

# **The Fiber Society 2017 Fall Meeting and Technical Conference and International Symposium on Materials from Renewables (ISMR)**

Advanced, Smart, and Sustainable  
Polymers, Fibers, and Textiles

Athens, Georgia, USA  
8-10 November 2017

ISBN: 978-1-5108-6156-5

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571



**Some format issues inherent in the e-media version may also appear in this print version.**

Copyright© (2017) by The Fiber Society  
All rights reserved.

Printed by Curran Associates, Inc. (2018)

For permission requests, please contact The Fiber Society  
at the address below.

The Fiber Society  
c/o J. R. Gerde  
P.O. Box 564  
Ft. Meade, MD 20755-0564  
USA

Phone: 703.921.7139

[pam.fibersociety@gmail.com](mailto:pam.fibersociety@gmail.com)

**Additional copies of this publication are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: 845-758-0400  
Fax: 845-758-2633  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

## WEDNESDAY, November 8

7:30-9:00 **Registration** (Pecan Tree Galleria)  
**Breakfast** (Mahler Hall)

8:30-9:00 **Opening Remarks** (Masters Hall)

- *Sergiy Minko*, Conference Chair, University of Georgia
- *David Lee*, Vice-president of Research, University of Georgia
- *Laurence Schacher*, President, The Fiber Society
- *Linda Kirk Fox*, Dean of the College of Family and Consumer Sciences, University of Georgia

Page:

9:00-10:10 **Plenary Session** (Masters Hall), Chair: *Jason Locklin*

3 9:00-9:35 *René Rossi*, Empa: *Smart Textiles for Continuous Health Monitoring*

4 9:35-10:10 *Doug Hinchliffe*, USDA-ARS-SRRC: *Recent Advances in Chemical Modification and Processing of Cotton Fibers for Specific End-use Applications*

10:10 **Coffee Break** (Pecan Tree Galleria)

### 10:30–Noon: Morning Sessions

#### Biomedical Applications of Fibers (Room T/U)

Chair: *Alexander Sidorenko*

11	10:30-10:50	<i>Caroline Schauer</i> Drexel University	<i>Antibacterial Properties of Electrospun Ti3C2Tx MXene-Chitosan Nanofibers</i>
12	10:50-11:10	<i>Suraj Sharma</i> University of Georgia	<i>A Novel Approach for Preparation of Continuous Biodegradable Polyester-based Nano Sheath-Core Yarn for Biomedical Application</i>
13	11:10-11:30	<i>Patricia Annis</i> University of Georgia	<i>Transfer of Particulates and Microorganisms from Carpet and Other Fabric Surfaces to Human Fingers and Human Skin-like Surfaces</i>
14	11:30-11:50	<i>Hui Cong</i> North Carolina State University	<i>Comparison of Polydioxanone and Polyhydroxyalkanoate Barbed and Non-barbed Surgical Sutures: The Effect of Hydrolytic Degradation on Mechanical and Morphological Properties</i>

#### Smart Fibers and Textiles (Masters Hall)

Chair: *Rudolf Hufenus*

21	10:30-10:50	<i>Dirk Hegemann</i> Empa	<i>Functionalization of Fibers Based on Continuous Plasma Treatment</i>
22	10:50-11:10	<i>Takeshi Kikutani</i> Tokyo Institute of Technology	<i>Core Technologies for Creation of Smart Textiles</i>
23	11:10-11:30	<i>Jinlian Hu</i> Hong Kong Polytechnic University	<i>Smart Natural Materials in Textiles</i>

#### Fundamentals of Fibers and Textiles, Testing, and Characterization (Room W/V)

Chair: *Jintu Fan*

31	10:30-10:50	<i>Konstantin Kornev</i> Clemson University	<i>Wetting of Shaped Fibers</i>
32	10:50-11:10	<i>Nelyan López Pérez</i> Purdue University	<i>Non-destructive Technique for Body Armor Lifetime Predictions</i>
33	11:10-11:30	<i>Wai Keung (Calvin) Wong</i> Hong Kong Polytechnic University	<i>Intelligent Defect Detection System for Textile Manufacture</i>

