

Fiber Society's Fall 2018 Technical Meeting and Conference

Advanced, Smart, and Sustainable Fibers,
Materials, and Textiles

Davis, California, USA
29 - 31 October 2018

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Monday, October 29

- 7:00 Registration, UCD Conference Center
 7:30 Beverages and Light Breakfast
- 8:00 Welcoming Remarks and Announcements (Ballroom B/C) *Gang Sun, Conference Chair*
Dr. Fadi Fathallah, Associate Vice Provost for Global Affairs, UC-Davis
Jintu Fan, President, The Fiber Society
- 8:15 **Plenary Lecture:** Yi Cui, Stanford University
Fibers Across Multiple-length Scales for Energy, Environment, and Electronics 3
- 8:50 **Break**

Morning Session

| | Ballroom B | Ballroom C |
|-----------------------------|--|--|
| | Session: Fiber Manufacturing and Characterization <i>Chair: Takeshi Kikutani</i> | Session: Nanofibers and Nanofibrous Materials <i>Chair: Xiangwu Zhang</i> |
| 9:00 | <i>Dynamic Cross-linking Spinning: A New Strategy for Spinning Hydrogel Fiber</i> 8 Meifang Zhu, Donghua University | <i>Unidirectional Moisture Transport Nanofibrous Membranes</i> 27 Xianfeng Wang, Donghua University |
| 9:25 | <i>Electrospinning Pre-determined Nanofibrous Geometrics by Rapid Jet Deflection</i> 9 Jintu Fan, Cornell University/Hong Kong Polytechnic University | <i>Electrospinning Polypyrrole for Novel Carbon Dioxide Sensors: A Study of Electrospinning Parameters for Highly Sensitive and Conductive Nanofibers</i> 28 Ashwariya Lahariya, Cornell University |
| 9:50 | <i>Artificial Spider Silk: Toward Sustainable and Resilient Future</i> 10 Jinlian Hu, Hong Kong Polytechnic University | <i>Constructing Fiber-based Flexible Triboelectric Nanogenerator with Electrospinning Technique</i> 29 Zhaoling Li, Donghua University |
| 10:15 Break | | |
| 10:30 | <i>Cotton Fibers Creep Behavior: Viscoelastic Modeling and Bundles Friction</i> 11 Dominique Adolphe, ENSISA (for Wafa Mahjoub) | <i>Sub-nano Thick Silk Nanoribbons Exfoliated from Silkworm Silk</i> 30 Yaopeng Zhang, Donghua University |
| 10:55 | <i>Structure and Properties of PET Fibers Prepared with Infusion of Ethanol in Continuous Cold Drawing Process</i> 12 Dongwoo Go, Tokyo Institute of Technology | <i>Enhanced Piezoelectric Response of Electropsun PVDF with ZnO Nanorods</i> 31 Minji Kim, Cornell University |
| 11:20 | <i>Image Processing Technique for Cotton Color Grading</i> 13 Nayab Khan, University of Agriculture | <i>Flexible, Ion-conducting Ceramic Textiles</i> 32 Kun Fu, University of Delaware |
| 11:45 | <i>Cooling Performance of Integrated Thermoelectric Thermoregulatory Undergarment</i> 16 Jintu Fan, Cornell University/Hong Kong Polytechnic University (for Lun Lou) | <i>1D Nanomaterial Innovations from Biomass</i> 33 You-Lo Hsieh, University of California-Davis |
| 12:10 Lunch (Room A) | | |

Afternoon Session

| Ballroom B/C | | |
|---------------------|--|---|
| 1:30– 2:45 | <p>Student Paper Competition Chair: Meifang Zhu</p> <ul style="list-style-type: none"> •Xingchen Liu, University of California-Davis, <i>Amphiphilic and Semi-crystalline Soy Protein Microfibrils from Aqueous Colloids</i> •Yusuke Mukai, North Carolina State University, <i>Effect of Fabric Construction, Thread Count, and Solid Volume Fraction on the Dielectric Properties of Cotton Fabrics</i> •Hongyan Wu, Donghua University, <i>Ultralight, Highly Resilient, and Flexible Electrospun Nanofibrous Aerogels for Effective Warmth Retention</i> | |
| 2:45 Break | | |
| | Ballroom B | Ballroom C |
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| | Session: Fiber-based Sensors and Intelligent Products <i>Chair: Dominique Adolphe</i> | Nanofibers and Nanofibrous Materials cont'd |
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| 5:30– 7:00 | Poster Session and Reception Ballroom A | |

Tuesday, October 30

- 7:45 Beverages and Light Breakfast
- 8:30 **Plenary Lecture (Ballroom B/C):** Jianyong Yu, Donghua University
Progress and Perspectives of Electrospun Nanofibrous Materials 4
- 9:05 **Break**

Morning Session

| | Ballroom B | Ballroom C |
|-----------------------------|--|---|
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| 10:15 | <i>Graft Polymerization of DADMAC into Cotton for Ultra-deep Black Dyeing</i> Shahriar Salim, North Carolina State University 53 | <i>Low-thermal Conductivity Carbon Fibers from Electrospinning</i> Spero Gbewonyo, North Carolina Agricultural and Technical State University 42 |
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Afternoon Session

| | Ballroom B | Ballroom C |
|------|--|---|
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| 2:10 | <i>Smart Textiles for Medical Healthcare and Rehabilitation</i> Bipin Kumar, Indian Institute of Technology-Delhi | 61 | <i>Zirconium Hydroxide-based Sorptive and Reactive Textiles</i> June S. Lum, U.S. Army Natick Soldier RDC | 71 |
| 2:35 | <i>Medical Textiles: How PET Fibers Topography Affects Wettability</i> Élise Girault, ENSISA | 62 | <i>Arginine-NIPAAm Hybrid Hydrogel with Biocompatible and Antibacterial Properties for Wound Dressing Application</i> Jie Zhu, Donghua University | 72 |
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3:25 **Break**

| | Session: Biomedical Applications cont'd | | Session: Advanced Fibers and Textiles | |
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| 5:00–6:00 | Fiber Society Annual Business Meeting: Open to Fiber Society Members Only Ballroom B | | | |

6:00 Reception, Alumni Center (Moss Patio)

7:00 Banquet, Alumni Center, RGA Hall

- Speaker: Alex Patist, Bolt Threads, *Silk and Leather: Practical Biological Production of Biomaterials* 5
- Awards Ceremony

Wednesday, October 31

7:45 Beverages and Light Breakfast

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Conference Closes

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