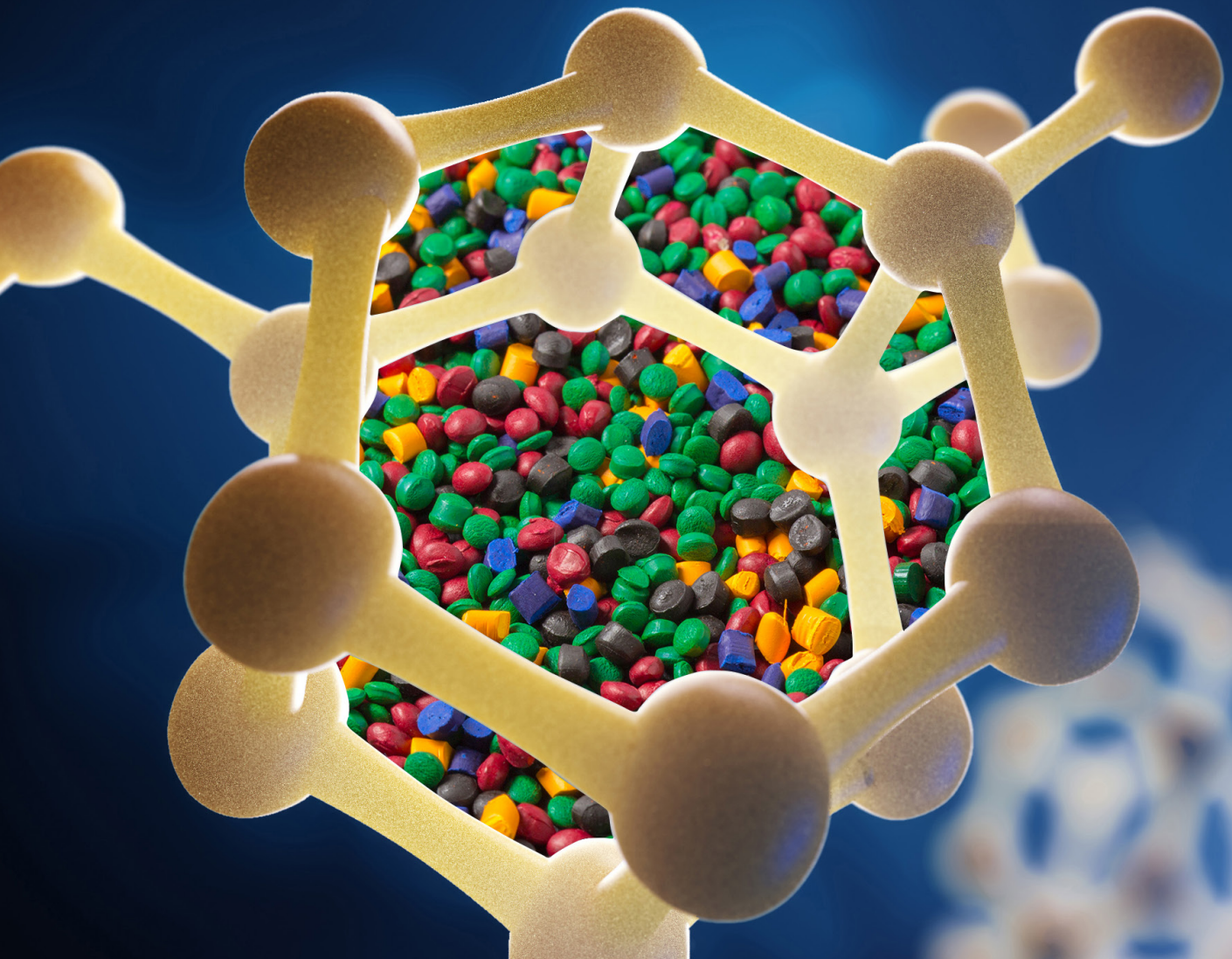




3rd International Conference on
**Polymer Science and
Composite Materials**

October 03-04, 2022 | Rome, Italy
October 05, 2022 | Virtual

Venue:
Crowne Plaza Rome – St. Peter's,
Via Aurelia Antica 415, Rome, 00165, Italy



