9th Central European Conference 2017

Fibre - Grade Polymers, Chemical Fibres and Special Textiles

September 11th-13th 2017, Liberec, Czech Republic

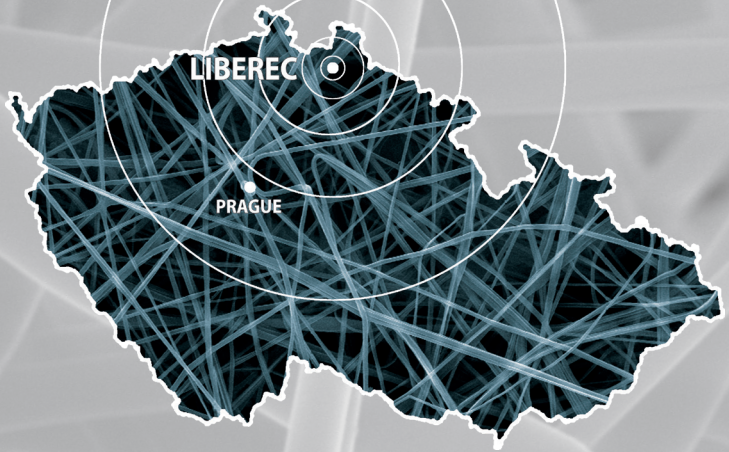
Pocket Programme

TECHNICAL UNIVERSITY OF LIBEREC
Faculty of Textile Engineering

9th Central European Conference 2017

Fibre - Grade Polymers, Chemical Fibres and Special Textiles

September 11th-13th 2017, Liberec, Czech Republic



ADDRESS

Technical University of Liberec
Faculty of Textile Engineering
Studentská 2, 461 17 Liberec
Czech Republic

www.ft.tul.cz

9th Central European Conference 2017

Fibre - Grade Polymers, Chemical Fibres and Special Textiles

September 11th-13th 2017, Liberec, Czech Republic

http://cec2017.ft.tul.cz

9th Central European Conference 2017

Fibre - Grade Polymers, Chemical Fibres and Special Textiles

Welcome to Liberec

Dear Colleagues,

on behalf of the Organisers we would like to welcome you at the 9th Central European Conference (CEC 2017) on Fibre-Grade Polymers, Chemical Fibres and Special Textiles, which is held from 11th to 13th September 2017 in Liberec, Czech Republic.

The CEC 2017 Conference invites the original research and review papers from all over the world for both oral and poster presentations as an excellent opportunity to discuss the latest European and world trends, technological advancements and innovations in the field of textile fibers, materials, technologies and design. Additionally, the conference discusses aspects of sustainability.

We wish you a pleasant stay in Liberec!

prof. Jiří Militký, CSc.

President of Scientific Committee

9th Central European Conference 2017

Fibre - Grade Polymers, Chemical Fibres and Special Textiles

Keynote Speakers

Prof. Dr. Henry Yi LI

Institution:
School of Materials, The University of Manchester

Keynote Lecture:
Bioengineering Smart Functional Textiles

Dr. Yi Li is a full professor and holds a position of chair in Textile Science and Engineering in the School of Materials, the University of Manchester. He established the Textile Bioengineering Framework to conduct systematic research in textile thermal bioengineering, biomechanical engineering, sensory bioengineering and biomedical engineering, with significant research outputs in biomaterials, nano scale drug delivery systems, nano fiber based scaffolds and textile devices for tissue engineering and stents, smart materials and intelligent wearables, textile material functional testing and characterization, digital apparel and clothing functional design, textile ecological and carbon footprint and industry sustainability and strategic technology roadmap development, which has become an international platform of design and engineering textiles to promote industry-university cooperation and accelerate technology transfer.

9th Central European Conference 2017

Fibre - Grade Polymers, Chemical Fibres and Special Textiles

Keynote Speakers

Prof. Ana Marija GRANCARIC, Ph.D., C.Col.

