offray & Son, Inc. Recycling.
- John Boyle & Co., Inc. Recycling.
- Weblon, Inc. Recycling.
- Bruin Plastics Co. Recycling.
- Industrial Fabrics Association International (IFAI). Recycling.
- AU Vet. School, testing of ligaments on Instron, Sept. 29-Oct. 3, 1995.
- Shakespeare Monofilament, Columbia, SC. Development of Forming Fabric, 1994.
- Development and testing of "Hail no Hail" fabric for Marks & Flinn of Montgomery, AL, 1994.
- Doran Textiles, Shelby, NC. Mr. Reuben Bond on 'Team Weaving' concept. (6.5.93)
- Lindsay Wire, Florence, MS. Mr. Ton Rietzelt on Jacquard Weaving (6.30.93)
- Deerfield Specialty Papers, Inc., Augusta, GA on wear of forming fabrics.
- Hoechst Celanese, Mr.Dan Cain, Spartanburg, SC on developing a warp knitted structure using elastomeric monofilament fiber.
- Seattle Textile Company, Seattle, WA, on testing of PVC coated polyester sheeting designed for use in flame resistant, coated fabric type hose.
- North Carolina State University, College of Textiles. Consultant for the Air-Jet Loom Simulator.
- US Geotextiles, Opelika, AL., Evaluation of ultrasonic seams of geotextiles.

Community Service

- Soccer coach, U13G, Auburn Parks and Recreation Department, Fall 2013 season
- Soccer coach, U13G, Auburn Parks and Recreation Department, Spring 2013 season
- Soccer coach, U13G, Auburn Parks and Recreation Department, Fall 2012 season
- Soccer coach, U10G, Auburn Parks and Recreation Department, Spring 2012season
- Participated at the Spring Fling, Yarbrough Elementary School, Apr. 29, 2011
- Soccer coach, U10G, Auburn Parks and Recreation Department, Spring 2011season
- Soccer coach, U16, Auburn Parks and Recreation Department, Fall 2010 season
- Soccer coach, U16, Auburn Parks and Recreation Department, Fall 2009 season
- Gave a tour of the Polymer Processing lab to Drake Middle School 6th graders Cosmic Cat team, Spring 2009.
- Chaperon for AU Explore field trip of Yarbrough Elementary School 5th graders, Apr. 25, 2008, 8.30-13.30.
- Soccer Coach for U13 Boys, Auburn Parks and Recreation Department, Fall 2007.

- Soccer Coach for U6 coed team, Auburn Parks and Recreation Department, Spring 2007 and Fall 2007.
- Attended the "football throwing" booth at Yarbrough Elementary School's "Spring Fling", 28 April 2006.
- Gave a seminar about Polymer and Fiber Engineering to Mrs. Fleming's 5th grade class at Yarbrough Elementary School, Thursday, April 27, 2006.
- Soccer Coach for U10 and U13 Boys, Auburn Parks and Recreation Department, Spring 2006, Fall 2006, Spring 2007.
- Soccer Coach for U10 and U13 Boys, Auburn Parks and Recreation Department, Spring 2005 and Fall 2005.
- Participated at the Yarbrough Elementary School WinterFest, Feb. 25, 2005.
- Soccer Coach for U8 Boys, Auburn Parks and Recreation Department, Fall 2004
- President of the Auburn Ministerial Association (AMA) 2003-2004, member since 2002.
- Seminar given at the Leadership Alabama Retreat: "Religion: Does it Unite or Divide?", Tuskegee University Chapel, Jan. 30, 2004.
- Participated in home building for Habitat for Humanity (2002-present)
- Participated in Community Market activities (2003-present)
- Presentation made at the Interfaith Community Service of Thanksgiving, Nov. 21, 2000, Auburn University Chapel.
- Gave 5 seminars/tours to Auburn City School students between 1994 to 2000.
- Member of the United Way of Lee County, Campus Division, Campaign pilot program, 1996-present.
- Certified soccer coach for Under 6, Under 8, Under 10 and Under 13 years old kids, Auburn Parks and Recreation Department, 1993-present.
- Gave a lab tour to AU Child Study Center Preschool Class, January 19, 2000.

