

The Fiber Society's Spring 2018 Conference - Program at a Glance

Co-organized with The Society of Fiber Science and Technology, Japan

June 12 - June 14, 2018
Tower Hall Funabori, Tokyo, Japan

Day 0		Day I, Tuesday, June 12				Day II, Wednesday, June 13				Day III, Thursday, June 14				
Bunka Gakuen University 20th Floor, C201 3-22-1 Yoyogi, Shibuya-ku, Tokyo			FS-A 5th Floor, Small Hall	FS-B <small>Tou-Gen</small> 2nd Floor, 桃源	FS-C <small>Fuku-Jyu</small> 2nd Floor, 福寿	FS-D <small>Hei-An</small> 2nd Floor, 平安		FS-B <small>Tou-Gen</small> 2nd Floor, 桃源	FS-C <small>Fuku-Jyu</small> 2nd Floor, 福寿	FS-E 3rd Floor, 307		FS-B <small>Tou-Gen</small> 2nd Floor, 桃源	FS-E 3rd Floor, 307	FS-F <small>Hou-Rai</small> 2nd Floor, 蓬莱
15:00	Pre-Registration	9:30	9:00 - Registration (2nd Floor Foyer)				9:20	9:00 - Registration (1st Floor, Exhibition Hall)			9:20	9:00 - Registration (1st Floor, Exhibition Hall)		
		9:50	Opening					FS-BII-01	FS-CII-01	FS-EII-01		FS-BIII-01(KN)	FS-EIII-01(KN)	FS-FIII-01(KN)
		PL-1					FS-BII-02	FS-CII-02	FS-EII-02		FS-BIII-02	FS-EIII-02	FS-FIII-02	
		10:30	Break				10:20	Break			10:30	Break		
		10:50	FS-AI-01(KN)	FS-BI-01(KN)	FS-CI-01(KN)	FS-DI-01(KN)	10:40	FS-BII-04	FS-CII-04	FS-EII-04	10:50	FS-BIII-04	FS-EIII-04	FS-FIII-04
		FS-AI-02	FS-BI-02	FS-CI-02	FS-DI-02	FS-BII-05	FS-CII-05	FS-EII-05	FS-BIII-05	FS-EIII-05	FS-FIII-05			
		FS-AI-03	FS-BI-03	FS-CI-03	FS-DI-03	FS-BII-06	FS-CII-06	FS-EII-06	FS-BIII-06	FS-EIII-06	FS-FIII-06			
		FS-AI-04	FS-BI-04	FS-CI-04	FS-DI-04	FS-BII-07	FS-CII-07	FS-EII-07	FS-BIII-07	FS-EIII-07	FS-FIII-07			
		FS-AI-05	FS-BI-05	FS-CI-05	FS-DI-05	Poster Session Room FS-P (1st Floor, Exhibition Hall) Odd Numbers: 12:00 – 12:40 Even Numbers: 12:40 – 13:20				Blocked	FS-EIII-08	FS-FIII-08		
		12:40	Break						12:40	Closing Remarks (Room FS-F)				
	13:00		Lunch	Lunch-on Seminar 1		13:20				12:30				
	13:40	Break				13:30	Lunch-on Seminar 2	Lunch		12:50				
	13:50	PL-2				14:10								
	14:30	Break												
	14:50	FS-AI-06	FS-BI-06	FS-CI-06	FS-DI-06	15:00	Break							
	FS-AI-07	FS-BI-07	FS-CI-07	FS-DI-07	FS-BII-08	FS-CII-08	FS-EII-08							
	FS-AI-08	FS-BI-08	FS-CI-08	FS-DI-08	FS-BII-09	FS-CII-09	FS-EII-09							
	FS-AI-09	FS-BI-09	FS-CI-09	FS-DI-09	FS-BII-10	FS-CII-10	FS-EII-10							
	FS-AI-09	FS-BI-09	FS-CI-09	FS-DI-09	FS-BII-11	FS-CII-11	FS-EII-11							
	16:10	Break				16:20	Break							
	16:30	FS-AI-10(KN)	FS-BI-10(KN)	FS-CI-10(KN)	FS-DI-10(KN)	16:40	FS-BII-12	FS-CII-12	FS-EII-12					
FS-AI-11	FS-BI-11	FS-CI-11	FS-DI-11	FS-BII-13	FS-CII-13	FS-EII-13								
FS-AI-12	FS-BI-12	FS-CI-12	FS-DI-12	FS-BII-14	Preperation of Conference Party	FS-EII-14								
FS-AI-13	FS-BI-13	FS-CI-13	FS-DI-13	FS-BII-15		FS-EII-15								
18:00	Break				18:00	Break		Break						
18:20	Banquet (Hotel Gajoen Tokyo, 3 minutes walk from the Meguro station) Meeting Time 18:20 Departure Time 18:30				18:30	Conference Party together with Annual Meeting of SFSTJ Room FS-D (2nd Floor, Hei-An)								

Fundamentals of Polymer Material: Synthesis, Polymerization, Characterization, and Its Physics

Fundamentals of Fiber & Textile Science, Testing, & Characterization

Fiber Manufacturing & Characterization

Dyeing & Finishing / Design & Merchandising

Smart Polymers, Fibers, and Textiles

Sustainable Polymer Materials / Advanced Cellulose Fibers & Textiles

Carbon Fibers & Advanced Composite Materials

Day I - Tuesday, June 12

Location: Tower Hall Funabori, 4-1-1 Funabori, Edogawa-ku, Tokyo

9:00 Registration: 2nd Floor Foyer

Morning Session

	Room FS-A, 5th Floor, Small Hall
9:30	Welcome Remarks and Announcements <i>Takeshi Kikutani, Conference Chair Jintu Fan, Fiber Society President</i>
9:50	Plenary Lecture: Yoshiro Tajitsu, Kansai University <i>A New Wearable Sensor in The Shape of a Braided Cord</i> <i>Chair: Jintu Fan, Cornell University</i>

10:30 Break

	Room FS-A 5th Floor, Small Hall	Room FS-B 2nd Floor, Tou-Gen (桃源)	Room FS-C 2nd Floor, Fuku-Jyu (福寿)	Room FS-D 2nd Floor, Hei-An (平安)
	Session: Smart Polymers, Fibers, and Textiles <i>Chair: Jonathan Chen, University of Texas-Austin</i>	Session: Fundamentals of Fiber & Textile Science, Testing, & Characterization <i>Chair: Chureerat Prahsarn, MTEC</i>	Session: Sustainable Polymer Materials / Advanced Cellulose Fibers & Textiles <i>Chair: Tadahisa Iwata, University of Tokyo</i>	Session: Dyeing & Finishing / Design & Merchandizing <i>Chair: Kazumasa Hirogaki, University of Fukui</i>
10:50	FS-AI-01 Keynote : <i>Recent Developments of Smart and Multi-Functional Fibrous Materials and Clothing</i> Jintu Fan, Cornell University	FS-BI-01 Keynote : <i>Quantitative Evaluation of Odour Retention on Different Fibre Types</i> Xungai Wang, Deakin University	FS-CI-01 Keynote : <i>Research Activities on Bio-based Fibers in Toray Industries, Inc.</i> Yoshitaka Aranishi, Toray Industries, Inc.	FS-DI-01 Keynote : <i>Developed A Natural Dyeing Method for Obtaining Turkey Red Color</i> Recep Karadag, Marmara University
11:20	FS-AI-02 <i>Enhancement of Continuous Nanofibrous Yarn Production for Fabrication of Multi-Functional Sensors</i> Maryam Yousefzadeh, Amirkabir University of Technology	FS-BI-02 <i>Surface Functional Textile for Healthcare Application with Rechargeable Antibacterial Activity</i> Zhentan Lu, Wuhan Textile University	FS-CI-02 <i>Cellulose Dissolution in Ionic Liquids: A Theoretical Study</i> Takuya Uto, Kagoshima University	FS-DI-02 <i>Structural Change and Guest Release from Cyclodextrin Inclusion Complex Treated at Ultra-high Pressure</i> Kenji Hisada, University of Fukui
11:40	FS-AI-03 <i>Improved Electrical Conductivity of PU Nanofiber-web Coated with SWCNT/AgNW and Exploration as Textile Sensors</i> Eugene Lee, Yonsei University	FS-BI-03 <i>Investigation of fiber-based Influences on Bacterial Adherence</i> Klas-Moritz Kossel, RWTH Aachen University	FS-CI-03 <i>Highly Stiff Cellulose Fibers Spun from Liquid Crystalline Microcrystalline Cellulose Solutions using DMSO as Co-solvent with an Ionic Liquid</i> Chenchen Zhu, University of Bristol	FS-DI-03 <i>Adsorption of Acid Dye on Guanidine Groups Grafted Polyacrylonitrile Fibers</i> Biao Wang, Donghua University
12:00	FS-AI-04 <i>The Wearable Fiber Organic Electrochemical Transistors for Biological Sensing</i> Yuedan Wang, Wuhan Textile University	FS-BI-04 <i>Challenges from Wearable Technologies</i> Ning Pan, University of California-Davis	FS-CI-04 <i>Hierarchical Core-Sheath PPy@CNT/BC Macrofibers with High Electrochemical Performance for All-Solid-State Supercapacitors</i> Shiyan Chen, Donghua University	FS-DI-04 <i>Development of Multifunctional Surfaces for Advanced Textile Applications</i> Hatice Ibili, Gaziantep University
12:20	FS-AI-05 <i>Melt-spun Conductive Elastomeric Fibers for Smart Textiles, Implications for Bio-signal Recordings</i> Ladan Eskandarian, Myant, Inc.	FS-BI-05 <i>Electrostatic Spinning – Spraying for Cell-Laden Hybrid Membranes Mimicking the Native Blood Barrier</i> Giuseppino Fortunato, Empa	FS-CI-05 <i>Preparation of Highly Stretchable Elastomeric Composites Reinforced with Well-defined Nanofiber Network of Bacterial Cellulose</i> Keita Sakakibara, Kyoto University	FS-DI-05 <i>Parameters Affecting the Electrospinning Process with Flame Retardant Agent</i> Bilgen Kapar, Gaziantep University