Institution:
Faculty of Textile Technology, University of Zagreb

Keynote Lecture:
Textile Sensors in Textile Reinforced Composites

Prof. Grancaric holds Ph.D. in Textile Technology, University of Zagreb (1979). SDC Chartered Colorist (C.Col.) and SDC Fellow (FSDC) she received in 2001. From 1989. to 1994. she was the Head of Chemical Department at Faculty of Textile Technology and from 2002 to 2006 Faculty Vice-dean for Science and International Relations. From 2007 to 2012 she was Head of International Relations Office. As the project leader or Croatian partner she worked on 17 projects. She is member of ten Conference Scientific Committees and member of five Journals' Editorial Board. She was outgoing ERASMUS teacher and ERASMUS mobility coordinator and teacher for incoming students. She has collaboration and publishes papers with more than 50 international scientists. She has published 4 books, 90 papers in refeered journals and 117 papers presented to the scientific conferences. She is full member od 20 societies, a founder of four Societies: AUTEX, Textile Alumni Society- AMCA TTF (president), Croatian Colour Society (HUBO) (president) and co-founder of the Croatian Society "Nikola Tesla - Genious for the Future".

9th Central European Conference 2017

Fibre - Grade Polymers, Chemical Fibres and Special Textiles

Keynote Speakers

Dr. Maria Wallenius HENRIKSSON, Ph.D.

Institution:
IVL The Swedish Environmental Research Institute

Keynote Lecture:
Can composite parts compete with other material choices in the heavy duty automotive industry, from an environmental perspective?

Dr. Wallenius Henriksson is currently an environmental and materials expert at IVL and works almost full time with projects for the AB Volvo Group. She joined IVL in 2016 and was before that working as a Materials Engineering as well as LCA specialist at Advanced Technology and Research at the AB Volvo Group. She has participated in several European projects, performing Life Cycle Assessments (LCA) on various development projects for lithium ion batteries, light weight applications for the automotive industry (i.e. composites), energy saving electrical applications and recycling strategies of composites.

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Fibre - Grade Polymers, Chemical Fibres and Special Textiles

Keynote Speakers

Prof. Izabella KRUCINSKA, Ph.D.

Institution:

College of Commodity Science, Lodz University of Technology

Keynote Lecture:

The Review of the Technologies of Chemosensory Nonwoven Fabrics

Professor Izabella Krucińska is the head of the Department of Materials and Commodities Science and Textile Metrology College of Commodity Science, Lodz University of Technology. She is giving the lectures from: Textile Metrology, Commodity Science of Textiles, Personal Protective Equipment and Textronic Technologies at Lodz University of Technology and European Textile Engineering Advances for E-TEAM. She has led over 20 projects financed by national founding, she participated in realization of 6 projects financed by structural founding of EU and was conserned in realization of 8 projects financed by EU in the frame of FP (IV-VII FR UE). She has 129 publications noticed in WoS database, she has co-authored 39 patents, she has supervised 8 Ph.D. thesis and she is a head of laboratory Lab - Tex accredited by Polish Centre for Accreditation. She coordinates Polish Technology Platform for Textile Industry and Centre of Advanced Technologies of Human – Friendly Textiles PRO HUMANO TEX. She is a member of several scientific committees and editorial boards of international journals.

9th Central European Conference 2017

Fibre - Grade Polymers, Chemical Fibres and Special Textiles

Keynote Speakers

Dr. Arun Pal ANEJA

Institution:
Department of Engineering, East Carolina University

Keynote Lecture:
Squaring the Circular Economy: Textile Redesign

Arun Pal Aneja is a Global Technology Executive and Change Leader known for expertise in commercializing new technology for profitable growth while improving business quality. He has provided strategic business and technical leadership for professionals and technical staff in locations around the world. He has over 40 years of experience in teaching, research and development, process/product engineering, manufacturing and optimization in textiles, polymers, composites, synthetic membranes and chemical industries with expertise in Six Sigma certification for product development and cost reduction. He is inventor of profitable processes and products and credited with over 35 patents and an extensive publication record. Arun Aneja graduated in Chemical Engineering from the Indian Institute of Technology, Kanpur. He received his MS and PhD also in Chemical Engineering from North Carolina State University and MBA from the Fuqua School of Business at Duke University. He was the Chief Technology Officer at India's largest private sector company - Reliance Industries. He spent most of his career with DuPont Company in various functions and also as Engineering Manager at Monsanto Company.

