



SCIENTIFIC PROGRAM

ORGANIZED BY



SPONSORS



SCIENTIFIC PROGRAM

Monday 14th November 2022

08.30-09.30	Registration	
	Opening session ROOM A	
09.30-09.45	Opening and welcome to the University of Alicante Alfonso Jiménez-María del Carmen Garrigós.	
09.45-10.30	Opening Lecture Lars Berglund (KTH, Stockholm, Sweden). <i>In-situ</i> polymerization of cellulose biocomposites for sustainable development	
10.30-11.00	Keynote Lecture 1 Tadahisa Iwata (University of Tokyo, Japan). Development of high-performance microbial polyesters and polysaccharide ester derivatives	
11.00-11.30	Keynote Lecture 2 Debora Puglia (University of Perugia, Italy). Multifunctional lignin-based nanocomposites and hybrids	
11.30-12.00	Coffee break	
	ROOM A (Chair Alejandro Muller)	ROOM B (Chair Tadahisa Iwata)
12.00-12.20	OC1. Luc Averous. A brief journey through two decades of active research on renewable polyurethanes	OC6. Yawen Yao. Aqueous processing of polyamide 11/light colored lignin blends under mild conditions
12.20-12.40	OC2. Antonella Esposito. A few examples of the fruitful encounter between biopolymers and advanced thermal analysis	OC7. Anna Czajka. Chemically modified lignocellulose as polylactide filler
12.40-13.00	OC3. Nadia Lotti. Poly(butylene furanoate) film for sustainable food packaging: Mechanical, gas barrier, and welding behaviour	OC8. Izaskun Larraza. Waterborne polyurethane-urea and natural extracts-based bioactive inks for 3D printing
13.00-13.20	OC4. Stefano Fiori. Recent developments on the application of oligomers of lactic acid	OC9. Karen Tatiana Salas-Calderón. Effects of different extraction on properties and future applications of cocoa pod husk pectin
13.20-13.40	OC5. Juan Carlos García-Quesada. Testing the processability of TPS based on blends of starches from different botanical origin	OC10. Silvia Helena Prado Bettini. PLA chain extension by reactive processing aiming foaming
13.40-15.00	Lunch	
15.00-15.30	Keynote lecture 3. ROOM A (Chair José M. Kenny) Francisco Vilaplana (KTH, Stockholm, Sweden) Enzyme technology for the upgrading of agricultural waste biomass into multifunctional materials	

	ROOM A (Chair José M. Kenny)	ROOM B (Chair Nadia Lotti)
15.30-15.50	OC11. Luis Cabedo. Performance and biodegradation of PHA-based bioplastics	OC16. Qiuyuan Huang. Development of enzyme embedded polyester with biodegradability
15.50-16.10	OC12. Chloé Chevigny. Hierarchical materials based on nanocellulose and poly(lactic acid)	OC17. Carlos Javier Pelegrín. Sustainable composites based on thermoplastic starch reinforced with industrial horchata wastes
16.10-16.30	OC13. Alaitz Etxabide. From grape marc to active/intelligent films and poly(3-hydroxybutyrate) production	OC18. Konstantinos Makryniotis. An interdisciplinary approach for the discovery and utilization of novel polymer degrading enzymes
16.30-16.50	OC14. Arunjunai Raj Mahendran. Manufacturing and characterization of bio-based organosheets with natural fibre reinforcement for aerospace interior application	OC19. Marina Ramos. Preparation of biodegradable microcapsules based on chitosan, starch and rice straw biochar for use in agriculture
16.50-17.10	OC15. Stamatina N. Vouyiouka. Sustainable challenges to produce green polymers and manage their waste: Solid state polymerization	OC20. Ahmet Ozan Basar. Poly(3-hydroxybutyrate-co-3-hydroxyvalerate) electrospun nanofibers containing natural deep eutectic solvents exhibiting a 3D rugose morphology and charge retention properties
17.10-18.30	Coffee break/Poster session 1	
20.30	Conference dinner. Casino Alicante	