12:40 - 13:50	Lunch - Room FS-B and FS-C (13:00 - 13:30 Lunch on Seminar, Room FS-B, TBA)
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Day I - Tuesday, June 12

Afternoon Session - 1

	Room FS-A 5th Floor, Small Hall
13:50	Plenary Lecture: Sanjay Rastogi, Maastricht University <i>Unprecedented physical and mechanical properties of solvent free processed tapes and films of Ultra High Molecular Weight Polyethylene</i> <i>Chair: Takeshi Kikutani, Tokyo Institute of Technology</i>

14:30 Break

	Room FS-A 5th Floor, Small Hall	Room FS-B 2nd Floor, Tou-Gen (桃源)	Room FS-C 2nd Floor, Fuku-Jyu (福寿)	Room FS-D 2nd Floor, Hei-An (平安)
	Session: Smart Polymers, Fibers, and Textiles <i>Chair: Bipin Kumar, Indian Institute of Technology Deli</i>	Session: Fiber Manufacturing & Characterization <i>Chair: Thomas Gries, RWTH Aachen University</i>	Session: Sustainable Polymer Materials / Advanced Cellulose Fibers & Textiles <i>Chair: Yutaka Kawahara, Gunma University</i>	Session: Dyeing & Finishing / Design & Merchandizing <i>Chair: Recep Karadag, Marmara University</i>
14:50	FS-AI-06 <i>Acoustoelectric Conversion Properties of Electrospun Nanofiber Webs</i> Tong Lin, Deakin University	FS-BI-06 <i>Numerical Simulation of Melt Spinning Process Incorporating Crystallization Characteristic of Polypropylene in Super Cooling Conditions</i> Yasuhiko Otsuki, Prime Polymer Co., Ltd.	FS-CI-06 <i>Effects of a Biobased Filler on the Crystallization Behaviors of Poly (L-Lactic Acid)</i> Amit Kumar Pandey, Kyoto Institute of Technology	FS-DI-06 <i>Structural Coloration of Textile Controlling Structure of Colloidal Crystal Array on Fiber and Textile</i> Kazumasa Hirogaki, University of Fukui
15:10	FS-AI-07 <i>Characterization of Hybrid Smart Yarns Engineered for Versatile Applications in Sportswear, Medical and Multifunctional Textiles</i> Amir Shahzad, National Textile University	FS-BI-07 <i>Comparison of Solution Spinning Setups for PLA Monofilaments</i> Klas-Moritz Kossel, RWTH Aachen University	FS-CI-07 <i>Forcibly Spinning of Bombyx mori Silkworm Silk Ended in a Complete Failure</i> Yutaka Kawahara, Gunma University	FS-DI-07 <i>Preparation and Characterization of Gelatin/Arabic Gum Microcapsules containing Methyl Salicylate Deposited onto a Cotton Fabric</i> Andre P. A. W. Catarino, University of Minho
15:30	FS-AI-08 <i>Application of Carbon Nanomaterial to Biodevice for Biofuel Cell with Carbon Binding Peptide Fused Enzyme</i> Shin-ichiro Suye, University of Fukui	FS-BI-08 <i>Stereocomplexation of the Melt-spun Fibers of the Blends of Segmented PLLA/PDLA with a Low Optical Purity</i> Masaki Yamamoto, Kyoto Institute of Technology	FS-CI-08 <i>Fabrication and Characterization of Transparent, Flexible and Water-insoluble, Non-mulberry Silk Fibroin Films</i> Kelvin O. Moseti, Tokyo University of Agriculture and Technology	FS-DI-08 <i>Colorful Fluorine-free Superhydrophobic Polyester fabric Developed via Disperse Dyeing process</i> Ji-Hyun Oh, Seoul National University
15:50	FS-AI-09 <i>Electromagnetic Shielding Effectiveness of Copper/Cotton Weft Knitted Fabrics</i> Saeed Shaikhzadeh Najjar, Amirkabir University of Technology	FS-BI-09 <i>Study on High-Resolution On-Line Diameter Measurement of PET Fiber in High-Speed Melt-Spinning Process</i> Young Chan Choi, Korea Institute of Industrial Technology	FS-CI-09 <i>Structural Change and its Effect on the Mechanical Property of Silk Induced by Tensile Deformation</i> Taiyo Yoshioka, National Agriculture and Food Research Organization	FS-DI-09 <i>Safer Hair Dyeing by Using Biobased Materials - Techniques, Dyeability and Protection Effect -</i> Hidekazu Yasunaga, Kyoto Institute of Technology

16:10 Break

Day I - Tuesday, June 12

Afternoon Session – 2

[illegible]

Day II - Wednesday, June 13

9:00 Registration: 1st Floor, Exhibition Hall

Morning Session

	Room FS-B 2nd Floor, Tou-Gen (桃源)		Room FS-C 2nd Floor, Fuku-Jyu (福寿)		Room FS-E 3rd Floor, 308	
	Session: Smart Polymers, Fibers, and Textiles <i>Chair: Mari Inoue, Kobe University</i>		Session: Fundamentals of Fiber & Textile Science, Testing, & Characterization <i>Chair: Sachiko Sukigara, Kyoto Institute of Technology</i>		Session: Fundamentals of Polymer Material: Synthesis, Polymerization, Characterization, and Its Physics <i>Chair: Toyoaki Hirata, University of Fukui</i>	
9:20	FS-BII-01	<i>Mechanical and Electrical Properties of Graphene Coated Polyurethane Nanofiber Webs as a Strain Gauge</i> Eunji Jang, Yonsei University	FS-CII-01	<i>Effect of Vapor Permeability and Aperture of Outdoor Parka and Environmental Velocity on Evaporative Heat Transfer and Ventilation Rate Using Sweating Thermal Manikin and Tracer Gas Methods</i> Yayoi Satsumoto, Yokohama National University	FS-EII-01	<i>Syntheses and Wettability of Poly(fluoroalkyl (Meth)acrylate)s with Carbamate Linker</i> Yi Liu, Kyusyu University
9:40	FS-BII-02	<i>Proton Conductive Polymer Nanofiber Framework: Fabrication and Application to Polymer Electrolyte Fuel Cells</i> Manabu Tanaka, Tokyo Metropolitan University	FS-CII-02	<i>Determination of Total Comfort of Sport Caps Using Wear Trials</i> Maria Jose Abreu, University of Minho	FS-EII-02	<i>Polymer Hybrid Membranes for CO₂ Capture</i> Shinji Kanehashi, Tokyo University of Agriculture and Technology
10:00	FS-BII-03	<i>Engineering of Bi-stretch Auxetic Woven Fabrics for High Performance Sportswear</i> Adeel Zulifqar, Hong Kong Polytechnic University	FS-CII-03	<i>Evaluation Parameters for Friction Properties of Woven Fabrics by Rotational Dragging with Tactile Sensor</i> Toshiyasu Kinari, Kanazawa University	FS-EII-03	<i>Facile Fabrication of Poly(glycidyl methacrylate)-b-Polystyrene Functional Nanofibers under Shearing Field</i> Wenwen Wang, Wuhan Textile University

