



European Materials Research Society

# 2024 Spring Meeting

May 27 - 31 / Strasbourg Convention Centre

## SYMPOSIUM F

Advanced and sustainable coatings for high performance textiles

*Symposium Organizers:*

Giuseppe ROSACE, Department of Engineering and Applied Sciences, University of Bergamo, Italy

Karen DE CLERCK, Department of Materials, Textiles and Chemical Engineering (MaTCh), Ghent University, Belgium

Maria Rosaria PLUTINO (Main organizer), Institute for the Study of Nanostructured Materials, ISMN-CNR, Italy

Torsten TEXTOR, TEXOVERSUM, School of Textiles, Reutlingen University, Germany



**Wednesday May 29**  
**EF01\_Joint Session Symposia E and F: Coating 1**

**CHURCHILL - FIRST FLOOR**

**Chairperson(s) : BUENO Marie-ange - PLUTINO Maria rosaria**

<b>08:45</b>	<b>1969</b>	<b>INV</b>	Wound dressing technologies for wound healing and infection management	<b>TRONCI Giuseppe</b>
<b>09:15</b>	<b>3074</b>		Titanium surface modification for coatings with anti-bacterial adhesion properties	<b>CELESTI Consuelo</b>
<b>09:30</b>	<b>519</b>		Ultrathin coating structures for smart textile applications	<b>HEGEMANN Dirk</b>
<b>09:45</b>	<b>2993</b>		Lime Citrus: A Reductive Enhancer in Oil-Based Green Synthesis of Biologically Active Silver Nanospheres for Healthcare Apparel Applications and Their Sustainable Alignment with Sustainable Development Goals (SDGs)	<b>HAIDER Sajeel</b>

**Wednesday May 29**  
**EF02\_Joint Session Symposia E and F: Coatings 2**

**CHURCHILL - FIRST FLOOR**

<b>10:30</b>	<b>142</b>	<b>INV</b>	Recent Research Results Related to E-textiles and the Need for E-textile Standards	<b>Koncar Vladan</b>
<b>11:00</b>	<b>2703</b>		Multilayered solutions for comfort and active protection against CBRN threats	<b>FANGUEIRO Raul</b>
<b>11:15</b>	<b>2341</b>		AuNPs-CNT decorated cotton for e-nose application	<b>Casalinuovo Silvia</b>
<b>11:30</b>	<b>1097</b>		Conductive Textile with Tunable Piezoresistivity and Biodegradation for Wearable Vibrotactile Haptics Systems	<b>CATALDI Pietro</b>

**Wednesday May 29**  
**F02\_Surface functionalization**

**CHURCHILL - FIRST FLOOR**

<b>13:45</b>	<b>523</b>	<b>INV</b>	The importance of the surface functionalisation in textiles to create smart technological solutions	<b>NISTICO' Roberto</b>
<b>14:15</b>	<b>2857</b>		Photosensitive membrane based on PCL and photochromic dye	<b>RAULT François</b>

<b>14:30</b>	<b>2576</b>	Sol-Gel Assisted Immobilization of Methyl Red-functionalized Halloysite nanotubes on Polyester Fabrics for the production of long-lasting coloring wearable textile. le.	<b>SFAMENI Silvia</b>
<b>14:45</b>	<b>1956</b>	Halochromic dyes for pH-sensitive textiles production	<b>TONETTI Cinzia</b>
<b>15:00</b>	<b>1382</b>	Preparation of Polyacrylonitrile-Based Carbon Nanofibers and their Applications in Energy Storage and Conversion Technologies	<b>SHIN Eui-Young</b>
<b>15:15</b>	<b>423</b>	Low-friction fabric finishes that prevent the release of microplastic fibres	<b>GOLOVIN Kevin</b>

Thursday May 30  
**F03\_Technical textiles**

**CHURCHILL - FIRST FLOOR**

09:15	1768		Ethyl Cellulose-Based Oleogels as Sustainable and Versatile Bioplastic	LAMANNA Leonardo
09:30	2582		Bio-based hybrid-materials as functional coatings for high-performance textiles	RANDO Giulia
09:45	785		Technical uses of keratin-based nanofibers	VARESANO Alessio

Thursday May 30  
**F04\_Biobased flame retardant**

**CHURCHILL - FIRST FLOOR**

10:30	823	INV	Bio-sourced and renewable flame retardant treatments for textiles: where we are and where we are going	MALUCELLI Giulio
11:00	2206		How do circular economy and sustainability influence innovation in functionalisation of textiles?	CLASSEN Edith
11:15	1763		Flexible and self-healing heater based on conductive fabric with exceptionally improved thermal stability	CHOI Su Bin
11:30	660		Thermal-resistant, high toughness and chemical degradable polymers and carbon-fiber composites	CHEN Mao

Thursday May 30  
**F05\_Electrospinning**

**CHURCHILL - FIRST FLOOR**

13:30	2117	INV	Coupling electrospinning and photoinduced crosslinking for innovative coatings	VITALE Alessandra
14:15	1070		Green approaches for enhancing UV-driven functionalities of textiles	LAWRYNOWICZ Alicja