9th Central European Conference 2017

Fibre - Grade Polymers, Chemical Fibres and Special Textiles

Programme

Sunday 10th September 2017

17:00-19:00 ***Registration***
Lobby, building G, Technical University of Liberec

Monday 11th September 2017

08:00-09:00 ***Registration***
Lobby, building G, Technical University of Liberec

09:00-09:30 ***Opening Ceremony***
Aula G312, building G, Technical University of Liberec
prof. Zdeněk KŮS *(Rector of Technical University of Liberec)*
dr. Jana DRAŠAROVÁ *(Dean of Faculty of Textile Engineering)*
prof. Jiří MILITKÝ *(President of Scientific Committee)*

09:30-10:00 ***Keynote Lecture***
prof. Henry Yi LI
Bioengineering Smart Functional Textiles

Session	***Advanced Fibres and Materials*** *Aula G312, building G, Technical University of Liberec* ***Chairman: prof. Jiří MILITKÝ***
10:00-10:20	**Diego Bielsa MP** *Improved Biobased Fibres for Different Textile Applications: Clothing and Automotive sector*
10:20-10:40	**Draczyński Z** *Polysaccharidies Porous Structures for Application in Regenerative Medicine*
10:40-11:00	***Coffee Break*** *Lobby, building G, Technical University of Liberec*
11:00-11:20	**Czaplicki Z** *Fibrilized Cereal Straw as New Textile Raw*
11:20-11:40	**Tarbuk A** *The Implementation of Chitosan into Cotton Fabric*
11:40-12:00	**Chonsakorn S** *The Effect of Enzyme Treatment on the Physical Properties of Green Coconut Fiber*
12:00-12:20	**Jingjit P** *Spinning and Characterisation of Segmented Pie Bicomponent Fibres from Polyolefin and Nylon 6 with TiO_2*
12:20-12:40	**Naeem MS** *Development and Application of Activated Carbon Web for EMI Shielding and Ohmic Heating*

12:40-13:50	***Lunch*** *Lobby, building G, Technical University of Liberec*
Session	***Functional Clothing and Comfort*** *Aula G312, building G, Technical University of Liberec* ***Chairman: assoc. prof. Antonín HAVELKA***
13:50-14:10	**Boughattas A** *Thermo-Physiological Comfort of Brushing Woven Fabrics*
14:10-14:30	**Hussain U** *Study of Thermal Comfort of Single Jersey Fabric by Utilization of Recycled Wool with Polyester*
14:30-14:50	**Queslati I** *Experimental Study of Thermal Properties of Knitted Fabrics*
14:50-15:10	**Ruangnarong Ch** *The Fabric for Thai Art Folding of Banana Leaves on Clothing*
15:10-15:30	***Coffee Break*** *Lobby, building G, Technical University of Liberec*
Session	***Nanotechnology and Nanotextiles*** *Aula G312, building G, Technical University of Liberec* ***Chairman: prof. David LUKÁŠ***
15:30-15:50	**Shahidi S** *In Situ Synthesis of Nano Particles on Textile Fabrics Using Laser Ablation Method*

15:50-16:10 **Militky J**
Relative Surface Area of Nanomaterials – Dream and Reality

16:10-16:30 **Mirjalili M**
Effect of Zinc Oxide Nanoparticles Along with Sodium Hydroxide on Self-Cleaning and Antibacterial Properties of Polyethylene Terephthalate

16:30-18:30 ***Tour of Faculty of Textile Engineering, Technical University of Liberec Facilities***
Chairman: dr. Pavla TĚŠINOVÁ

18:30-21:00 ***Poster Session and Welcome Drink***
Lobby, building G, Technical University of Liberec
Chairman: dr. Jana DRAŠAROVÁ

Tuesday 12th September 2017

09:00-09:30	***Keynote Lecture*** **prof. Ana Marija GRANCARIC** *Textile Sensors in Textile Reinforced Composites*
09:30-10:00	***Keynote Lecture*** **Dr. Arun Pal ANEJA** *Squaring the Circular Economy: Textile Redesign*
Session	***Textile Structure Reinforced Composites*** *Aula G312, building G, Technical University of Liberec* ***Chairman: prof. Henry YI LI***
10:00-10:20	**Seyam AF** *Generalized Model and Experimental Verification of Bi-Axial Tensile Properties of Composites from 3D Orthogonal Woven Preforms*
10:20-10:40	**Kulhavý P** *Irregular Winding of Prepreg Fibres Aimed to Local Improvement of Flexural Properties*
10:40-11:00	***Coffee Break*** *Lobby, building G, Technical University of Liberec*
Session	***Advances on Textile Chemical Processing*** *Aula G312, building G, Technical University of Liberec* ***Chairman: prof. Izabella KRUCINSKA***
11:00-11:20	**Baheti V** *Microstructure and Mechanical Properties of Carbon Microfiber Reinforced Geopolymers at Elevated Temperatures*