12:00 **Lunch** (Mahler Hall)

1:00 **Graduate Student Paper Competition** (Masters Hall), Chair: **Suraj Sharma**

- N/A • **Darya Asheghali**, University of Georgia  
*Enhanced Alignment of the Neural Stem Cells on the Touch-Spun Nanofibrous Scaffolds for Nerve Regeneration*
- N/A • **Caroline Loss**, Universidade da Beira Interior  
*Influence of Some Structural Parameters of Textiles on Their Dielectric Behaviour*
- N/A • **Xi Wang**, Hong Kong Polytechnic University  
*Monitoring Elbow Flexions Using Circumferential Measurements Based on Novel Wearable Fabric Sensing Technology*

### 2:30–3:30: Afternoon Sessions I

<b>Smart Fibers and Textiles (Masters Hall)</b> Chair: <b>Rudolf Hufenus</b>		
24	2:30-2:50	<b>David Schmelzeisen</b> RWTH Aachen University <i>4D Textiles: Defined Shape-change Through 3D Printed Hybrid Textiles</i>
25	2:50-3:10	<b>David Schmelzeisen for Inga Noll</b> RWTH Aachen University <i>Smart Fibers in Functional Textiles</i>

<b>Biomedical Applications of Fibers (Room T/U)</b> Chair: <b>Caroline Schauer</b>		
15	2:30-2:50	<b>Alexander Sidorenko</b> University of the Sciences <i>Films and Fibers from Chitosan-graft-PLA Molecular Brush as Highly Adhesive Scaffolds for Human Skin and Bone Cells</i>
16	2:50-3:10	<b>Frederic Heim</b> ENSISA <i>Trans-catheter Cardiovascular Surgery: How Crimping Can Affect the Durability of Implants</i>
17	3:10-3:30	<b>Robert Keynton</b> University of Louisville <i>Direct-write Sacrificial and Biopolymer Fibers</i>

<b>Fundamentals of Fibers and Textiles, Testing, and Characterization (Room W/V)</b> Chair: <b>Jintu Fan</b>		
34	2:30-2:50	<b>Donggang Yao</b> Georgia Institute of Technology <i>A Framework for Developing High-strength Polymer Fibers from Substantial Chain Extensions</i>
35	2:50-3:10	<b>Chengqi Zhang</b> Clemson University <i>Morphological Transitions of Droplets on Ribbons</i>
36	3:10-3:30	<b>Maxime Coddeville</b> ENSAIT <i>Development of a Testing Bench for Textile Electrodes</i>

3:30 **Coffee Break** (Pecan Tree Galleria)

### 4:00–6:00: Afternoon Sessions II

<b>Smart Fibers and Textiles (Masters Hall)</b> Chair: <b>Rudolf Hufenus</b>		
26	4:00-4:20	<b>Yurong Yan</b> South China University of Technology <i>Liquid Core Fibers for Functional Textiles</i>
27	4:20-4:40	<b>Ali Afzal</b> National Textile University <i>Development of Core-sheath Filament for SMART Textile Applications</i>
28	4:40-5:00	<b>Anaëlle Talbourdet</b> ENSAIT <i>Micro- and Macroscopic Piezoelectric Structure for Energy Harvesting Based on PVDF Fibers</i>

<b>Fundamentals of Fibers and Textiles, Testing, and Characterization (Room W/V)</b> Chair: <b>Konstantin Kornev</b>		
37	4:00-4:20	<b>Jintu Fan</b> Cornell University <i>Optimization of Fibrous Materials Based on Fractal Models of Permeability, Diffusivity, and Thermal Conductivity</i>
38	4:20-4:40	<b>Mohammad Ali Zeeshan</b> Baluchistan University <i>Optimization of Ring Spinning Process Parameters of Cotton Yarn</i>
39	4:40-5:00	<b>Runying Chen</b> East Carolina University <i>Identification of Natural Bast and Leaf Fibers Through DNA Extraction and Sequence Matching</i>