Tuesday 15th November 2022

08.30-09.15	Plenary Lecture ROOM A. (Chair Lars Berglund) Ipsita Roy (The University of Sheffield, UK). Biobased Materials of Bacterial origin and their use in Biomedical and Environmental Applications	
	ROOM A (Chair Lars Berglund)	ROOM B (Chair Ilaria Cacciotti)
09.15-09.35	OC21. Stephane Bruzaud. Tailor-made biosynthesis of polyhydroxyalkanoates: towards polymers with planned biodegradation	OC25. Jin Ho Seok. Development of fully biodegradable plastic from microbial polysaccharide-PLA copolymer
09.35-09.55	OC22. Tim Huber. The effects of process conditions on the particle size distribution of nano-fibrillated cellulose	OC26. Mattia Grumi. Polyhydroxyalkanoates derived from biowastes of interest in food packaging applications
09.55-10.15	OC23. Daniel Domene-López. From academia to market: Industrial production of TPS by Solublion SL – An University of Alicante spin-off	OC27. Sergio J. Benítez. Green extraction and characterization of 3-HV-enriched PHBV
10.15-10.35	OC24. Demetres Briassoulis. Biodegradation of PHAs-based plastics in soil and benthic environments	OC28. Enrico Bianchi. Insights on the biodegradation mechanism and kinetics of multiblock and random biobased copolyesters from poly(trimethylene 2,4-furanoate) and poly(trimethylene succinate)
10.35-11.00	Coffee break	
11.00-11.30	Keynote lecture-4 ROOM A (Chair Ipsita Roy) Ilaria Cacciotti (University Niccolò Cusano, Italy). Development of osteointegrative and sensorised cranial implants by fused deposition modeling: an innovative strategy	
	ROOM A (Chair Ipsita Roy)	ROOM B (Chair Luc Averous)
11.30-11.50	OC29. Jorge Teno. Development of multilayer electrospun patches made of biopolymers for buccal drug delivery	OC34. Noelia Martínez-Pérez. Promising TPS/PVA/silibinin films for transdermal treatments patches
11.50-12.10	OC30. Fernando Carrascosa. Biocomposites scaffolds foamed with supercritical CO ₂	OC35. Guillermo Martínez Martínez. <i>Haloarchaea</i> as molecular factories to produce PHA by using green approaches
12.10-12.30	OC31. Joana Beigbeder. Life cycle assessment of biobased polymers for skin-contact applications.	OC36. Mercedes A. Betelli. Sustainable wheat protein biofoams – dry upscalable extrusion at low temperature
12.30-12.50	OC32. Serena Danti. Application of chitin nanofibril-coated electrospun cellulose nanofiber mesh in the treatment of tympanic membrane perforation	OC37. María Tommasina Pecoraro. Hemp stem epidermis and cuticle wastes for developing new bio-based materials
12.50-13.10	OC33. Vincent Berthe. Interest of reactive extrusion for improving the hydrothermal ageing resistance and transparency of PLA/PMMA blends	