10:20 Break

	<i>Chair: Christophe Daniel, Università Degli Studi di Salerno</i>		<i>Chair: Xungai Wang, Deakin University</i>		<i>Chair: Huaping Wang, Donghua University</i>	
10:40	FS-BII-04	<i>Waterborne Fabrication of Fluoride-free, Magnetic, Superhydrophobic Fabrics</i> Sida Fu, Deakin University	FS-CII-04	<i>Effect of Different Processing Technique and Softener Treatments on the Surface Friction of Cotton Fabric</i> Ateeq ur Rehman, National Textile University	FS-EII-04	<i>Photonic Films of Block Copolymers: Comprising a Main-Chain Liquid Crystalline Central Segment Connected to Amorphous Segments at Both Ends</i> Masatoshi Tokita, Tokyo Institute of Technology
11:00	FS-BII-05	<i>Highly Air-permeable, Directional Water-transport Cotton Fabrics</i> Hongxia Wang, Deakin University	FS-CII-05	<i>Optical Properties of Cashmere Fabrics</i> Sachiko Sukigara, Kyoto Institute of Technology	FS-EII-05	<i>Regularity of Spherical Microdomain Ordering in a Triblock Copolymer Ultrathin Film</i> Rasha A. H. Bayomi, Kyoto Institute of Technology
11:20	FS-BII-06	<i>Melt Spinning of Novel Luminescent Polypropylene Shaped Fibers</i> Chureerat Prahsarn, National Metal & Materials Technology Ctr	FS-CII-06	<i>Unique Multiple Melting Behavior of High-Speed Melt Spun Polylactide Fibers</i> Midori Takasaki, Kyoto Institute of Technology	FS-EII-06	<i>Effect of Alkyl Chain Length of Fatty Acids on Adsorbed Layer Formation of the Acids and Local Viscosity at Metal/fluid Interface</i> Toyoaki Hirata, University of Fukui
11:40	FS-BII-07	<i>Clothing Pressure of the Elastic Socks: Measurement and Prediction Calculation</i> Mari Inoue, Kobe University	FS-CII-07	<i>Fabrication of Gradient Structure in Melt Spun Polymer Blend Fibers</i> Long Chen, Donghua University	FS-EII-07	<i>Fully Return-to-Nature Polymer Research for Sustainability of Resources</i> Seong Hun Kim, Hanyang University

	Room FS-P (1st Floor, Exhibition Hall)					
12:00 - 13:20	Poster Session Obligation Time: Odd Numbers 12:00 - 12:40, Even Numbers 12:40 - 13:20					
13:20 - 15:00	Lunch (13:30 - 14:00 Lunch on Seminar: TBA - Room FS-B)					

Day II - Wednesday, June 13

Afternoon Session

	Room FS-B 2nd Floor, Tou-Gen (桃源)		Room FS-C 2nd Floor, Fuku-Jyu (福寿)		Room FS-E 3rd Floor, 308	
	Session: Smart Polymers, Fibers, and Textiles <i>Chair: Rudolf Hufenus, Empa</i>		Session: Fundamentals of Fiber & Textile Science, Testing, & Characterization <i>Chair: Ning Pan, University of California-Davis</i>		Session: Carbon Fibers and Advanced Composite Materials <i>Chair: Gajanan Bhat, The University of Georgia</i>	
15:00	FS-BII-08	<i>Syndiotactic Polystyrene Fibers with Nanoporous Crystalline Phases: An Efficient Material for Sorption of Volatile Organic Pollutants</i> Christophe Daniel, Università Degli Studi di Salerno	FS-CII-08	<i>Will Polyolefin and Polytetrafluoroethylene Filaments Become the Next Generation Filter Materials?</i> Kyung-Ju Choi, Clean & Science	FS-EII-08	<i>The Effects of Interfacial Adhesion for Mechanical Properties of CFRTPs Made with Polyamide 6</i> Toshihira Irisawa, Nagoya University
15:20	FS-BII-09	<i>Optical and Mechanical Properties of PA/PET Blend Fibers for Artificial Hair with Different Major Components</i> Shunsuke Sato, Aderans Co., LTD	FS-CII-09	<i>Influence of Polymer Grade, Process Parameters and Capillary Modification on the Shape Factor of Noncircular Cross-section Fibers</i> Inga Noll, RWTH Aachen University	FS-EII-09	<i>Highly Transparent PVA-co-PE Nanofiber/Epoxy Film</i> Dong Wang, Wuhan Textile University
15:40	FS-BII-10	<i>Improvement of Aerosol Oil-mist Filtration Performance through Superoleophobic Treatment of Fibrous Filters</i> Xin Wei, Deakin University	FS-CII-10	<i>Effect of Curvature on Wetting and Dewetting of Complexly Shaped Fibers</i> Konstantin G. Kornev, Clemson University	FS-EII-10	<i>Ionic Liquid-Based Electrolytes Containing Inorganic Nanofibers for Quasisolid Energy Devices</i> Hidetoshi Matsumoto, Tokyo Institute of Technology
16:00	FS-BII-11	<i>Anti-Tuberculosis Nanofibrous Membrane</i> Varol Intasanta, Nat'l Science & Technology Development Agency	FS-CII-11	<i>Fundamentals for Memory Fibers and Their Potential</i> Jinlian Hu, Hong Kong Polytechnic	FS-EII-11	<i>Preparation of Few-Layer Graphene Using Ionic Liquid as Green Media and Its Application in Polymer Composite and Fibers</i> Ye Chen, Donghua University

16:20 Break

	<i>Chair: Varol Intasanta, NANOTEC</i>		<i>Chair: Jinlian Hu, Hong Kong Polytechnic</i>		<i>Chair: Shuichi Tanoue, University of Fukui</i>	
16:40	FS-BII-12	<i>Textiles with Antimicrobial and Antimosquito Products Encapsulated in Porous Silica Nanoparticles</i> Jaime R. Gomes, University of Minho	FS-CII-12	<i>Smart and Safe Chemical Protective Clothing</i> Eugenija Strazdiene, Vilnius University of Applied Science	FS-EII-12	<i>On the Development of Sustainable Composites Reinforced with High Performance Regenerated Cellulose Fibers</i> Anastasia F. Koutsomitopoulou, University of Bristol
17:00	FS-BII-13	<i>Multifunctional Liquid-core Fibers</i> Rudolf Hufenus, Empa	FS-CII-13	<i>Washing and Wearing Processes Effects on Soldiers Uniforms Friction Sound Characterization</i> Floriane Leclinche, University de Haute-Alsace	FS-EII-13	<i>Inducing the Crystallization in Cotton Cellulose Ion Gel Films for Enhanced Mechanical Properties</i> Muhammad Abdul Haq, Kagoshima University
17:20	FS-BII-14	<i>Irradiated Hydrogel Fibers Responsive to Moisture</i> Bin Fei, Hong Kong Polytechnic University	FS-CII-14	<i>Blocked</i> (Preparation of Conference Party)	FS-EII-14	<i>Antibacterial Nano-crystalline Cellulose modified with N-halamine/ Quaternary Ammonium Salts</i> Xuehong Ren, Jiangnan University
17:40	FS-BII-15	<i>Preparation and Thermoresponsive Properties of Temperature-Sensitive-Gel(TSG)/Polymer Functional Films</i> Jin Gong, Yamagata University	FS-CII-15	<i>Blocked</i> (Preparation of Conference Party)	FS-EII-15	<i>Hydrogel Surface Functionalization of Cotton to Improve Wound Dressing Applicability</i> Graça Soares, University of Minho

Room FS-D (2nd Floor, Hei-An)						
18:30 - 20:30	Conference Party together with Annual Meeting of SFSTJ					