6:00-7:30 **Poster Session** (Lobby at Masters Hall)  
**Reception** (Pecan Tree Galleria)

## THURSDAY, November 9

7:30-9:00 **Registration** (Pecan Tree Galleria)  
**Breakfast** (Mahler Hall)

9:00-10:10 **Plenary Session** (Masters Hall), Chair: **Gajanan Bhat**

- 5 9:00-9:35 **Michael R. Buchmeiser**, German Institutes of Textile and Fiber Research (DITF) and the University of Stuttgart: *Advances in High-performance Carbon, Ceramic, and Cellulosic Fibers*
- 6 9:35-10:10 **Dean C. Webster**, North Dakota State University: *Highly Functional Biobased Resins for High-performance Thermosets*

10:10 **Coffee Break** (Pecan Tree Galleria)

### 10:30–Noon: Morning Sessions

<b>Nanocellulose (Room T/U)</b> Chairs: <b>You-Lo Hsieh and Suraj Sharma</b>		
43	10:30-10:50	<b>Oded Shoseyov</b> Hebrew University of Jerusalem <i>Nature's Gift</i>
44	10:50-11:10	<b>Heli Kangas</b> VTT Technical Research Centre of Finland, Ltd. <i>Advances in the Cellulose Nanofibril (CNF) Technologies and Applications</i>
45	11:10-11:30	<b>Sergiy Minko</b> University of Georgia <i>Nanocellulose Hydrogels for Sustainable and Functional Coatings</i>

<b>Sustainable Polymer Materials (ISMR) (Masters Hall)</b> Chairs: <b>Jason Locklin, Chad Ulven, and Sameer Rahatekar</b>		
51	10:30-10:50	<b>Michael Kessler</b> North Dakota State University <i>Thermosetting Polymers and Composites from Agricultural Oils</i>
52	10:50-11:10	<b>Elsa Reichmanis</b> Georgia Institute of Technology <i>Polymers for Flexible Electronics: A Path to Sustainable Systems</i>
53	11:10-11:30	<b>Michael Mang</b> Danimer Scientific <i>Industrial Applications of Medium Chain Length Poly(hydroxyalkanoates): From Feedstock to Finished Article</i>
54	11:30-11:50	<b>Rudolf Hufenus</b> Empa <i>New Structural Model for Melt-spun P3HB Fibers</i>

<b>Functional Textiles and Fibers for Military Applications (Room W/V)</b> Chair: <b>Natalie Pomerantz</b>		
65	10:30-10:50	<b>June Lum</b> U.S. Army Natick Soldier Research, Development and Engineering Center <i>Preparation and Characterization of PHMB-based Multifunctional Microcapsules for Use on Nylon: Cotton Textile</i>

66	10:50-11:10	<b>Prabhakar Gulgunje</b> Georgia Institute of Technology	<i>Structural and Functional Fibers</i>
67	11:10-11:30	<b>Derek Dwyer</b> Binghamton University	<i>Zirconium Hydroxide and Triethanolamine Incorporated Polyvinylidene Fluoride (PVDF)/ UiO-66 Polymer Composite Nanofibers with Enhanced Catalytic Activity Toward Chemical Agents and Simulants</i>
68	11:30-11:50	<b>Grant Glover</b> University of South Alabama	<i>Attachment of Gold, Quantum Dots, and MOFs to Fibers</i>

**Natural Fibers: Advanced Cellulose Fibers and Textiles (Room Y/Z)**  
Chairs: **Gang Sun and Rebecca Van Amber**

73	10:30-10:50	<b>Yiqi Yang</b> University of Nebraska-Lincoln	<i>Accelerated Hydrolysis of Cellulosics after Dyeing with Reactive Dyes</i>
74	10:50-11:10	<b>Li Huang</b> Donghua University	<i>3D-Printing Bacterial Cellulose Microfiber-reinforced Silk-Gelatin Hydrogel Tissue Engineering Scaffold with Hierarchical Pores</i>
75	11:10-11:30	<b>Sunghyun Nam</b> U.S. Department of Agriculture	<i>Statistical Behavior of the Tensile Property of Heated Cotton Fiber</i>