In-Person

08:30-08:55 On Site **Registrations** @ADRIANO

08:55-09:00 Opening Ceremony

Moderator: **Ilara Fratodi**, University Sapienza of Rome, Italy

PLENARY TALKS (25 MINUTES+ 5 MINUTES Q&A)

09:00-09:30 **Jute Cellulose Biopolymer as an Alternate for Single-use Plastic: Real-life Examples**
Mubarak Ahmad Khan, Atomic Energy Res. Establishment, Bangladesh

09:30-10:00 **Polymers of Intrinsic Microporosity: Why They are so Interesting as Membrane Materials, but so Complicated Too**
Johannes C. Jansen, CNR-ITM, Italy

INVITED TALKS (20 MINUTES+ 5 MINUTES Q&A)

10:00-10:25 **Fire Retardance in Polymer Materials**
Giovanni Camino, Politecnico di Torino, Italy

10:25-10:50 **Using Polymer Physics to Enable Stemcell Differentiation**
Miriam Rafailovich, Stony Brook University, United States

10:50-11:15 **Tuning Optical and Structural Properties with Gold Nanoparticles/P3HT Blends**
Ilara Fratoddi, University Sapienza of Rome, Italy

11:15-11:35 **Coffee Break** @Foyer

ORAL PRESENTATIONS (15 MINUTES+5 MINUTES Q&A)

Session: Nanomaterials, Nano Structured Materials & Synthetic Polymers

Chair: **Ilara Fratodi**, University Sapienza of Rome, Italy

11:35-11:55 **Carbon Black Functionalization as Efficient Tool to Improve the Thermomechanical Stability and Crystallization Rate of Biodegradable Polyester Nanocomposites**
Maria Rosaria Acocella, University of Salerno, Italy

11:55-12:15 **Development of Zn/Polyhydroxyalkanoate Nanocomposites for Packaging Applications Fabricated Using Melt-processing and Centrifugal Fiber Spinning**
Mieke Buntinx, University of Hasselt, Belgium

12:15-12:35 **Adsorptive Behavior of HA520E-Fe for Simultaneous Nitrate and Phosphate Removal from Aquaculture Wastewater Using Combination of MXRF, EXAFS, XPS and DFT Techniques**
Surapol Padunghon, Khon Kaen University, Thailand

12:35-12:55 **Organosilicon Coatings Prepared by Plasma-enhanced Chemical Vapor Deposition**
Stepanka Kelarova, Masaryk University, Czech Republic

12:55-13:45 **Lunch Break**

Session: Biodegradable and Biomedical Polymers Bio-Polymers in Pharma & Medicine

Chairs: **Roberta Censi**, University of Camerino, Italy
Maria Rosaria Acocella, University of Salerno, Italy

- 13:45-14:05 **Investigation of Poly P-Dioxanone as Promising Biodegradable Polymer for Short-term Medical Application**
Stefanie Ficht, Technical University of Munich, Germany
- 14:05-14:25 **Strategies to Improve the Antibacterial Performance of 3d Printed Poly(Ether-Ether-Ketone) Based Nanocomposites for Dental Applications**
Graciela Elizabeth Morales, Applied Chemistry Research Center, Mexico
- 14:25-14:45 **Nanoparticles and Nanofibers Based on Poly(Methyl Methacrylate-Co-Methacrylic Acid) for the Development of Ph-Responsive Drug-Loading Systems**
Javier Enriquez, Applied Chemistry Research Center, Mexico
- 14:45-15:05 **Quadratic ODE and PDE Models of Drug Release Kinetics from Neat and Blended Biodegradable Polymer Films**
Michel Delfour, CRM, Universite de Montreal, Canada
- 15:05-15:25 **Influence of Biopolymer Characteristics and Surfactants in the Microencapsulation of Essential Oils**
Arianne Lopez, Intexter (UPC), Spain
- 15:25-15:45 **Polysaccharide-based Capsules for Potential Treatment of Coronavirus Infection**
Viktoria Milkova, Bulgarian Academy of Sciences, Bulgaria
- 15:45-16:05 **Antimicrobial Activity and Mineralization Potential of Polyacrylamide – Silver Decorated Carbon Nanotubes Composites**
Andrada Serafim, University Politehnica of Bucharest, Romania
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- 16:05-16:25 **Coffee Break** @Foyer
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- 16:25-16:45 **MRI Study of Plasma-synthesized Pyrrole-derived Polymer Evolution Implanted in Rhesus Monkey Spinal Cord Transection Model**
Axayacatl Morales-Guadarrama, Universidad Autonoma Metropolitana, Mexico
- 16:45-17:05 **Acute Response Evaluation of a PLA-pPPy/I Scaffold Implant by MRI in a Rat Spinal Cord Transection Model**
Diana Maria Osorio Londono, Universidad Autónoma Metropolitana, Mexico
- 17:05-17:25 **Numerical Approach for the Determination of Global Mechanical Properties of a Flame Retardant Class Material (FR4)**
Ange ATINTOH, CEA Tech/LEM3, France