Day III - Thursday, June 14

9:00 Registration: 1st Floor, Exhibition Hall

Morning Session

	Room FS-B 2nd Floor, Tou-Gen (桃源)	Room FS-E 3rd Floor, 308	Room FS-F 2nd Floor, Hou-Rai (蓬莱)
	Session: Fiber Manufacturing & Characterization <i>Chair: Caroline L. Schauer, Drexel University</i>	Session: Fundamentals of Polymer Material: Synthesis, Polymerization, Characterization, and Its Physics <i>Chair: Shinji Kanehashi, Tokyo University of Agriculture and Technology</i>	Session: Fundamentals of Fiber & Textile Science, Testing, & Characterization <i>Chair: Guowen Song, Iowa State University</i>
9:20	FS-BIII-01 Keynote : <i>Can Fibers Lead the 5th Industrial Revolution?</i> Moon W. Suh, North Carolina State University	FS-EIII-01 Keynote : <i>Continuous Supernanofibers for the Next Generation Tough Structural Composites</i> Yuris Dzenis, University of Nebraska-Lincoln	FS-FIII-01 Keynote : <i>Development of Auxetic Yarn using Braiding Technology</i> Hong Hu, Hong Kong Polytechnic University
9:50	FS-BIII-02 <i>Yarn and Fabric Performances in a Modified Ring Spinning System</i> Rong Yin, Hong Kong Polytechnic University	FS-EIII-02 <i>Derivation of Statistical Principle ($dQ=const.$) Explaining the Heating Rate Dependence of Degradation Temperature (T_d) of Ziegler-Natta Poly(styrene)</i> Masatomo Minagawa, NPO, Cream-Create-Laboratories	FS-FIII-02 <i>Fabric Drape Model Considering Shear and Bending</i> Liu Yang, Shinshu University
10:10	FS-BIII-03 <i>Fabric Defect Detection and Classification by Applying Convolutional Neural Networks</i> Maximilian Kemper, RWTH Aachen University	FS-EIII-03 <i>Preparation and Characterization of Modified Polyesters with Flame Retardancy and Anti-droplet Properties by Copolymerization</i> Peng Ji, Donghua University	FS-FIII-03 <i>Effect of Drying Temperature on Shrinkage Ratio of Knitted Clothing</i> Yurika Hashimoto, Shinshu University
10:30	FS-BIII-04 <i>Electrospinning vs. Centrifugally Spinning – Processing and Applications</i> Xiangwu Zhang, North Carolina State University	FS-EIII-04 <i>Dye Decomposition and Cr(VI) Reduction under Visible light by a Cellulose Acetate Fiber Cross-Linked with Amorphous TiO₂</i> Hanako Asai, University of Fukui	FS-FIII-04 <i>Evaluation of Nanoscale Structure and Mechanical Properties of Fibers Using FIB-Notch Techniques</i> Taylor Stockdale, University of Nebraska-Lincoln

10:50 Break

	<i>Chair: Moon W. Suh, North Carolina State University</i>	<i>Chair: Yuris Dzenis, University of Nebraska-Lincoln</i>	<i>Chair: Hong Hu, Hong Kong Polytechnic University</i>
11:10	FS-BIII-05 <i>Control of Structure and Mechanical Behavior of Continuous Nanofibers through Addition of Small Amounts of Nano Inclusions</i> Dimitry Papkov, University of Nebraska-Lincoln	FS-EIII-05 <i>Isothermal Crystallization Experiments for Poly (L-Lactic Acid) Containing a Liquid-Type Nucleation Agent by Small- and Wide-Angle X-ray Scattering</i> Thi Ngoc Diep Pham, Kyoto Institute of Technology	FS-FIII-05 <i>A Novel Approach to Evaluate Thermal Protective Performance of Clothing Subjected to Stretching Forces</i> Guowen Song, Iowa State University
11:30	FS-BIII-06 <i>Polymer Nanofiber-based Filter Media with Tailored Three-dimensional Structure for High-efficient Air Filtration Through Suspension Drying Techniques</i> Ke Liu, Wuhan Textile University	FS-EIII-06 <i>Microspheres with Dimple Morphology of Poly(p-oxyferuloyl) Prepared by Reaction-induced Phase Separation</i> Hironori Atarashi, Okayama University	FS-FIII-06 <i>Testing Method for the Evaluation of Flammability of Meta-aramid Blended Yarns</i> Jie Feng, Hong Kong Polytechnic University
11:50	FS-BIII-07 <i>Electrospinning PAN of Increasing Isotacticity</i> Caroline L. Schauer, Drexel University	FS-EIII-07 <i>New Method to Investigate the Interfacial Tension of Polymer Melts</i> Yurong Yan, South China University of Technology	FS-FIII-07 <i>Beyond Fibers and Ropes – Best Practices</i> Rafael Chou, Samson Rope Technologies
12:10	Blocked	FS-EIII-08 <i>Preparation of Poly(1,4-phenylene terephthalamide) from Poly(ethylene terephthalate) by means of Reaction-induced Crystallization</i> Kunio Kimura, Okayama University	FS-FIII-08 <i>On-Line Appearance Inspection System of DTY Packages</i> Fei Li, Donghua University

	Room FS-F (2nd Floor, Hou-Rai)
12:30	Poster Award Ceremony and Closing Remarks

12:50 End of Conference

The Fiber Society's Spring 2018 Conference
Co-organized with
The Society of Fiber Science and Technology,
Japan

Tentative Program

【Plenary Lectures】

Room FS-A, 5th Floor, Small Hall

June 12

9:50-10:30

FS-AI-P1 A New Wearable Sensor in The Shape of A Braided Cord

Yoshiro Tajitsu,

Kansai University

13:50-14:30

FS-AI-P2 Unprecedented physical and mechanical properties of solvent free processed tapes and films of Ultra High Molecular Weight Polyethylene

Sanjay Rastogi

Maastricht University

【Keynote and Oral Presentations】

Room FS-A, 5th Floor, Small Hall

June 12

Smart Polymers, Fibers, and Textiles

10:50 **FS-AI-01 (Keynote)** Recent Developments of Smart and Multi-Functional Fibrous Materials and Clothing

Jintu Fan

Cornell University

11:20 **FS-AI-02** Enhancement of Continuous Nanofibrous Yarn Production for Fabrication of Multi-Functional Sensors

Toomadj Rajabi Eslami, Amin Forouzan,

Maryam Yousefzadeh

Amirkabir University of Technology

11:40 **FS-AI-03** Improved Electrical Conductivity of PU Nanofiber-web Coated with SWCNT/AgNW and Exploration as Textile Sensors

Eugene Lee, Eunji Jang, Gilsoo Choi

Yonsei University

12:00 **FS-AI-04** The Wearable Fiber Organic Electrochemical Transistors for Biological Sensing

Yuedan Wang, Xing Qing, Quan Zhou, Yang Zhang, Dong Wang

Wuhan Textile University

12:20 **FS-AI-05** Melt-spun Conductive Elastomeric Fibers for Smart Textiles, Implications for

Bio-signal Recordings

Ladan Eskandarian¹, Milad Alizadeh Meghraz^{1,2}, Mohammadreza Naeimirad³, Milad Lankarany^{1,4}

¹Myant Inc., ²University of Toronto; ³Razi University; ⁴The Hospital for Sick Children

14:50 **FS-AI-06** Acoustoelectric Conversion Properties of Electrospun Nanofiber Webs

Jian Fang, Chenhong Lang, Hao Shao, Tong Lin

Deakin University

15:10 **FS-AI-07** Characterization of Hybrid Smart Yarns Engineered for Versatile Applications in Sportswear, Medical and Multifunctional Textiles

Amir Shahzad, Abher Rasheed, Zulfiqar Ali, Bilal Qadir

National Textile University

15:30 **FS-AI-08** Application of Carbon Nanomaterial to Biodevice for Biofuel Cell with Carbon Binding Peptide Fused Enzyme

Shin-ichiro Suve, Aina Tonooka, Hiroaki Sakamoto, Takenori Satomura

University of Fukui

15:50 **FS-AI-09** Electromagnetic Shielding Effectiveness of Copper/Cotton Weft Knitted Fabrics

Hamed Mohammadi Mofarah, Saeed Shaikhzadeh Najar, Seyed Mohammad Etrati

Amirkabir University of Technology

16:30 **FS-AI-10 (Keynote)** Carbon-based Yarn Supercapacitor for Energy Storage

Yuxiang Huang^{1,2}, Jonathan Y. Chen¹, Guangjie Zhao²

¹University of Texas at Austin, ²Beijing Forestry University

17:00 **FS-AI-11** Smart Textile Actuator Using Stress Memory Polymer

Bipin Kumar

Indian Institute of Technology Delhi

17:20 **FS-AI-12** Electro-Conductivity of the Staple Polyester Fibres Coated by Ag in Vacuum

Hristo Hadjiev, Ivelin Rahnev, Philip Philippov

Technical University of Sofia

17:40 **FS-AI-13** Development of Superhydrophobic Energy Harvesting Textile via Plasma Treatment of Poly(vinylidene fluoride) Nanoweb

Beomjun Ju¹, Changsang Yun², Chung Hee Park¹

¹Seoul National University, ²Ewha Womans University

TOU-GEN
Room FS-B, 2nd Floor, 桃源

June 12

Fundamentals of Fiber & Textile Science, Testing, & Characterization

- 10:50 **FS-BI-01 (Keynote)** Quantitative Evaluation of Odour Retention on Different Fibre Types
Jinfeng Wang, Xi Lu, Jing Wang, Xungai Wang
Deakin University
- 11:20 **FS-BI-02** Surface Functional Textile for Healthcare Application with Rechargeable Antibacterial Activity
Zhentan Lu, Qinwen Yuan, Dong Wang
Wuhan Textile University
- 11:40 **FS-BI-03** Investigation of fiber-based Influences on Bacterial Adherence
Klas-Moritz Kossel¹, Marina Handel², Mathias Walter Horne², Uwe Klinge², Anja Gerhards², Thomas Gries¹, Andreas Blaesser¹
¹RWTH Aachen University, ²University Hospital RWTH Aachen
- 12:00 **FS-BI-04** Challenges from Wearable Technologies
Ning Pan
University of California-Davis
- 12:20 **FS-BI-05** Electrostatic Spinning – Spraying for Cell-Laden Hybrid Membranes Mimicking the Native Blood Barrier
Giuseppino Fortunato¹, A. Abrishamkar^{1,2}, A.G. Guex¹, M. Brunelli¹, M. Rottmar¹, K. Maniura-Weber¹, R. Rossi¹
¹Empa, ²ETH Zürich