11:20-11:40 **Kalav B**
Gloss and Hardness Evaluation of Water-Based UV Curable Polyurethane Acrylate Film Used in Textile Printing

11:40-12:00 **Mongkholrattanasit R**
Screen Printing on Silk Fabric Using Natural Indigo

12:00-12:20 **Morshed MN**
Microwave Assisted Deposition of Silver Nano Colorants on Fabric by Chemical Reduction Method

12:20-13:30 ***Lunch***
Lobby, building G, Technical University of Liberec

Session ***Nanotechnology and Nanotextiles***
Aula G312, building G, Technical University of Liberec
Chairman: dr. Maria Wallenius HENRIKSSON

13:30-13:50 **Sivri Ç**
Development of PEO Nanofibers Having Novel Morphologies via Distance Positioning Apparatus

13:50-14:10 **Grothe T**
Needleless Electrospinning of PAN Nanofiber Mats

14:10-14:30 **Yavuz H**
Development of a Novel Delivery System Using Graphene Supported Nanofibers for Controlled Transdermal Release of Testosterone

14:30-14:50 **Uğur ŞS**
Examination of Aging Performances of Denim Fabrics with Mechanical Properties Developed by Nano Coating Method

14:50-15:10 ***Coffee Break***
Lobby, building G, Technical University of Liberec

Session ***Technical Textiles***
Aula G312, building G, Technical University of Liberec
Chairman: dr. Brigita KOLČAVOVÁ SIRKOVÁ

15:10-15:30 **Çelikel D**
Acoustical Properties of Spunmelt Multilayer Nonwovens in Relation to Air Permeability and Porosity

15:30-15:50 **Hassan Z**
Filtration Properties of Thermally Treated Nanofibrous Webs

15:50-16:10 **Cheema M**
Development of Casual Garments from Hydroentangled Nonwoven Fabrics

16:10-16:30 **Kara S**
Permeability Properties and Abrasion Resistance of Coated Polypropylene Fabrics

18:00-21:30 ***Gala Dinner***
Hotel Jested
(1012 m.a.s.l.)

Hotel
and restaurant
above
the clouds

Wednesday 13th September 2017

09:00-09:30	***Keynote Lecture*** **prof. Izabella KRUCINSKA** *The Review of the Technologies of Chemosensory Nonwoven Fabrics*
09:30-10:00	***Keynote Lecture*** **Dr. Maria Wallenius HENRIKSSON** *Can composite parts compete with other material choices in the heavy duty automotive industry, from an environmental perspective?*
Session	***Apparel Engineering*** *Aula G312, building G, Technical University of Liberec* ***Chairman: dr. Arun Pal ANEJA***
10:00-10:20	**Matusiak M** *Investigation of Quilted Materials Applied in Outdoor Clothing*
10:20-10:40	**Musilová B** *Study of Czech Male Body Dimension and Evaluation of Men´s Trousers Patternmaking Methods*
10:40-11:00	***Coffee Break*** *Lobby, building G, Technical University of Liberec*
Session	***Textile Metrology and Quality Control*** *Aula G312, building G, Technical University of Liberec* ***Chairman: assoc. prof. Vladimír BAJZÍK***
11:00-11:20	**Ceylan Ö** *Moisture Sorption Behaviour of Developing Cotton Fibres*

11:20-11:40 **Legerská J**
Evaluation of Surface Water Absorbency of Terry Fabrics

11:40-12:00 **Křemenáková D**
Dynamic-Mechanical Analysis of Yarn

12:00-12:20 **Yildirim B**
Color Measurement of Printed Fabrics Using Hyperspectral Imaging System

12:20-13:30 ***Lunch***
Lobby, building G, Technical University of Liberec

13:30-13:50 **Benltoufa S**
Saturation Rate Determination During Capillary Rise using Electrical Resistivity

13:50-14:10 **Čapek L**
Ball Burst Test of Silica Nonwoven Material

Session ***Functional Clothing and Comfort***
Aula G312, building G, Technical University of Liberec
Chairman: prof. Luboš HES

14:10-14:30 **Arabuli S**
Electronic Textile for Motorcyclist Clothing

14:30-14:50 **Oueslati I**
Experimental Investigation into the Thermal Properties of Knitted Fabrics Using Transient Plane Source Method