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IN THE COUNTY COURT, PALM BEACH COUNTY, FLORIDA
CIVIL ACTION

UNIFORM CASE NO. 50-2019-CC-001814-XXXX-MB
DIVISION:RB: County Civil Central - RB (Civil)

KIARA CRUZ

PLAINTIFF(S),

-VS-

LULULEMON ATHLETICA INCORPORATED

DEFENDANT(S),

*** S U M M O N S***

THE STATE OF FLORIDA:

TO EACH SHERIFF IN THE STATE:

YOU ARE COMMANDED TO SERVE THIS SUMMONS AND A COPY OF THE COMPLAINT OR PETITION IN THIS ACTION ON DEFENDANT(S)

LULULEMON ATHLETICA INCORPORATED

1200 SOUTH PINE ISLAND RD
PLANTATION, FL 33324

EACH DEFENDANT IS REQUIRED TO SERVE WRITTEN DEFENSES TO THE COMPLAINT OR PETITION ON PLAINTIFFS ATTORNEY WHOSE NAME AND ADDRESS IS:

RUBINSTIEN, HOWARD W 4000 N OCEAN DR APT 201 SINGER ISLAND FL 33404 5616880630

WITHIN TWENTY (20) DAYS AFTER SERVICE OF THIS SUMMONS ON THAT DEFENDANT, EXCLUSIVE OF THE DAY OF SERVICE, AND TO FILE THE ORIGINAL OF THE DEFENSES WITH THE CLERK OF THIS COURT EITHER BEFORE SERVICE ON PLAINTIFFS ATTORNEY OR IMMEDIATELY THEREAFTER. IF A DEFENDANT FAILS TO DO SO, A DEFAULT WILL BE ENTERED AGAINST THAT DEFENDANT FOR THE RELIEF DEMANDED IN THE COMPLAINT OR PETITION.

DATED ON 11th of February, 2019

Sharon R. Bock
Clerk & Comptroller
By:

Bysiewicz, Nina M as Deputy Clerk

FILED: PALM BEACH COUNTY, FL SHARON R BOCK, CLERK. 02/11/2019 09:34:59 AM

"If you are a person with a disability who needs any accommodation in order to participate in this proceeding, you are entitled, at no cost to you, to the provision of certain assistance. Please contact Tammy Anton, Americans with Disabilities Act Coordinator, Palm Beach County Courthouse, 205 North Dixie Highway West Palm Beach, Florida 33401; telephone number (561) 355-4380 at least 7 days before your scheduled court appearance, or immediately upon receiving this notification if the time before the scheduled appearance is less than 7 days; if you are hearing or voice impaired, call 711."

"Si usted es una persona minusválida que necesita algún acomodamiento para poder participar en este procedimiento, usted tiene derecho, sin tener gastos propios, a que se le provea cierta ayuda. Tenga la amabilidad de ponerse en contacto con Tammy Anton, 205 N. Dixie Highway, West Palm Beach, Florida 33401; teléfono número (561) 355-4380, por lo menos 7 días antes de la cita fijada para su comparecencia en los tribunales, o inmediatamente después de recibir esta notificación si el tiempo antes de la comparecencia que se ha programado es menos de 7 días; si usted tiene discapacitación del oído o de la voz, llame al 711."

"Si ou se yon moun ki enfim ki bezwen akomodasyon pou w ka patisipe nan pwosedi sa, ou kalifye san ou pa gen okenn lajan pou w peye, gen pwovizyon pou jwen kèk èd. Tanpri kontakte Tammy Anton, kòòdonatè pwogram Lwa pou ameriken ki Enfim yo nan Tribinal Konte Palm Beach la ki nan 205 North Dixie Highway, West Palm Beach, Florida 33401; telefòn li se (561) 355-4380 nan 7 jou anvan dat ou gen randevou pou parèt nan tribinal la, oubyen imedyatman apre ou fin resevwa konvokasyon an si lè ou gen pou w parèt nan tribinal la mwens ke 7 jou; si ou gen pwoblèm pou w tande oubyen pale, rele 711."