Fiber Manufacturing & Characterization

- 14:50 **FS-BI-06** Numerical Simulation of Melt Spinning Process Incorporating Crystallization Characteristic of Polypropylene in Super Cooling Conditions
Yasuhiko Otsuki¹, Yutaka Kobayashi¹, Kouya Kawai², Wataru Takarada², Takeshi Kikutani²
¹Prime Polymer Co., Ltd., ²Tokyo Institute of Technology
- 15:10 **FS-BI-07** Comparison of Solution Spinning Setups for PLA Monofilaments
Georg-Philipp Paar¹, Elisabeth Wistuba¹, Catalina Molano-López², Andreas Blaesser¹, Andrij Pich², Thomas Gries¹, Stefan Jockenhoevel³
¹RWTH Aachen University, ²DWI-Leibniz Institute for interactive materials, ³AME-Helmholtz Institute for Biobased Materials
- 15:30 **FS-BI-08** Stereocomplexation of the Melt-spun Fibers of the Blends of Segmented

PLLA/PDLA with a Low Optical Purity
Masaki Yamamoto, Miho Sakai, Kazunari Masutani, Yoshiharu Kimura, Hideki Yamane
Kyoto Institute of Technology

- 15:50 **FS-BI-09** Study on High-Resolution On-Line Diameter Measurement of PET Fiber in High-Speed Melt-Spinning Process
Young Chan Choi¹, Hyun Ju Oh¹, Do-Kun Kim¹, Takeshi Kikutani², Wan-Gyu Hahm¹
¹Korea Institute of Industrial Technology, ²Tokyo Institute of Technology
- 16:30 **FS-BI-10 (Keynote)** Auxetic Structures from 3D Printed Hybrid Textiles
David Schmelzeisen¹, Daniel Buecher¹, Subin Shajoo³, Julian Haller¹, Christopher Pastore², Thomas Gries¹
¹RWTH Aachen University, ²Thomas Jefferson University, ³Karunya University
- 17:00 **FS-BI-11** High Modulus Nylon 66 Yarn for Tire Cord Fabric Development
N. Uğur Kaya, Tuğba Elele, Emine Güven
Kordsa Teknik Tekstil A.Ş.
- 17:20 **FS-BI-12** Properties and applications of new heat resistant polyamide fiber
Satoshi Koizumi, Ryokei Endo, Jirou Tanaka
Kuraray Co., Ltd.
- 17:40 **FS-BI-13** Three-component Composite Anti-counterfeiting Fiber Based on Cross-section Patterned
Ronggen Zhang¹, Pei Feng¹, Fei Li¹, Qiang Fei¹, Chongchang Yang^{1,2}
¹Donghua University, ²Engineering Research Center of Advanced Textile Machinery

June13

Smart Polymers, Fibers, and Textiles

- 9:20 **FS-BII-01** Mechanical and Electrical Properties of Graphene Coated Polyurethane Nanofiber Webs as a Strain Gauge
Eunji Jang, Eugene Lee, Gilsoo Cho
Yonsei University
- 9:40 **FS-BII-02** Proton Conductive Polymer Nanofiber Framework: Fabrication and Application to Polymer Electrolyte Fuel Cells
Manabu Tanaka^{1,2}, Hiroyoshi Kawakami^{1,2}
¹Tokyo Metropolitan University, ²Research Center for Hydrogen Energy-based Society
- 10:00 **FS-BII-03** Engineering of Bi-stretch Auxetic Woven Fabrics for High Performance Sportswear
Adeel Zulifqar, Hong, Hu Hong
Hong Kong Polytechnic University
- 10:40 **FS-BII-04** Waterborne Fabrication of Fluoride-free, Magnetic, Superhydrophobic Fabrics

Sida Fu, Hua Zhou, Hongxia Wang, Tong Lin
Deakin University

11:00 **FS-BII-05** Highly Air-permeable, Directional Water-transport Cotton Fabrics
Hongxia Wang, Hua Zhou, Tong Lin
Deakin University

11:20 **FS-BII-06** Melt Spinning of Novel Luminescent Polypropylene Shaped Fibers
Chureerat Praharn¹, Thanasat Sooksrimuang¹, Somboon Sahasithiwat¹, Nanjaporn Roungpaisan², Siriporn Kamtonwong¹, Waraporn Panchan¹, Wattana Klinasukhon¹, Natthaphop Suwannamek¹
¹National Metal & Materials Technology Ctr.,
²Rajamangala University of Technology Thanyaburi

11:40 **FS-BII-07** Clothing Pressure of the Elastic Socks: Measurement and Prediction Calculation
Mari Inoue, Terumi Yoshida
Kobe University

15:00 **FS-BII-08** Syndiotactic Polystyrene Fibers with Nanoporous Crystalline Phases: An Efficient Material for Sorption of Volatile Organic Pollutants
Christophe Daniel, Gaetano Guerra
Università Degli Studi di Salerno

15:20 **FS-BII-09** Optical and Mechanical Properties of PA/PET Blend Fibers for Artificial Hair with Different Major Components
Shunsuke Sato¹, Yuki Kato¹, Masatoshi Seki¹, Fumitaka Sugawara¹, Yutaka Shirakashi¹ and Takeshi Kikutani²
¹Aderans Co., LTD., ²Tokyo Institute of Technology

15:40 **FS-BII-10** Improvement of Aerosol Oil-mist Filtration Performance through Superoleophobic Treatment of Fibrous Filters
Xin Wei, Hongxia Wang, Hua Zhou, Tong Lin
Deakin University

16:00 **FS-BII-11** Anti-Tuberculosis Nanofibrous Membrane
Nakarin Subjalearndee, Chutima Vanichvattanadecha, Autchara Pagon, Varol Intasanta
National Nanotechnology Center

16:40 **FS-BII-12** Textiles with Antimicrobial and Antimosquito Products Encapsulated in Porous Silica Nanoparticles
Jaime Rocha Gomes, José Teixeira
University of Minho

17:00 **FS-BII-13** Multifunctional Liquid-core Fibers
Rudolf Hufenus, Sabyasachi Gaan
Empa

17:20 **FS-BII-14** Irradiated Hydrogel Fibers Responsive to Moisture
Jiachuan Hua, Wai Yi Cheung, Pui Fai Ng,

Bin Fei
Hong Kong Polytechnic University

17:40 **FS-BII-15** Preparation and Thermoresponsive Properties of Temperature-Sensitive-Gel(TSG)/Polymer Functional Films
Jin Gong¹, Eiichi Hosaka¹, Hiroshi Ito¹, Yoshikazu Shibata², Dai Nakanishi², Shin-ichiro Ishihara²
¹Yamagata University, ²KOHJIN Film & Chemicals Co., Ltd

June 14

Fiber Manufacturing & Characterization

9:20 **FS-BIII-01 (Keynote)** Can Fibers Lead the 4th Industrial Revolution?

Moon Won Suh
North Carolina State University

9:50 **FS-BIII-02** Yarn and Fabric Performances in a Modified Ring Spinning System
Rong Yin, Xiao-ming Tao, Bin-gang Xu
Hong Kong Polytechnic University

11:10 **FS-BIII-03** Fabric Defect Detection and Classification by Applying Convolutional Neural Networks
Maximilian Kemper, Sven Windau, Thomas Gries
RWTH Aachen University

11:30 **FS-BIII-04** Electrospinning vs. Centrifugally Spinning – Processing and Applications
Mahmut, Dirican, Pei Zhu, Chaoyi Yan, Xiangwu Zhang
North Carolina State University

11:10 **FS-BIII-05** Control of Structure and Mechanical Behavior of Continuous Nanofibers through Addition of Small Amounts of Nanoinclusions
Dimitry Papkov, Mohammad Nahid Andalib, Yuris Dzenis
University of Nebraska-Lincoln

11:30 **FS-BIII-06** Polymer Nanofiber-based Filter Media with Tailored Three-dimensional Structure for High-efficient Air Filtration Through Suspension Drying Techniques
Ke Liu, Pan Cheng, Zhibing Yi, Xu Wang, Ying Liu, Dong Wang
Wuhan Textile University