----- **End of Day - 1** -----

08:45-09:00 Opening Remarks

@ADRIANO

ORAL PRESENTATIONS (15 MINUTES+5 MINUTES Q&A)

Session: Composites and High-Performance Materials

Chair: Gardette Jean-Luc, ICCF/CNRS-University Clermont Auvergne, France

09:00-09:20 Potentiality of Flax Gum-filled Epoxy Resin for Composite
Bastien WATBLED, Université du Littoral Côte d'Opale, France

09:20-09:40 Design and Fabrication of Green Nanocomposites of Poly(N-vinyl pyrrolidone)
Ayse Cagil Kandemir, TED University, Turkey

09:40-10:00 Diazirine-based Universal Polymer Crosslinkers: Applications in Material Strengthening and Composite Material Fabrication
Jeremy Wulff, University of Victoria, Canada

10:00-10:20 Sustainable Polybenzoxazines: Upcoming Class of Phenolic Polymers
Bimlesh Lochab, Shiv Nadar University, India

10:20-10:35 Coffee Break

@Foyer

10:35-10:55 Elaboration of Composites Based on Polypropylene or High Density Polyethylene and Cork Wastes
Svetlanat Petlitchkaia, University of Corsica, France

10:55-11:15 Magnetic Field Distribution in Moulds for Injection of Hard Ferrite-based Magnets
Duarte Dias, CeNTI, Portugal

11:15-11:35 P(pressure)-T(Temperature) Path Based Control Technology to Achieve High Weight Reduction and Foaming Quality for Thermoplastic Polyurethane (TPU)
Ching-Te Feng, Chung Yuan Christian University, Taiwan

11:35-11:55 Control of the Final Morphology of Epoxy-Thermoplastic Blends
Anne Coloigner, Solvay / CNRS / Mateis, France

Session: Polymer Degradation & Stability
Sustainable Polymers

Chair: Giovanni Camino, Politecnico di Torino, Italy

11:55-12:15 Weathering of Polymers: Investigations from Molecular Scale Towards Material Properties
Gardette Jean-Luc, ICCF/CNRS-University Clermont Auvergne, France

12:15-12:35 Multiscale Analysis of the Photodegradation of Polymer Blends and Composites
Sandrine Therias, ICCF/CNRS-University Clermont Auvergne, France

12:35-12:55 The Use of Oxidized Regenerated Cellulose in Breast Surgery
Gianluca Franceschini, Fondazione Policlinico Universitario Agostino Gemelli IRCCS Rome, Italy

12:55-13:45 Lunch Break

13:45-14:05 Ordering in Thin Block Copolymer Films Induced by In-Plane Alternating Electric Field
Yaroslav V. Kudryavtsev, Russian Academy of Sciences, Russia - Online

14:05-14:25 Self-Assembly of Diblock Copolymers with Thermoresponsive Blocks in Solution
Elena Govorun, Moscow State University, Russia - Online