13.10-14.15	Lunch	
14.15-14.45	Keynote lecture-5 ROOM A (Chair Stefano Fiori) Artur J M Valente (University of Coimbra, Portugal). Cyclodextrin nanosponges as efficient matrices for pesticide removal	
	ROOM A (Chair Stefano Fiori)	ROOM B (Chair Francisco Vilaplana)
14.45-15.05	OC38. Nicolas Joly. Complete characterization of Fatty Acid Cellulose Esters (FACEs) according to both Substitution degree and fatty acid chain length – Applications of FACEs as Biomaterials, electronics support and biopolymer additives	OC42. Soraya Sánchez. Nanocellulose as reinforcement in PLA based packaging materials: Dry or wet addition in extrusion process?
15.05-15.25	OC39. Jennifer Martínez-Castro. Oligomers based on citric acid and glycerol for the production on non-retrogradable TPS/PVA blends	OC43. Grzegorz Wegrzyk. An investigation of the influence of nanocellulose filler on structure and properties of rigid polyurethane foam composite using two dispersing methods
15.25-15.45	OC40. Shanmugam Thiyagarajan. Substituted anhydrides: a series of aromatic and cycloaliphatic based plasticizers derived from renewable feedstocks	OC44. Francesca Luzi. Effect of natural pigment from logwood bark in the coloring of biopolymeric matrices: Role of the matrices and ageing stability
15.45-16.05	OC41. Giulia Guidotti. Blends of poly(butylene furanoate) and poly(pentamethylene furanoate) for high performant sustainable packaging	OC45. Silvia Helena Prado Bettini. Orange juice residue: an opportunity to obtain new biodegradable composites
16.05-17.15	Coffee break/Poster session 2	
17.15-18.00	Buses to Alicante	
18.00-20.30	Social event. Archaeological Museum Alicante	

Wednesday 16th November 2022

08.45-09.30	Plenary lecture ROOM A (Chair Debora Puglia) Alejandro J Müller (Universidad del País Vasco, UPV/EHU). Crystallization, morphology and properties of biodegradable isodimorphic copolyesters	
09.30-10.00	Keynote lecture-6 ROOM A (Chair Debora Puglia) Patrizia Cinelli (University of Pisa, Italy). Overview of biomass by products valorization by a circular economy approach	
	ROOM A (Chair Debora Puglia)	ROOM B (Chair Juan F. Rodríguez)
10.00-10.20	OC46. Antonio Greco. Closed loop recycling of bio-based composites from food wastes	OC49. Katharina Resch-Fauster. Bio-based epoxy resin for flexible and biodegradable bio-composites
10.20-10.40	OC47. Irene Bavasso. Mechanical recycling of commercial biodegradable polymer blend: multiple melt processing and performance analysis	OC50. Fabio Hernández-Ramos Lignin-based polyurethane adhesives
10.40-11.00	OC48. Sandra Domének. Efficient architectures to obtain high gas barrier materials using PLA and nanocellulose	OC51. Francisca Arán-Aís. Formulating more sustainable reactive polyurethane hot melt adhesives with biobased macroglycols
11.00-11.30	Coffee break	
11.30-12.00	Keynote lecture-7 ROOM A (Chair Artur J M Valente) Juan Francisco Rodríguez (Universidad de Castilla La Mancha). Production of Bio-based Non-Isocyanate Polyurethanes (NIPUs) through supercritical CO ₂ technologies	
	ROOM A (Chair Artur J M Valente)	ROOM B (Chair Patrizia Cinelli)
12.00-12.20	OC52. Ignacio Martín-Gullon. Quartz crystal microbalance as a useful technique for <i>in-situ</i> monitoring the effect of humidity on the performance of TPS	OC55. María Jordá-Reolid. Optimization of the percentage of beer bagasse fibres in bioPE polymeric matrix- <i>Biovalor</i> project
12.20-12.40	OC53. Jaume Gómez-Caturla. Study of the mango kernel flour particle size on the mechanical and morphological properties of plasticized films with glycerol	OC56. Alexandra Gabriela Simica. Engineered <i>Haloferax mediterranei</i> to optimize the production of PHBV
12.40-13.00	OC54. Francisca Arán-Aís. Recovery of high added-value protein-based biopolymers for different industrial applications	
13.00-13.15	Farewell ceremony/next BIOPOL/poster prizes	
13.15-15.00	Farewell Lunch	

POSTER SESSION 1. Monday 14th November 2022 (17:10-18:30)

P1.1. Noelia Martínez-Pérez. Mechanical recycling of TPS/PVA blends as supplement to compost treatments in circular economy field

P1.2. Jennifer M. Castro. TPS/PVA blends plasticized by oligomers based on dicarboxylic acids and glycerol