Filing # 85374873 E-Filed 02/22/2019 03:15:53 PM

AFFIDAVIT OF SERVICE

Case: 50-2019-CC-001814-XXXX-MB	Court: In the County Court, Palm Beach County, Florida Civil Action	County: Palm Beach County	Job: 3062508
Plaintiff / Petitioner: Kiara Cruz		Defendant / Respondent: Lulelemon Athletica Incorporated	
Received by: One Source Process, Inc.		For: Howard Rubinstein	
To be served upon: Lululemon Athletica Incorporated			

I, Frances Dixon, being duly sworn, depose and say: I am over the age of 18 years and not a party to this action, and that within the boundaries of the state where service was effected, I was authorized by law to make service of the documents and informed said person of the contents herein

Recipient Name / Address: Donna Moch, Corporate: 1200 S Pine Island Rd, Fort Lauderdale, FL 33324
Manner of Service: Authorized, Feb 12, 2019, 3:10 pm EST
Documents: Summons; Complaint (Received Feb 11, 2019 at 2:57pm EST)

Additional Comments:
1) Successful Attempt: Feb 12, 2019, 3:10 pm EST at Corporate: 1200 S Pine Island Rd, Fort Lauderdale, FL 33324 received by Donna Moch. Age: 58; Ethnicity: Caucasian; Gender: Female; Weight: 130; Height: 5'3"; Hair: Brown; Relationship: Senior Corporate Operations Manager;

Subscribed and sworn to before me by the affiant who is personally known to me.

Frances Dixon — Date: 2/21/19

Notary Public — Date: 2-21-2019

Commission Expires: 6-20-2021

One Source Process, Inc.
800-668-5448

JASON JON JONES
Commission # GG 116793
Expires June 20, 2021
Bonded Thru Budget Notary Services

**IN THE COUNTY COURT FOR THE FIFTEENTH JUDICIAL CIRCUIT,
IN AND FOR PALM BEACH COUNTY, FLORIDA**

KIARA CRUZ,

Plaintiff,

vs. **Case No.: 50-2019-CC-001814-XXXX-MB**

LULULEMON ATHLETICA INCORPORATED,
a Delaware corporation,

Defendant.
_____/

**UNOPPOSED MOTION FOR AN ENLARGEMENT OF TIME
TO RESPOND TO PLAINTIFF'S COMPLAINT**

Defendant, Lululemon Athletic Incorporated ("Lululemon"), by and through its undersigned counsel, and pursuant to Rule 1.100(b) of the Florida Rules of Civil Procedure, hereby moves the court for entry of an order enlarging of the time, up to and including Monday, March 11, 2019, within which Lululemon shall file its response to Plaintiff's Complaint. In support thereof, Lululemon states as follows:

1. Lululemon's response to the Complaint is currently due on March 4, 2019.

2. In order to respond fully to the Complaint, Lululemon needs additional time to investigate the claims set forth in the Complaint.

3. Prior to filing this motion, undersigned counsel conferred with counsel for Plaintiff, and said counsel does not oppose the relief sought by this motion.

WHEREFORE, Defendant Lululemon respectfully requests that this Court grant its Unopposed Motion for An Enlargement of Time to Respond to Plaintiff's Complaint, and any other and further relief the Court deems just and proper.

Dated: March 1, 2019

/s/ Maia Sevilla-Sharon
Maia Sevilla-Sharon Esq.
Florida Bar No. 123929
DLA PIPER LLP (US)
200 South Biscayne Blvd., Suite 2500
Miami, Florida 33131
(305) 423-8527
(305) 503-9583 *facsimile*
maia.sevillasharon@dlapiper.com

Attorney for Defendant

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on March 1, 2019, I electronically filed the foregoing with the Clerk of the Court using the Florida Court's E-Filing Portal which will send notification of such filing to the following counsel of record:

Howard W. Rubinstein
The Law Office of Howard W. Rubinstein
4000 N. Ocean Dr. Apt. 201
Singer Island, FL 33404
howardr@pdq.net

Counsel for Plaintiff

/s/ Maia Sevilla-Sharon
Maia Sevilla-Sharon