11:50 **FS-BIII-07** Electrospinning PAN of Increasing Isotacticity
Reva M. Street¹, Masatomo Minagawa², Caroline L. Schauer¹
¹Drexel University, ²NPO, Cream-Create-Laboratories

FUKU-IYU
Room FS-C, 2nd Floor, 福寿

June 12

**Sustainable Polymer Materials /
Advanced Cellulose Fibers & Textiles**

- 10:50 **FS-CI-01 (Keynote)** Research Activities on Bio-based Fibers in Toray Industries, Inc.
Yoshitaka Aranishi, Hidekazu Kano, Yoichiro Tanaka
Toray Industries, Inc.
- 11:20 **FS-CI-02** Cellulose Dissolution in Ionic Liquids: A Theoretical Study
Takuya Uto, Kazuya Yamamoto, Jun-ichi Kadokawa
Kagoshima University
- 11:40 **FS-CI-03** Highly Stiff Cellulose Fibers Spun from Liquid Crystalline Microcrystalline Cellulose Solutions using DMSO as Co-solvent with an Ionic Liquid
Chenchen Zhu, Anastasia F. Koutsomitopoulou, Stephen J. Eichhorn, Jeroen S. van Duijneveldt, Robert M. Richardson, Kevin D. Potter
University of Bristol
- 12:00 **FS-CI-04** Hierarchical Core-Sheath PPy@CNT/BC Macrofibers with High Electrochemical Performance for All-Solid-State Supercapacitors
Jingjing Yao, Shiyan Chen, Huapign Wang
Donghua University
- 12:20 **FS-CI-05** Preparation of Highly Stretchable Elastomeric Composites Reinforced with Well-defined Nanofiber Network of Bacterial Cellulose
Keita Sakakibara¹, Yoshihiko Shimizu^{1,2}, Yohei Nakanishi¹, Yoshinobu Tsujii¹
¹Kyoto University, ²Matsumoto Yushi-Seiyaku Co., Ltd.
- 14:50 **FS-CI-06** Effects of a Biobased Filler on the Crystallization Behaviors of Poly (L-Lactic Acid)
Amit Kumar Pandey¹, Rahul Patwa², Vimal Katiyar², Sono Sasaki¹, Shinichi Sakurai¹
¹Kyoto Institute of Technology, ²Indian Institute of Technology Guwahati
- 15:10 **FS-CI-07** Forcibly Spinning of Bombyx mori Silkworm Silk Ended in a Complete Failure
Yutaka Kawahara
Gunma University
- 15:30 **FS-CI-08** Fabrication and Characterization of Transparent, Flexible and Water-insoluble, Non-mulberry Silk Fibroin Films
Kelvin O. Mosei^{1,2,3}, Taiyo Yoshioka³, Tsunerori Kameda³, Yasumoto Nakazawa¹,

¹Tokyo University of Agriculture and Technology, ²Kenya Agricultural and Livestock Research Organization, ³National Agriculture and Food Research Organization

- 15:50 **FS-CI-09** Structural Change and its Effect on the Mechanical Property of Silk Induced by Tensile Deformation
Taiyo Yoshioka¹, Tsunenori Kameda¹, Kohji Tashiro²
¹National Agriculture and Food Research Organization, ²Toyota Technological Institute
- 16:30 **FS-CI-10 (Keynote)** High Performance Bio-based Plastics Synthesized from Natural and Unnatural Polysaccharides
Tadahisa Iwata
University of Tokyo
- 17:00 **FS-CI-11** Development of Thermostable Polymers from Plant-Derived Aromatic Hydroxy Acids
Daisuke Ishii^{1,2}, Tatsuya Goto¹, Kotaro Ino¹, Yukiko Enomoto¹, Tadahisa Iwata¹
¹University of Tokyo, ²Tokyo University of Agriculture
- 17:20 **FS-CI-12** Utilization of Plant Biomass as Valuable Materials via Sustainable Process
Kazuhiro Shikinaka¹, Yuichiro Otsuka², Haruka Sotome³, Yoichi Tominaga³
¹Natl Institute of Advanced Industrial Science & Technology, ²Forestry and Forest Products Research Institute, ³Tokyo University of Agriculture and Technology
- 17:40 **FS-CI-13** Novel Bio-based Anti-bacterial Textiles for Healthcare Applications
Shirui Liu, Xiaoming Tao, Cheukhang Wong
Hong Kong Polytechnic University

June 13

Fundamentals of Fiber & Textile Science, Testing, & Characterization

- 9:20 **FS-CII-01** Effect of Vapor Permeability and Aperture of Outdoor Parka and Environmental Velocity on Evaporative Heat Transfer and Ventilation Rate Using Sweating Thermal Manikin and Tracer Gas Methods
Yayoi Satsumoto¹, Takuya Aoyagi¹, Ayano Dempoya², Tomoko Koshiba², Teruko Tamura²
¹Yokohama National University, ²Bunka Gakuen University
- 9:40 **FS-CII-02** Determination of Total Comfort of Sport Caps Using Wear Trials
Rosimeiri Naomi Nagamatsu^{1,2}, Maria José Araújo Marques de Abreu², Cosmo Damião Santiago¹, Derya Tama^{2,3},

containing Methyl Salicylate Deposited onto a Cotton Fabric

Samira da Silva Mendes¹, Andrea Zille², Fabricio Maestá Bezerra¹, Nádia Regina Machado Fernandes Camargo³, André Paulo Almeida Whiteman Catarino²

¹Federal Technological University of Paraná,

²University of Minho, ³State University of Maringá

15:30 **FS-DI-08** Colorful Fluorine-free Superhydrophobic Polyester fabric Developed via Disperse Dyeing process
Ji-Hyun Oh, Chung Hee Park
Seoul National University

15:50 **FS-DI-09** Safer Hair Dyeing by Using Biobased Materials - Techniques, Dyeability and Protection Effect -

Hidekazu Yasunaga¹, Akiko Takahashi¹, Kazue Ito¹, Masahisa Ueda¹, Saina Taniguchi¹, Asami Yano¹, Chinami Seki¹, Hiroshi Osaki¹, Tomoyasu Kida¹, Aya Shomura¹, Takanori Matsubara²

¹Kyoto Institute of Technology, ²College of Industrial Technology

Carbon Fibers and Advanced Composite Materials

16:30 **FS-DI-10 (Keynote)** Consideration of the Impregnation Process of Polymer Melt to Carbon Fiber Bundle by Steady-State Viscoelastic Flow Simulation
Shuichi Tanoue, Hayato Otake, Hideyuki Uematsu
University of Fukui

17:00 **FS-DI-11** Improvements in Determination of Carbon Fibre Strength Distribution using Automation and Statistical Data Analysis

Faisal Islam¹, Steve Bucknell², Yann Leray², Anthony Bunsell¹, Lucien Laiarinandrasana¹, Sébastien Joannès¹

¹MINES ParisTech, ²Dia-Stron, Ltd.

17:20 **FS-DI-12** Strength Reduction in Liquids and Its Application to Defect Analysis for Carbon Fibers

Masatoshi Shioya¹, Masayoshi Ido¹, Yoshiki Sugimoto²

¹Tokyo Institute of Technology, ²National Institute of Advanced Industrial Science and Technology

17:40 **FS-DI-13** Influence of Chemical Pretreatments on Processing, Structure and Properties of Rayon-Based Carbon Fibers

Gajanan Bhat¹, Kokouvi Akato², Wesley Hoffman³, Farhad Mohammadi⁴,

¹University of Georgia, ²Oak Ridge National Laboratory, ³Edwards Air Force Base, ⁴Advanced Cerametrics

Room FS-E, 3rd Floor, 308

June 13

Fundamentals of Polymer Material: Synthesis, Polymerization, Characterization, and Its Physics

9:20 **FS-EII-01** Syntheses and Wettability of Poly(fluoroalkyl (Meth)acrylate)s with Carbamate Linker
Yi Liu^{1,2}, Yuji Higaki², Atsushi Takahara²
¹Guizhou Normal College, ²Kyusyu University

9:40 **FS-EII-02** Polymer Hybrid Membranes for CO₂ Capture

Shinji Kaneshashi^{1,2}, Kenji Ogino³, Sandra Kentish²

¹Tokyo University of Agriculture and Technology,

²University of Melbourne

10:00 **FS-EII-03** Facile Fabrication of Poly(glycidyl methacrylate)-b-Polystyrene Functional Nanofibers under Shearing Field

Deli Xu, Wenwen Wang, Zhifeng Zhang, Dong Wang

Wuhan Textile University

10:40 **FS-EII-04** Photonic Films of Block Copolymers: Comprising a Main-Chain Liquid Crystalline Central Segment Connected to Amorphous Segments at Both Ends

Junpei Kuribayashi, Maito Koga, Masatoshi Tokita

Tokyo Institute of Technology

11:00 **FS-EII-05** Regularity of Spherical Microdomain Ordering in a Triblock Copolymer Ultrathin Film