12:00 **Lunch** (Mahler Hall)

1:00-1:35 **Plenary Session** (Masters Hall), Chair: **Sergiy Minko**

7 1:00-1:35 **Gregory C. Rutledge**, Massachusetts Institute of Technology: *Ultrafine High-performance Polymer Fibers*

**1:40–3:20: Afternoon Sessions I**

**Nanocellulose (Room Y)**  
Chairs: **You-Lo Hsieh and Suraj Sharma**

46	1:40-2:00	<b>Thomas Elder</b> USDA-Forest Service	<i>Nanocellulosic Materials and Applications</i>
47	2:00-2:20	<b>Shikha Shrestha</b> Purdue University	<i>Effects of Different Types of Cellulose Nanocrystals on Mechanical, Thermal, and Morphological Properties of Polyvinyl Alcohol Composite Fibers</i>
48	2:20-2:40	<b>Raha Saremi</b> University of Georgia	<i>Nanocellulose Adhesion in Fibers and Polymer Thin Films</i>

**Sustainable Polymer Materials (ISMR) (Masters Hall)**  
Chairs: **Jason Locklin, Chad Ulven, and Sameer Rahatekar**

55	1:40-2:00	<b>Bharath Natarajan</b> Georgetown University	<i>Composite Design Lessons from Nature: Use of Twisted Plywood, or Bouligand Structure, in Self-assembled Cellulose Nanocrystal Composites</i>
56	2:00-2:20	<b>Andriy Voronov</b> North Dakota State University	<i>Emulsion Polymerization of Plant Oil- derived Vinyl Monomers</i>
57	2:20-2:40	<b>Sameer Rahatekar</b> Cranfield University	<i>Manufacturing Regenerated Cellulose, Chitin, and Cellulose Biocomposite Fibres for Engineering and Biomedical Applications</i>
58	2:40-3:00	<b>Ngoc Nguyen</b> Oak Ridge National Laboratory	<i>Rheological Properties and Intermolecular Interactions of Auto-hydrolyzed Lignocellulose in 1-ethyl-3-methylimidazolium Acetate Ionic Liquid</i>

<b>Functional Textiles and Fibers for Military Applications (Room W/V)</b> Chair: <i>Natalie Pomerantz</i>			
69	1:40-2:00	<b>Elizabeth Welsh</b> U.S. Army Natick Soldier Research, Development and Engineering Center	<i>Photo-responsive Metal Oxide Nanoparticle-based Fibers</i>
70	2:00-2:20	<b>Molly Richards</b> U.S. Army Natick Soldier Research, Development and Engineering Center	<i>Effect of Lamination and Aerosol Liners on Thermal Burden and Chemical Protection</i>

<b>Bhuvanesh Goswami: A Life in Textiles (Room Z)</b> Chairs: <i>Artan Sinoimeri and Subhash Batra</i>			
81	1:40-2:00	<b>Phil Brown</b> Clemson University	<i>A Better Fig Leaf or Beyond the Fig Leaf</i>
82	2:00-2:20	<b>Rajesh Anandjiwala</b> CSIR Materials Science and Manufacturing	<i>Sound Insulation Applications of Natural Fiber Nonwovens</i>
83	2:20-2:40	<b>Smita Bais-Singh</b> Ahlstrom-Munksjo Nonwovens, LLC	<i>Unidirectional Fiber Reinforcement with Improved Resin Flow Properties</i>
84	2:40-3:00	<b>Martin King</b> North Carolina State University	<i>Can Tissue Engineering Reverse the Aging Process? The Role of Textile Scaffolds in Regenerating Living Tissues and Organs</i>