14:50-15:10	***Coffee Break*** *Lobby, building G, Technical University of Liberec*
Session	***Advances on Textile Chemical Processing*** *Aula G312, building G, Technical University of Liberec* ***Chairman: prof. Ana Maria GRANCARIC***
15:10-15:30	**Borazan I** *A Preliminary Study of and Inverted Organic Solar Cell on a Woven Metallic Fabric*
15:30-15:50	**Martinková L** *Functional Reactive Dyeing of Cotton Based on Photoactive Phthalocyanines*
15:50-16:10	**Toprak T** *Investigation of the Effects of Enzymatic Finishing Processes on the Dyeing Properties of Cotton-Polyester and Polyester Fabrics*
16:10-16:40	***Closing Ceremony*** *Aula G312, building G, Technical University of Liberec* **dr. Jana DRAŠAROVÁ** *(Dean of Faculty of Textile Engineering)* **prof. Jiří MILITKÝ** *(President of Scientific Committee)* **prof. Ana Maria GRANCARIC** *(Scientific Committee Member)*

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Fibre - Grade Polymers, Chemical Fibres and Special Textiles

Posters

Posters Session (Monday 11th, 18:30-21:00)

Lobby, building G, Technical University of Liberec

Advanced Fibres and Materials

Ahmed R
Spinning of Pineapple Leaf Fibre Through Cotton Spinning System by Solo and Binary Blending and Comparison of Yarn Properties

Arabuli S
Liquid Moisture Transport Performance of Textiles

Dresvyanina E
The Molecular Mass Effect on Mechanical Properties of Chitosan Fibers

Hrabovská V
Thermo-Mechanical Properties of PLA Fibres

Hricová M
Effect of the Nanoparticle's Shape on Properties of Polypropylene Fibres

Koliada M
Characterisation of Electrospun Fibers Made of PVA or PVAc Colagen Derivative

Krivoš Š
Rheological, Coloristic and Processing Behaviour of Polypropylene Masterbatches for Nanocomposite Fiber Preparation

Kucherenko Y
The Evolution of the Microstructure of Cane Cellulose Microfibrils During Cold Caustic Extraction

Rijavec T
Impact of Aspiration Air Pressure in the Spinning Shaft on the Formation of Hollow Polyamide 6 Fibers

Ryba J
Tensile Properties of Biodegradable Fibres Prepared from PLA and PLA/PHB Blends

Tomčíková Z
Structure and Properties of Polypropylene Fibres with Photoluminescent Pigment as Tool for the Protection of Original Products

Ulhelyiová A
Rheological Properties of the PLA Masterbatches for Fibre Preparation

Innovations in Textile Technologies

Kamenická B
Alternative Method for Exhausted Dye Bath Recycling Based on Removal of Residual Dissolved Acid Dyes

Krmelová V
The Effect of Low-Temperature Plasma on PP Nonwoven Surface

Textile Metrology and Quality Control

Hanczvikkel A
The Role of Fabric Composition, Nutrients, Temperature and Humidity in the Survival Capability of Multidrug-Resistant Bacterial Pathogens

Hercíková E
Evaluation of Thermal Properties Under Conditions of Fast Flowing Air

Krmela J
The Tests of Cyclic Loading of Composites with Textile Structure on Test Machine with Video-Extensometer

Neral B
Impact of Multiple Household Washing on the Properties of Reusable Nappies

Tunák M
Spatial Arrangement of Stainless Steel Fibers in the Structure of Hybrid Yarns Designed for the Shielding of Electromagnetic Field

Functional Clothing and Comfort

Batrak O
The Study of Consumer Properties of Dual-Layer Weft Knitted Fabric Using Eco-Raw Materials

Bezsmertna V
The Use of 3D Geometric Models in Special Purpose Knitwear Design and Predicting of Its Properties

Bogusławska - Bączek M
Thermophysiological Properties of Dry and Wet Functional Sportswear Made of Synthetic Fibres

Havelka A
Medical Textile Equipment for Class One with a Non-Invasive Character

Lenfeldová I
Dependence of Water Vapor Permeability of Knitted Samples on Their Wetting Level

Apparel Engineering

Petrak S
Dynamic Anthropometry - Defining a Protocols for Automatic Body Measurement