Rasha Ahmed Hanafy Bayomi, Sono Sasaki, Shinichi Sakurai

Kyoto Institute of Technology

11:20 **FS-EII-06** Effect of Alkyl Chain Length of Fatty Acids on Adsorbed Layer Formation of the Acids and Local Viscosity at Metal/fluid Interface

Toyoaki Hirata, Hina Takamura, Shinya Ozawa, Kenji Hisada

University of Fukui

11:20 **FS-EII-07** Fully Return-to-Nature Polymer Research for Sustainability of Resources

Seong Hun Kim

Hanyang University

Carbon Fibers and Advanced Composite Materials

15:00 **FS-EII-08** The Effects of Interfacial Adhesion for Mechanical Properties of CFRTPs Made with Polyamide 6

Toshihira Irisawa, Kento Ujihara, Sarasa

- Kobayashi, Yasuhiro Tanabe*
Nagoya University
- 15:20 **FS-EII-09** Highly Transparent PVA-co-PE Nanofiber/Epoxy Film
Dong Wang, Mufang Li¹, Weibing Zhong
Wuhan Textile University
- 15:40 **FS-EII-10** Ionic Liquid-Based Electrolytes Containing Inorganic Nanofibers for Quasisolid Energy Devices
Hidetoshi Matsumoto, Takahiro Yuuki, Yuki Takano, Minoru Ashizawa, Hajime Matsumoto
Tokyo Institute of Technology
- 16:00 **FS-EII-11** Preparation of Few-Layer Graphene Using Ionic Liquid as Green Media and Its Application in Polymer Composite and Fibers
Ye Chen, Chenyu Wang, Fuyou Ke, Peng Ji, Huaping Wang
Donghua University
- 16:40 **FS-EII-12** On the Development of Sustainable Composites Reinforced with High Performance Regenerated Cellulose Fibers
Anastasia F. Koutsomitopoulou, Chenchen Zhu, Marco Longana, Stephen J. Eichhorn, Kevin D. Potter
University of Bristol
- 17:00 **FS-EII-13** Inducing the Crystallization in Cotton Cellulose Ion Gel Films for Enhanced Mechanical Properties
Muhammad Abdul Haq^{1,2}, Yasuhiro Habu¹, Kazuya Yamamoto¹, Akihiko Takada³, Jun-ichi Kadokawa¹
¹Kagoshima University, ²University of Karachi, ³Kyushu University
- 17:20 **FS-EII-14** Antibacterial Nano-crystalline Cellulose modified with N-halamine/Quaternary Ammonium Salts
Xuehong Ren¹, Ying Liu¹, Yan Zhang¹, Tung-Shi Huang²
¹Jiangnan University, ²Auburn University
- 17:40 **FS-EII-15** Hydrogel Surface Functionalization of Cotton to Improve Wound Dressing Applicability
Eva Pinho, Graça Soares
University of Minho

June 14

Fundamentals of Polymer Material: Synthesis, Polymerization, Characterization, and Its Physics

- 9:20 **FS-EIII-01 (Keynote)** Continuous Supernanofibers for the Next Generation Tough Structural Composites
Yuris Dzenis
University of Nebraska-Lincoln

- 9:50 **FS-EIII-02** Derivation of Statistical Principle ($dQ=\text{const.}$) Explaining the Heating Rate Dependence of Degradation Temperature (T_d) of Ziegler-Natta Poly(styrene)
Masatomo Minagawa¹, Toshiki Taira², Yoshiaki Fujikura²
¹NPO, Cream-Create-Laboratories, ²Yamagata University
- 11:10 **FS-EIII-03** Preparation and Characterization of Modified Polyesters with Flame Retardancy and Anti-droplet Properties by Copolymerization
Peng Ji, Zhenling Jiang, Chaosheng Wang, Fuyou Ke, Ye Chen, Huaping Wang
Donghua University
- 11:30 **FS-EIII-04** Dye Decomposition and Cr(VI) Reduction under Visible light by a Cellulose Acetate Fiber Cross-Linked with Amorphous TiO_2
Hanako Asai, Shinya Kato, Koji Nakane
University of Fukui
- 11:10 **FS-EIII-05** Isothermal Crystallization Experiments for Poly (L-Lactic Acid) Containing a Liquid-Type Nucleation Agent by Small- and Wide-Angle X-ray Scattering
Pham Thi Ngoc Diep¹, Masatsugu Mochizuki², Mikio Doi², Hideaki Takagi³, Nobutaka Shimizu³, Noriyuki Igarashi³, Sono Sasaki¹, Shinichi Sakurai¹
¹Kyoto Institute of Technology, ²Taiyo Kagaku Co., Ltd., ³High energy Acceleration Research Organization
- 11:30 **FS-EIII-06** Microspheres with Dimple Morphology of Poly(p-oxyferuloyl) Prepared by Reaction-induced Phase Separation
Hironori Atarashi, Masahaya Sugimoto, Shinichi Yamazaki, Kunio Kimura
Okayama University
- 11:50 **FS-EIII-07** New Method to Investigate the Interfacial Tension of Polymer Melts
Yurong Yan^{1,2}, Youim Chang², Rudolf Hufenus³
¹South China University of Technology, ²Tunghai University, ³Empa
- 12:10 **FS-EIII-08** Preparation of Poly(1,4-phenylene terephthalamide) from Poly(ethylene terephthalate) by means of Reaction-induced Crystallization
Tatsuya Kohara, Hironori Atarashi, Shinichi Yamazaki, Tetsuya Uchida, Kunio Kimura
Okayama University

HOU-RAI
Room FS-F, 2nd Floor, 蓬萊

June 14

Fundamentals of Fiber & Textile Science, Testing, & Characterization

- 9:20 **FS-FIII-01 (Keynote)** Development of Auxetic Yarn using Braiding Technology
Ning Jiang, Hong Hu
Hong Kong Polytechnic University
- 9:50 **FS-FIII-02** Fabric Drape Model Considering Shear and Bending
Liu Yang, KyoungOk Kim, Masayuki Takatera
Shinshu University
- 11:10 **FS-FIII-03** Effect of Drying Temperature on Shrinkage Ratio of Knitted Clothing
Yurika Hashimoto¹, KyoungOk Kim¹, Masayuki Takatera¹, Kazuhiko Hashimoto²
¹Shinshu University, ²Panasonic Co. Ltd.
- 11:30 **FS-FIII-04** Evaluation of Nanoscale Structure and Mechanical Properties of Fibers Using FIB-Notch Techniques
Taylor Stockdale, Yuris Dzenis
University of Nebraska-Lincoln
- 11:10 **FS-FIII-05** A Novel Approach to Evaluate Thermal Protective Performance of Clothing Subjected to Stretching Forces
Yun Su^{1,2}, Rui Li², Jie Yang², Guowen Song², Chunhui Xiang², Jun Li¹
¹Donghua University, ²Iowa State University
- 11:30 **FS-FIII-06** Testing Method for the Evaluation of Flammability of Meta-aramid Blended Yarns
Jie Feng, Tao Hua, Min Zhang, Ka Hei Chan, Wong Man Ching
Hong Kong Polytechnic University
- 11:50 **FS-FIII-07** Beyond Fibers and Ropes – Best Practices
Rafael Chou, David S. Tseng
Samson Rope Technologies
- 12:10 **FS-FIII-08** On-Line Appearance Inspection System of DTY Packages
Fei Li, Pei Feng, Ronggen Zhang, Qiang Fei, Chongchang Yang
Donghua University

【Poster Presentations】

Room FS-P, 1st Floor, Exhibition Hall

June 13

Obligation Time

- Odd numbers: 12:00 – 12:40
Even numbers: 12:40 – 13:20

Fundamentals of Polymer Material: Synthesis, Polymerization, Characterization, and Its Physics