<b>14:30</b>	<b>765</b>	High-resolution copper conductive patterns on textiles: a novel approach combining electroless deposition and laser-induced forward transfer.	<b>AGUILÓ-AGUAYO Noemí</b>
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**Thursday May 30**  
**F06\_Antibacterial properties**  
**CHURCHILL - FIRST FLOOR**

<b>14:45</b>	<b>366</b>	<b>INV</b> Antibacterial textile materials: treatments and performance evaluations	<b>VINEIS Claudia</b>
<b>15:15</b>	<b>2567</b>	Fast-Acting and Skin-Compatible Cu(I)-Based Antimicrobial Coatings on Flexible Cotton Textile	<b>NING Li</b>
<b>15:30</b>	<b>1662</b>	Novel hybrid nanocomposite based on Ag nanoparticles decorated Reduced Graphene Oxide: synthesis, characterization and assessment of the long-term antimicrobial activity towards textile coating applications	<b>INGROSSO Chiara</b>
<b>15:45</b>	<b>619</b>	Evaluation of antibacterial activity of porous PLA/ZnO nanofiber filter against Staphylococcus aureus	<b>KIM Jeong Rae</b>

**Thursday May 30**  
**FP01\_Poster session**  
**ETOILE - FIRST FLOOR**

<b>16:30</b>	<b>01_1153</b>	<b>120</b> 01_1153 Unlocking the Potential of Cinnamomum osmophloeum: Sustainable Development, Bioactivity, Nanomaterial, and Textile Applications	<b>TSAO Nai-Wen</b>
<b>16:30</b>	<b>02_1480</b>	<b>120</b> 02_1480 Eco-friendly methods for developing electrically conductive textiles: using plasma treatment and PEDOT: PSS coatings	<b>PUPEIKE Julija</b>
<b>16:30</b>	<b>03_1812</b>	<b>120</b> 03_1812 Green Synthesis of Metal-Organic-Frameworks on the Fibers for Adsorption of Harmful Gases	<b>RYU Sujin</b>
<b>16:30</b>	<b>04_209</b>	<b>120</b> 04_209 Investigation of during heating in vacuum of a double chromium-copper coating deposited onto ziconia ceramics	<b>STETSYUK Tatyana</b>
<b>16:30</b>	<b>05_2171</b>	<b>120</b> 05_2171 Top-Down approach for the fabrication of nanofiber-based coatings using eco-friendly solvents	<b>ALI Wael</b>

<b>16:30</b>	<b>06_229</b>	<b>120</b>	06_229 Fabrication of PMMA-based hydrophilic/hydrophobic check valve by PEALD SiO <sub>2</sub>	<b>CHIEN-WEI Chen</b>
<b>16:30</b>	<b>07_2585</b>	<b>120</b>	07_2585 Innovative bioeconomy-based approaches for improved performing textiles in sustainable applications: where we are and where we are going	<b>PLUTINO Maria Rosaria</b>
<b>16:30</b>	<b>08_2917</b>	<b>120</b>	08_2917 Design and Preparation of One-dimensional Electrodes by Deposition Method for Flexible Knitted Batteries	<b>ZHALGAS Nuray</b>
<b>16:30</b>	<b>09_374</b>	<b>120</b>	09_374 Enhancing Textile Water Repellency with Octadecyltrichlorosilane and Hollow Silica Nanoparticles	<b>KIM Jooran</b>
<b>16:30</b>	<b>10_514</b>	<b>120</b>	10_514 Exploring the impact of siloxane networks on the thermal behavior of P/N-enriched flame retardant finishes for cotton fabric	<b>OTTO Raphael</b>

Friday May 31  
**F07\_Textile properties**

**CHURCHILL - FIRST FLOOR**

08:45	918	INV	Wetting of Textiles: From Fibers to Fabrics, Through Yarns. An intertwined story.	SEVENO David
09:15	1617		Ag nanoparticles decorated histidine functionalized reduced graphene oxide nanocomposite as novel passive thermally conductive coating for cotton	INGROSSO Chiara
09:30	2031		Carbon nanotube-based coatings for developing electrically conductive cotton fabrics	TROVATO Valentina
09:45	965		Superhydrophobic textiles with a PFAS-free chitosan-based coating	TAGLIARO Irene

Friday May 31  
**F08\_Circular economy**

**CHURCHILL - FIRST FLOOR**

10:30	235	INV	Novel halogen free flame retardants not only for textiles	MAYER-GALL Thomas
11:00	1551		Layer-by-layer and thread-by-thread: Revolutionizing the textile industry with 3D-printing	ROSA Raphael
11:15	2586		Design and development of clay-based multifunctional coatings: from natural minerals and secondary raw materials to nanostructured high-performing ceramic textiles	BELHAMDI Hossem
11:30	2579		Environmental parameters detection brought by new functional high-performing clay-based fabrics	SCALONE Elisabetta