- 14:25-14:45 **Mechanisms of Luminescence in Lanthanide Materials: A Crucial Role of Metal-Ligand Covalency**
Liviú Chibotaru, KU Leuven, Belgium - **Online**
- 14:45-15:05 **Plasma Pen in Surface Modification and Crosslinking of Natural Polymers**
Renata Antoun Simao, Federal University of Rio de Janeiro PEMM/COPPE/UFRJ, Brazil
- 15:05-15:25 **Utilization of Bio-sourced Terpene Monomers to Produce More Sustainable Elastomers**
Ramon Diaz de Leon, Research Center for Applied Chemistry, Mexico
- 15:25-15:45 **A Study of Thermal and Mechanical Properties of Recycled Polypropylene Obtained from Packaging Waste**
Tatiana Zhiltsova, University of Aveiro, Portugal
- 15:45-16:05 **Chemical and Physical Aging Diglycidlether of Bisphenol A (DGEBA) Epoxy Thermosets and Predicting Structural Implications of the Aging**
Jamie Kropka, Sandia National Laboratories, United States
-
- 16:05-16:25 **Coffee Break** @Foyer
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- 16:25-16:45 **The Role of Electrostatic Interactions in the Mechanics of Solids-state Biopolymers**
Suellen Pereira Espindola, Delft University of Technology, Netherlands
- 16:45-17:05 **Design and Manufacturing Process of an Unmanned Aerial Vehicle with Polylactic Acid (PLA)**
Cevher Yusuf İnan, Turkish Aerospace Industry, Turkey
- 17:05-17:25 **Polylactic Acid (PLA) based Avionics Table Design Optimization for Unmanned Aerial Vehicle (UAV) with Additive Manufacturing Technique**
Ecem Baskin, Turkish Aerospace Industry, Turkey
- 17:25-17:45 **Exploration of the Adsorption Reduction of the Pigment Aggregates Strength Under the Effect of Surfactants in Water-dispersion Paints**
Aida Lutsenko, North Kazakhstan State university named after M.Kozybayev, Kazakhstan
- 18:00-19:00 Poster Presentations and Drinks**
- P-01 **Influence of Yarn Structure on Biodegradability**
Ivana Schwarz, University of Zagreb Faculty of Textile Technology, Croatia
- P-02 **Hydrazone Bond-containing Di-Block Copolymers as Bio-responsive Vectors for Gene Delivery**
Eliska Hrda, Institute of Macromolecular Chemistry, Czech Academy of Sciences, Czechia
- P-03 **Distinctions of Soil Temperature and Humidity Beneath Different Nonwoven Mulch Raw Materials**
Dragana Kopitar, University of Zagreb Faculty of Textile Technology, Croatia
- P-04 **Biodegradability of Hemp Fibres Conditioned by Soil Type and Conditions**
Ivana Schwarz, University of Zagreb Faculty of Textile Technology, Croatia
- P-05 **Fabrication and Characterisation of Nanocomposites Based on Green Methods**
Giuseppe Greco, Università del Salento, Italy
- P-06 **Reduce the Density with Enhanced Flame Retardancy of the Urethane-Silicone Hybrid Foam by Application of Physical Blowing Agent**
Asell Kim, Inha University, South Korea
- P-07 **Synthesis of Crosslinker Containing Fluorine to Maintain Fluorine Content During Fluorosilicone Curing**
Lee Chung Soo, Inha University, South Korea
- P-08 **Effects of Fluorosilicone Rubbers on Electrochemical Performance and Durability of Proton Exchange Membrane Fuel Cell**
Yoo Lim Sim, Inha University, South Korea