- FS-PII-01** Ultra Small-angle X-ray Scattering Analysis of Block Copolymer-grafted Silica Nanoparticle Hybrid Films Under Mechanical Deformation
Chao-Hung Cheng, Shuhei Nozaki, Chigusa Nagano, Shiori Masuda¹, Tomoyasu Hirai, Yuji Higaki, Ken Kojio, Atsushi Takahara
Kyushu University
- FS-PII-02** Effect of Spacer Geometry on Reverse Electrodialysis (RED) Resistance
Soroush Mehdizadeh, Takakazu Abo, Masahiro Yasukawa, Yuriko Kakihana, Mitsuru Higa
Yamaguchi University
- FS-PII-03** Electric Heating Performance and Superhydrophobicity of Cotton Fabric In-situ Polymerized with Pyrrole Using Binary Oxidants
Suhyun Lee¹, Chung Hee Park
Seoul National University
- FS-PII-04** Performance and Efficiency Comparison between Pressure-retarded Osmosis and Reverse Electrodialysis
Masahiro Yasukawa, T. Sakurada, R. Horie, M. Kuno, Y. Kakihana, M. Higa
Yamaguchi University
- FS-PII-05** Characterization of Charge Mosaic Membranes Prepared by Ion-track Graft Polymerization
M. Omori¹, T. Yamaki², H. Koshikawa², S. Sawada³, Y. Kakihana¹, M. Yasukawa¹, Mitsuru Higa¹
¹Yamaguchi University, ²National Institutes for Quantum and Radiological Sciences and Technology, ³Japan Atomic Energy Agency
- FS-PII-06** Characterization of Cation-exchange Membranes Prepared by Ion-track Graft Polymerization
Saeko Harada¹, M. Goto¹, T. Yamaki², S. Sawada³, H. Koshikawa², A. Kitamura³, M. Yasukawa¹, M. Higa¹
¹Yamaguchi University, ²National Institutes for Quantum and Radiological Sciences and Technology, ³Japan Atomic Energy Agency
- FS-PII-07** Preparation and Characterization of PVA-based Charge Mosaic Membranes Prepared by Polymer Coating Method
Tsuyoshi Saito, Yuriko Kakihana, Masashiro Yasukawa, Mitsuru Higa
Yamaguchi University

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- FS-P11-10** Nonwoven-based Ion Accelerated Mileage Air Filter for Automobiles
P. Kadole¹, *Aniket Bhute²*
¹DKTES Textile & Engineering Institute, ²DKTE Center of Excellence in Nonwovens
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Hyewon Kim¹, *Changsang Yun²*, *Sungmin Kim¹*, *Chunghee Park¹*
¹Seoul National University, ²Ewha Womans University
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- FS-P11-20** Sensory Evaluation of Female Jeans Using the CALM Scale to Assess the Total Comfort
Iara Braga^{1,2}, *Maria José Abreu²*, *Madalena Oliveir²*
¹Federal University of Piauí, ²University of Minho
- FS-P11-21** Evaluation of Performance Such as Hygroscopic Exothermic Property and Heat of Vaporization of Clothing Materials
Maika Tamari¹, *Atsumi Takezawa¹*, *Chihiro Suzuki¹*, *Kaname Katsuraya¹*, *Masami Asano²*
¹Wayo Women's University, ²Asano Nenshi Co., Ltd.
- FS-P11-22** Development of a New Outdoor Sport Shirt Using a Thermal Manikin under Different Climatic Conditions
Maria José Abreu¹, *Andre Catarino¹*, *Derya Tama²*
¹University of Minho, ²Ege University
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Ayumi Takemoto, Michiko Ohtsuka
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Nanjaporn Roungpaisan, Wataru Takarada, Takeshi Kikutani
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- FS-P11-27** Separation of Oil-in-Water Emulsions Stabilized by Different Types of Surfactants Using Electrospun Fiber Membranes
Yi-Min Lin, Gregory C. Rutledge
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Byeong Jin Yeang, Seung Jin Lee, Do Kun Kim
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- FS-P11-29** Structure and Properties of Poly(ethylene terephthalate) Fiber Webs Prepared Through Laser-Heated Electrospinning and Biaxial Stretching Processes
Tomoki Tokuda¹, Takuya Hara¹, Atsuya Otake¹, Wataru Kita¹, Midori Takasaki¹, Haruki Kobayashi¹, Katsufumi Tanaka¹, Wataru Takarada², Takeshi Kikutani²
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Moosung Kim, Hyunjung Choi, Damiro Ahn, Sang Young Yeo
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- FS-P11-31** PET Fiber Formation through Continuous Cold Drawing Process with Infusion of Organic Solvent
Dongwoo Go¹, Wataru Takarada¹, Arun Aneja², Takeshi Kikutani¹
¹Tokyo Institute of Technology, ²East Carolina University
- FS-P11-32** Computational Fluid Dynamics Analysis on Capillary Flow Through Cross-section Profiled Fibers
Eunjin Park¹, Giwon La², Jongkwang Lee², Eunae Kim¹
¹Yonsei University, ²Hanbat National University
- FS-P11-33** Preparation and Characterization of PSA/Cellulose Alloy Fibers with N-methylmorpholine-N-oxide Monohydrate as Solvent
Tong Cheng, Kaijian Wu, Yumei Zhang, Huaping Wang
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- FS-P11-34** Polyurethane Nanofibrous Membranes Prepared via Suspension Electrospinning
Youjung Song, Seungsin Lee
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- FS-P11-35** Preparation of Islands (High Molecular Weight PET) in the Sea (PP)-type Bicomponent Fibers by Using High-speed Melt Spinning

Hyung Joo An^{1,2}, Young Chan Choi¹, In-Woo Nam¹, Ho-dong Kim², Wan-Gyu Hahm¹

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- FS-P11-36** The Impact of Pre-orientation on the Crystallization of Poly(ethylene terephthalate) Fiber during Uniaxial Tension
Jiaxiong Zou, Kang Chen, Hong ji, Yumei Zhang, Huaping Wang
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- FS-P11-37** Innovative Conjugate Spinning Technology "NANODESIGN®"
Masato Masuda, Tomohiko Matsuura, Hirofumi Yamanaka, Yoshitaka Aranishi
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Chi-wai Kan
Hong Kong Polytechnic University
- FS-P11-39** UV Protection Properties of Cotton Dyed with Onion Natural Extract
Márcia Silva¹, Jorge Santos², Graça Soares²
¹State University of Maringá, ²University of Minho
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Dejun Feng, Kaijian Wu, Jinchao Yu, Yumei Zhang, Huaping Wang
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Manami Fukumura^{1,2}, Ikuko Turo¹, Kunio Kimura²
¹Kurashiki City College, ²Okayama University

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Takashi Kurose, Keita Shishido, Akihiko Nemoto, Hiroshi Ito
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Do-Kun Kim, Hyun Ju Oh, Bo-Seok Song, Byeong Jin Yeang
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- FS-P11-44** Electrical Percolation Behavior of Carbon Black/Polymer Composites
Hyunjung Choi, Moo Sung Kim, Damiro

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Korea Institute of Industrial Technology

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Maryam Yousefzadeh¹, Jose Rajan²
¹Amirkabir University of Technology, ²Universiti Malaysia Pahang

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Yutaka Kawahara, Ayumi Sato
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- FS-P11-47** An Accelerated Evaluation Method to Test the Biodegradation of Polylactic Acid Nonwoven

Xiaoshan Lin, Zhicheng Zhan, Yi Zhang, Yurong Yan
South China University of Technology

- FS-P11-48** Fabrication and Characterization of Anti-yellowing Silk with TiO₂ Coating on Zirconium Phosphate Undercoat

Meguru Yokoyama, Hisanao Usami
Shinshu University

- FS-P11-49** Construction of a Cell Adhesive Silk Fibroin Material by Mixing with Peptides

Chikako T. Nakazawa, Ryoichi Takahashi, Momoko Sonoda, Atsushi Asano
National Defense Academy

- FS-P11-50** Characteristics of the Cellulose Nanofiber Coatings on TEMPO-treated Fabrics

Natsuki Shirai, Nao Kamatsuka, Haruka Kijima, Miki Nakano, Hitomi Hamada
Tokyo Kasei University

- FS-P11-51** Production of Cellulose Nanofibers from Oil Palm Residue

Yoko Okahisa¹, Yuma Furukawa¹, Kiyoaki Ishimoto², Kamthorn Intharapichai¹

¹Kyoto Institute of Technology, ²Rajamangala University of Technology Thanyaburi

- FS-P11-52** Preparation of Porous Cellulose Acetate-Titanium Dioxide Composite Fiber and Its Characterization

Kosuke Iriyama, Hanako Asai, Koji Nakane
University of Fukui

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- FS-P11-53** Design and Characterization of Micro- and Nano- Hybrid Mats with a High-filtration Efficiency

Lingli Deng¹, Ruitian Zhu², Peng Zhang², Zhiming Qiu¹, Yurong Yan¹

¹South China University of Technology, ²Guangzhou Inspection Testing and Certification Group Co., Ltd.

- FS-P11-54** Reactive Fibers for Air Filtration in Wastewater Treatment Plants

Lukasz Debicki¹, Inga Noll¹, Thomas Gries¹, Andreas Obermayer², Frank Magdeburg²
¹RWTH Aachen University, ²UNITECHNICS KG

- FS-P11-55** Influence of Non-cellulosic Components' Removal on the Wet-Dry Cycling Durability of Flax Textile-reinforced Cement Composites

Laura González, Heura Ventura, Josep Claramunt, Mònica Ardanuy
Universitat Politècnica de Catalunya