Advances on Textile Chemical Processing

Ahmed R
Knit Fabric Mercerization by Using High Concentration NaOH in Scouring and Bleaching Bath in Exhaustion Method

Dekanic T
The Bio-Scouring of Cotton Knitted Fabric in Dependance of Enzyme Concentration

Faheem S
Comparative Performance of Flame Retardancy of Cotton Textiles Treated with Alkaline and Acid Suspension

Flinčec Grgac S
The Influence of Pretreatment and Various Cross-Linking Agents on Binding of β -Cyklodextrin and Cotton

Peran J
Antimicrobial Effectiveness of Cellulose Based Fabrics Treated With Silver Nitrate Solutions Using Plasma Processes

Šašková J
Whiteness - One Task, Different Ways, Different Results

Textile Structure Reinforced Composites

Morshed MN
Study on Mechanical Properties of Jute Fiber Reinforced Jute-Recycled Polyester Resin Epoxy Composite

Novotná J
Experimental Study of the Conductivity of Various Size Forms Recycled Carbon Particles Used as Fillers of Polymer Composites

Novotná M
Model verification of material properties of winded composite rods in tensile loading

Samková A
The Influence of Fiber Reinforcement on the Properties of Gypsum Plasters

Sezgin H
Examination of the Thermo-Mechanical Properties of E-Glass/Carbon Composites

Technical Textiles

Křížová H
Buffering and Antibacterial Properties of Cotton Canvas with Dolomite/ZnO-Styrene-Acrylic Complex Coating and Their Comparison with Properties after the Accelerated Aging

Venkataraman M
Simulation of Thermal Insulation Through Aerogel Based Fibrous Structures

Nanotechnology and Nanotextiles

Ehrmann A
Needleless Electrospinning of PAN Nanofiber Mats

Vácha J
Carbon Nanotubes as Filler for Electromagnetic Interference Applications

9th Central European Conference 2017

Fibre - Grade Polymers, Chemical Fibres and Special Textiles

International Ph.D. Students Day

Thursday 14th September 2017, 9:00

Room B5, building B, Technical University of Liberec,

Chairman: Dr. Gabriela Krupincová

Aboalasaad ARR
Analysis and Prediction of Compression Bandages Tension

Azeem M
Hydrophobic Treatment of Nano-Filament Polyester Fabric

Boob S
Characterization of Fiber Diameter Using Image Analysis

Danilová I
Immobilization of Proteolytic Enzymes onto Silica Nanofibers

Drapáková Z
Heat and Humidity Transfer in Mutlilayer Fabrics for Automotive Seats

Fung FT
Small Increasement in Clothing Pattern Relates to Thermal Insulation in Clothing of Woven Fabric

Heinisch T
The Influence of Air Speed for Moisture Management

Jariyapunya N
Designing Method for 3D Modeling for Garment Compression Values of Elastic Fabric Extension

Kalous T
New Electrode System for Electrospinning of Nanofibers

Karthik D
Development of Electrically Conductive Activated Carbon Fabric from Kevlar Fabric for Effective Emi Shielding Applications

Khalil AAS
Estimate Thermal Comfort Properties of Bed Cover Produced from Double Honeycomb

Kovalova N
Analysis of the Effect of Cyclic Loading on Seams Deformation in Car Seat Covers

Martinka M
Measuring Vital Functions using Smart Textiles

Naksuwan P
Methodology of Recycled Poly (Ethylene Terephthalate) Nanofibres via Meltelectrospinning

Niimi Y
A Proposal for Designing Knitted Fabric for the "Wear Promotes Exercise Effect" with the Purpose of Improving Comfort

Palanisamy S
Study on Effect of Moisture Content and Electromagnetic Shielding Effectiveness of Cotton Knitted Fabric Threated with Various Liquid Media

Pechová M
The Influence of Two Different Daylight Simulators on the Visual Assessment of Blue Samples under Different Luminance Levels

Periyasamy AP
Sol-Gel Photochromic Fabrics

Razzaque A
A Study on Waterproof and Thermal Performance of Coated Multi-Layered Breathable Laminated Fabrics

Siddique HF
Effect of Extensibility on Compression Pressure and Air-Permeation in Compression Socks

Veverková I
Structure of Hybrid PVA/Silica Nanofibers for Antibacterial Biomedical Applications

Zubair M
Influence of Fabric Architecture and Material on Physical Properties of 3D Multilayer Woven Fabrics

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