<b>Nanofibers and Nanofibrous Materials (Room T/U)</b> Chairs: <i>Yuris Dzenis and Gajanan Bhat</i>			
91	1:40-2:00	<b>You-Lo Hsieh</b> University of California-Davis	<i>Cellulose I and II Nanofibers and Functional Products</i>
92	2:00-2:20	<b>Leitao Cao</b> Donghua University	<i>Ultralight Nanofiber Aerogels for Efficient Sound Absorption</i>
93	2:20-2:40	<b>Yang Si</b> University of California-Davis	<i>Daylight-driven Rechargeable Nanofibrous Membranes with Robust Antibacterial and Antivirus Activity</i>
94	2:40-3:00	<b>Kiana LaBombard</b> Auburn University	<i>Carbon Nanotube- and Nanoclay-reinforced Fibrous Materials to Improve Properties</i>

3:20 **Coffee Break** (Pecan Tree Galleria)

### **3:50–5:30: Afternoon Sessions II**

<b>Sustainable Polymer Materials (ISMR) (Masters Hall)</b> Chairs: <i>Jason Locklin, Chad Ulven, and Sameer Rahatekar</i>			
59	3:50-4:10	<b>Caitlyn Clarkson</b> Purdue University	<i>Cellulose Nanofibril/Polyethylene Glycol/ Polylactic Acid Composite Fibers by Melt Spinning</i>
60	4:10-4:30	<b>Majid Sarmadi</b> University of Wisconsin- Madison	<i>Farmlands for Plastics, Textiles, Dye, or Food: Are Bio-based Materials Really Sustainable?</i>
61	4:30-4:50	<b>Oksana Zhobko</b> North Dakota State University	<i>Enhancing Delivery and Immune Response of Peptide Vaccine by Polymer-Peptide Mixed Micellar Assemblies</i>

<b>Bhuvanesh Goswami: A Life in Textiles (Room Z)</b> Chairs: <i>Artan Sinoimeri and Subhash Batra</i>			
85	3:50-4:10	<b>Yogi Goswami</b> University of South Florida	<i>Photo-Electrochemical Oxidation (PECO) Technology Review</i>
86	4:10-4:30	<b>Vinoo Sharma</b> INVISTA SARL	<i>Fiber Science Approach in Materials Development: Airbag Fabrics</i>

87	4:30-4:50	<b>Michael Ellison</b> Clemson University	<i>B.C. Goswami: Self-described Textile Man at Clemson</i>
88	4:50-5:10	<b>Subhash Batra</b> North Carolina State University	<i>From the Beginning: Personal Reflections Since 1979</i>

**Nanofibers and Nanofibrous Materials (Room T/U)**

Chairs: **Yuris Dzenis and Gajanan Bhat**

95	3:50-4:10	<b>Yaewon Park</b> North Carolina State University	<i>Effect of Surface Chemistry of Nanofibers on Mineral Coating</i>
96	4:10-4:30	<b>Yuyao Li</b> Donghua University	<i>Moisture and Oily Molecules Stable Nanofibrous Electret Membranes for Effectively Capturing PM<sub>2.5</sub></i>

**Natural Fibers: Advanced Cellulose Fibers and Textiles (Room Y)**

Chairs: **Gang Sun and Rebecca Van Amber**

76	3:50-4:10	<b>Gang Sun</b> University of California-Davis	<i>A Comprehensive Investigation on Crosslinking Cellulose with Polycarboxylic Acids and Wrinkle-free Cotton</i>
77	4:10-4:30	<b>Kaijian Wu</b> Donghua University	<i>Studies on the Properties and Phase Morphology of Cellulose/Aromatic Polysulfonamide Alloy Fibers</i>
78	4:30-4:50	<b>Chad Ulven</b> North Dakota State University	<i>Influence of Strain Rate on Flax Fiber Properties</i>

5:30 **The Fiber Society Annual Business Meeting —Members Only**

5:30 Buses to transfer to Botanical Garden (group I)

6:15 Buses to transfer to Botanical Garden (group II)