- P-09 **Investigation of Resin Functionality Effect on Powder Coating Formulations**
Aysenur Ozdemir, Bogazici University, Turkey
- P-10 **Investigation of Supramolecular Interactions Based on Polyester Chain Structure**
Goknil Susler, Bogazici University, Turkey
- P-11 **Enhancing the Fire and Smoke Safety of Bio-based Rigid Polyurethane Foam via a Reactive Flame Retardant and Silica Aerogel Powder**
Yunjun Yan, Huazhong University of Science and Technology, China
- P-12 **Evaluation of the Method for Determining Woven Fabric Roughness**
Snjezana Brnada, University of Zagreb Faculty of Textile Technology, Croatia
- P-13 **Radiation Sensitivity of Adhesives and Potting Materials for Space Environments**
Jamie Kropka, Sandia National Laboratories, United States
- P-14 **Preparation of Transparent Glass-fiber Reinforced Epoxy Matrix Composites and their Optical Characteristics**
Dong Kyu Kim, Korea Carbon Industry Promotion Agency, South Korea
- P-15 **Effect of Accelerated Thermal Aging on Dispersion Stabilities of Fine-denier Silicone Emulsions for Carbon Fibers**
Jae-Yeon Yang, Korea Carbon Industry Promotion Agency, South Korea
- P-16 **Comparison of the Characteristics of Recycled Carbon Fibers/Polymer Composites by Different Recycling Techniques**
Kwan-Woo Kim, Korea Carbon Industry Promotion Agency, South Korea
- P-17 **Superporous Sodium Alginate Microbeads for Mesalazine Release Used in the Treatment of Inflammatory Bowel Diseases**
Adi Ghebur, University POLITEHNICA of Bucharest, Romania
- P-18 **Effect of the Particle Size and the Layer Thickness of GNP Filler on the Dielectric Properties and Actuated Strain of the GNP-PDMS Composites**
JinSung Seo, Inha University, South Korea

----- End of Day - 2 -----



WEDNESDAY
OCTOBER 05, 2022

Virtual Presentations (Zoom Meetings)
Time Zone: CEST (GMT +2)

VIRTUAL SESSION

CEST (Local Time: Italy)

KEYNOTE TALK

09:00-09:40 **Circular Economy: New Opportunities in Sustainable Nano Materials and Polymer Bio-Nanocomposites**
Sabu Thomas, MG University, India

ORAL PRESENTATIONS

09:40-10:00 **Multi-functionalities on the Moth-eye Surfaces**
Yoshihiro Uozu, Mitsubishi Chemical Corp., Japan

10:00-10:20 **Harnessing the Pseudo-Doping Effect of Hfp/Tfe Solvent System – Physico-Chemical and Biological Studies**
Fabio FF Garrudo, Instituto de Telecomunicacoes and Instituto Superior Tecnico, Portugal

10:20-10:40 **Synthesis and Mechanical Properties of Thermoplastic Cellulose Esters**
Tessei Kawano, Kyushu Institute of Technology, Japan

10:40-11:00 **Superabsorbent Polymer (SAP) Solubilized Instantly by Decrosslinking with Sodium Hypochlorite**
Nobuhiro Kihara, Kanagawa University, Japan

11:00-11:20 **Esterification of Microcrystalline Cellulose with Fatty Acid Chain via Mechanochemical-Assisted Method**
Jacqueline Lease, Kyushu Institute of Technology, Japan

11:20-11:40 **Photocurable Bio-based Acrylate Coatings : Processing and Performance**
Pieter Samyn, Smart Coatings LAB, Diepenbeek, Belgium

11:40-12:00 **Electroconductive Platforms for the Electrical Stimulation of Stem Cells – An Approach to the Design of Artificial Human Tissue Microenvironments**
Fabio FF Garrudo, Instituto de Telecomunicacoes and Instituto Superior Tecnico, Portugal

E-POSTER PRESENTATION

12:00-12:15 **Sustainable Polypropylene Light-weight Dripline Fittings**
Georgia Papaparaskeva, Elysee Irrigation Ltd, Cyprus

12:15-12:30 **Fabric-elastomer Composites as a Basic Component for Protection Against CBRN Agents - Preliminary Results**
Bogumila Delczyk-Olejniczak, Institute of Security Technologies "MORATEX", Poland

----- End of Day - 3 -----

**THANK YOU
SEE YOU AT
POLYMERCONNECT-2023**



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