6:15 Reception (Botanical Garden)

7:30 Banquet and Award Ceremony (Botanical Garden)

9:15 Buses return to Georgia Center

## FRIDAY, November 10

7:30-9:00 **Registration** (Pecan Tree Galleria)

**Breakfast** (Mahler Hall)

9:00-9:35 **Plenary Session** (Masters Hall), Chair: **Suraj Sharm**

8 9:00-9:35 **Yuris Dzenis**, University of Nebraska-Lincoln: *Ultrastrong/Tough Continuous Bionanofibers*

### 9:40–10:40: Morning Sessions I

**Nanofibers and Nanofibrous Materials (Masters Hall)**

Chairs: **Yuris Dzenis and Rongguo Zhao**

97	9:40-10:00	<b>Taylor Stockdale</b> University of Nebraska-Lincoln	<i>Incorporation of Electrospun Nanofibers into Composites Using Chemical Vapor Deposition</i>
98	10:00-10:20	<b>Laurence Schacher</b> ENSISA	<i>Development of Hierarchical Structures-based MOFs and Polymeric Nanofibers</i>
101	10:20-10:40	<b>Chunhui Xiang</b> Iowa State University	<i>Biodegradable Bacterial Cellulose Nanocomposites Reinforced with Electrospun Poly(lactic acid)/Lipids Nanofibers</i>

**Natural Fibers: Protein Fibers and Textiles (Room Y/Z)**

Chairs: **Gang Sun and Rebecca Van Amber**

109	9:40-10:00	<b>George Fytas</b> Max Planck Institute for Polymer Research	<i>Spider Silk Fiber: A Hypersonic Phononic Nature Metamaterial</i>
-----	------------	--	---



110	10:00-10:20	<b>Rebecca Van Amber</b> Deakin University	<i>Eri Silk and Silk Blend Protein Fiber Fabrics: Physical Properties and Consumer Acceptability</i>
111	10:20-10:40	<b>Jaime Grunlan</b> Texas A&M University	<i>Smart and Friendly Flame Retardant Nanocoatings for Natural and Synthetic Fibers</i>

**Fiber-reinforced Composites (Room T/U)**

Chair: **Srikanth Pilla**

115	9:40-10:00	<b>Kasthuri Venkatesh</b> Technical University of Liberec	<i>Study of Compression Behavior of Fiber-reinforced Sandwich Composite</i>
116	10:00-10:20	<b>Veera Aditya Yerra</b> Clemson University	<i>Design Optimization of a Carbon Fiber-reinforced Thermoplastic Composite Vehicle Door Assembly for Weight Reduction</i>
117	10:20-10:40	<b>Pardhvi Shah</b> Clemson University	<i>Factory Layout Design and Cost Modeling of a Carbon Fiber-reinforced Thermoplastic Composite Vehicle Door Assembly</i>

**Advances in Braiding, Weaving, and Design (Room V/W)**

Chair: **Yordan Kyosev**

123	9:40-10:00	<b>Katalin Küster</b> Hochschule Niederrhein	<i>Investigation of the Bending and Tensile Properties of Braided Bi- and Triaxial and Unidirectional Thermoplastic Composites</i>
124	10:00-10:20	<b>Yordan Kyosev</b> Hochschule Niederrhein	<i>Process Emulation-based Modeling of Complex Braided and Woven Structures</i>
125	10:20-10:40	<b>Miguel Carvalho</b> University of Minho	<i>Preliminary Results of an Anthropometric Data Collection of Portuguese Children with Overweight and Obesity</i>

10:30 **Coffee Break** (Pecan Tree Galleria)

**11:00–12:20: Morning Sessions II**

**Nanofibers and Nanofibrous Materials (Masters Hall)**

Chair: **Yuris Dzenis and Rongguo Zhao**

102	11:00-11:20	<b>Gajanan Bhat</b> University of Georgia	<i>Structure and Properties of Inorganic Fullerene-reinforced Elastomeric Nonwoven-based Composites</i>
103	11:20-11:40	<b>Hande Gül Atasağun</b> Dokuz Eylül University	<i>A Multi-criteria Decision-making Approach for Assessing Thermophysiological Comfort Properties of Underwear Fabrics</i>
104	11:40-12:00	<b>Viraj Shah</b> Dow Chemical Company	<i>Dow Solutions for Soft, Efficient Nonwovens Produced with ASPUN™ MB Meltblown Fiber Resins</i>
105	12:00-12:20	<b>Numan Hoda</b> Akdeniz University	<i>Effect of Process Parameters on Fiber Diameters of Polypropylene Microfibers Produced by Melt Blowing in a Biax Line</i>

**Fiber-reinforced Composites (Room T/U)**

Chair: **Srikanth Pilla**

118	11:00-11:20	<b>Sai Aditya Pradeep</b> Clemson University	<i>Advancements in the Prediction of Mechanical Behavior of Supercritical Foamed Short Fiber Thermoplastic Composites</i>
119	11:20-11:40	<b>Anmol Kothari</b> Clemson University	<i>Interfacial Mechanical Interlocking of Reinforced Thermoplastic Composites</i>
120	11:40-12:00	<b>Ting Zheng</b> Clemson University	<i>Microcellular Foaming of Polypropylene-Cellulose Nanocrystal Composites</i>

## Poster Session

Wednesday, November 8 • 6 – 7:30 PM • Masters Hall Lobby • Suraj Sharma, Chair

	Title	Presenter
131	<i>The Influence of Nanocomposite Materials on the Scattering Properties of Polyethylene</i>	Yassine Ait-El-Aoud
132	<i>Infrared Applications of Braided Touch-spun Nano- and Microfibers</i>	Darya Asheghali
133	<i>Structural and Mechanical Properties of Commercially Available Flushable Nonwovens</i>	Hande Gül Atasağun
134	<i>Structure and Properties of Polypropylene Graphene Composite Filaments</i>	Homeira Azari
135	<i>Polyhydroxyalkanoate-based Nanofibrous Structures and Their Application in the Biomedical Field</i>	Apurba Banerjee
136	<i>Sustainability in Carpet Industry: Challenges and Recent Developments</i>	Victoria Caldwell
137	<i>Plant Oil-based Acrylic Monomers for Free Radical Polymerization and Their Feasibility for Latex Synthesis</i>	Zoriana Demchuk
138	<i>Soft Electrospun SiO<sub>2</sub> Nanofibrous Membranes with Enhanced Tensile Strength for Thermal Insulation</i>	Lvye Dou
139	<i>PVDF Nanofibers with High Piezoelectric Performance via Touch Spinning Process</i>	Huipu Gao
140	<i>Aligned Webs of Silica Nanofibers with Controlled Density</i>	Alexey Gruzd
141	<i>The Comparison of Polyvinylidene Fluoride (PVDF) and Polypropylene (PP) Barbed Sutures in Patellar Tendon</i>	Yihan Huang
142	<i>New Polymer Resin from Camelina Oil for Packaging Application</i>	Elizabeth Hughes
143	<i>Water Vapor Permeability and Mechanical Properties of Fabric Coated with Stimuli-responsive Shape Memory Polyurethane</i>	Md Anwar Jahid
144	<i>Study on the Feasibility of Textile Electrodes for Respiration-sensing Garments</i>	Dong Jin Jeon
145	<i>Study of the Air Drying and Epoxy-Amine-cured Coatings Derived from Renewable-based Poly(vinyl ether)s</i>	Deep Kalita
146	<i>Application of Fibrous Collagen and Tropoelastin in Vascular Tissue Engineering</i>	Martin King
148	<i>Development and Polymerization of Methacrylate Functionalized Kraft Lignin Resin</i>	Eric Krall
149	<i>Ultrathin Mesh-like Polyacrylonitrile Nanonet Membranes with High-efficiency Air Filtration</i>	Hui Liu
150	<i>Chemical Crosslinked Thermoplastic Polymer Nanofiber Aerogels with Superelasticity and Superoleophilicity for Removal of Oils and Organic Solvents</i>	Jianwei Lu
151	<i>Fabrication of CeO<sub>2</sub> Fibers via Electrospinning Using Sol-Gel Method</i>	Jianxiang Ma
152	<i>Feasibility and Methodology in the Research of Fashion Design in China During the Ming Dynasty via Water and Land Paintings</i>	Meng Niu

154	<i>Natural Indigo-based Nanocellulose Gel Dyeing of Cotton Textiles</i>	Smriti Rai
155	<i>Antimicrobial Textiles to Reduce the Need for Laundering of Chemical/Biological Garments</i>	Molly Richards
153	<i>Blends of Biosynthetic and Natural Fibers for Eco-efficient Yarns and Carpets</i>	D. Schmelzeisen for I. Noll
156	<i>Structural Analysis of Melt-processed Polyethylene Products Containing Microfibrillated Cellulose Fibers</i>	Yuta Sekiguchi
157	<i>Polystyrene-grafted Soybean Oil as a Processing Oil for SBR Rubber Compounds</i>	Olena Shafranska
158	<i>Metal Oxide Nanoparticle-Polymer Interactions</i>	Peter Stenhouse
159	<i>Aligned Drawn Fibers Improve the Axon Infiltration into Spinal Cord Bridges</i>	Kateřina Strnadová
160	<i>Nanofibrous Composite Membrane with Ultrafine Nanonet Structure for High-flux and Low-pressure Microfiltration</i>	Ning Tang
161	<i>Superelastic and Superhydrophobic Nanofibrous Aerogels for Oil/Water Separation</i>	Fei Wang
162	<i>Effect of Shortening Velocity is Constant in the Circumferential Strain-Torque Biomechanical Model: Another Evidence</i>	Xi Wang
163	<i>Transfer of Paint Dust from Different Carpets</i>	Shuangyan Wu
164	<i>Preparation and Thermal Management of Fatty Acid Ester @ Silica/Polyamide 6 Energy Storage Thermostat Material</i>	Wei Xia
165	<i>Developing Sustainable and Smart Solar Power-controlled Apparel</i>	Chunhui Xiang
166	<i>Harvesting Irregular Mechanical Energy by Triboelectric Nanogenerator Based on Cost-effective Thermoplastic Polymer Nanofiber</i>	Shan Yan
167	<i>A Comparative Study on the In Vitro Hemodynamics of Polyester Heart Valves</i>	Atieh Yousefi
168	<i>Catalyzed Non-isocyanate Polyurethane (NIPU) Coatings from Bio-based Cyclic Carbonates</i>	Arvin Yu
169	<i>Fabrication of Environmental Waterproof and Breathable Macroporous Membranes via Electrospinning Using Green Solvent</i>	Xi Yu
170	<i>Selective Degradation of Fibrillated Nanocellulose Materials</i>	Andrey Zakharchenko
171	<i>Chitosan-treated Antibacterial 3D Knitted Spacer Fabric as a Wound Dressing</i>	DaXian Zha
172	<i>The Influence of Polyester Melt in Spinneret Hole with Shear Flow on Spinning Dynamics</i>	Fan Zhang
173	<i>Soft TiO<sub>2</sub> Nanofibrous Membrane for Efficient Water Purification</i>	Meng Zhang
174	<i>In Vitro Accelerated Fatigue Performance of Stent Grafts Deployed in a Patient's Aortic Aneurysm Using a Chimney Approach</i>	Runqian Zhang
175	<i>Polymeric Cellulosomes for Cellulose Bioconversion</i>	Oksana Zholobko
176	<i>Preparation and Antibacterial Activity of PET/Cu<sub>2</sub>O Nano Composite Fiber</i>	Jialiang Zhou
177	<i>Effect of Gauge Length and Test Speed on Fiber Strength Utilization in Staple Spun Yarns</i>	Zakariya Zubair