P1.3. Ricardo Mallavia. Fabrication of PEO electrospun nanofibers loaded with piscidin for antibacterial applications

P1.4. Rocío Díaz-Puertas. Thermoplastic polyurethane films with silver nanoparticles as promising antiviral materials

P1.5. Eva Moll. Effect of p-coumaric acid on thermal behavior and microstructure of PHBV

P1.6. Amparo Chiralt. Evaluation of poly(3-hydroxybutyrate-co-3-hydroxyvalerate)-based green composite lids for storage-keeping quality of minced pork meat

P1.7. Pedro A. V. Freitas. Obtaining cellulose aerogels from rice straw pre-treated with subcritical water extraction

P1.8. Gabriela Soukupová. High performance flexible nanocellulose bases pseudocapacitive electrodes

P1.9. Rut Fernández-Marín. Optimisation of chitin nanocrystal isolation with deep eutectic solvent by microwave irradiation

P1.10. Vincent Berthe. Synthesis and characterization of high Tg non-isocyanate polyurethanes by reactive extrusion

P1.11. Amaia Morales. Quercetin extraction and delivery from lignin hydrogels

P1.12. Pilar Hernández-Muñoz. Synthesis and characterization of chitosan hydrogels using α,β unsaturated aldehydes as crosslinkers

P1.13. Pilar Hernández-Muñoz. Smart release of antimicrobials immobilized in chitosan films via reversible Schiff base synthesis

P1.14. Gracia López-Carballo. Antibacterial activity of salicylaldehyde immobilized in chitosan films via reversible Schiff base

P1.15. Sandra Domenek. Film blowing of biodegradable poly(hydroxybutyrate-co-hydroxyvalerate) and poly(butylene succinate-co-adipate) blends

P1.16. Antonella Esposito. Investigation of the thermal stability of cyclohexane-based polyesters under N₂ and O₂

- P1.17.** Cristina Pavón. Monitoring of the evolution of crystallinity in thermoplastic starch
- P1.18.** Harrison de la Rosa-Ramírez. Use of exotic floral resins in the crystallization of biodegradable thermoplastic materials
- P1.19.** Harrison de la Rosa-Ramírez. Use of medium chain carbohydrate in the improvement of biodegradable thermoplastic materials
- P1.20.** Teresa Carranza. Proteins and polysaccharide mixture behaviour under different sterilization methods
- P1.21.** Edoardo Bondi. New ad hoc designed cyclohexane-based random copolyesters for biomedical applications: from the synthesis to the characterization
- P1.22.** Jaume Gómez-Caturla. Mechanical properties and morphology of composites based on polylactide and mango kernel flour
- P1.23.** Ramón Tejada Oliveros. Improved impact strength and elongation at break of polylactic acid by blending with a natural plasticizer
- P1.24.** Juan Ivorra-Martínez. The effect of a plasticizer on the manufacturability of poly(lactic acid)
- P1.25.** Juan Ivorra-Martínez. Revalorization of almond shell for the development of polyhydroxyalkanoate (PHA) composites
- P1.26.** Santiago Estévez-Areco. Release kinetics of chlorogenic acid from gelatin electrospun nanofibers
- P1.27.** Ignacio Solaberrieta. Molecularly imprinted polymers for selective elimination of laxative compounds from aloe vera skin extracts
- P1.28.** Giulia Guidotti. PBS-based hydrogel containing ether oxygen atoms for biomedical applications
- P1.29.** José Gámez-Pérez. PHA/lignocellulosic fiber composites: Effect of the lignin on their compostability
- P1.30.** Izaskun Larraza. Valorization of bovine ear tags to obtain photocatalytic membranes by electrospinning
- P1.31.** Nagore Gabilondo. Thiolated chitosan nanoparticles as promising nanocarriers for curcumin delivery
- P1.32.** Nagore Gabilondo. 3D-printed starch tablets for personalized medicine
- P1.33.** Arantxa Eceiza. Novel biobased polyurethane resin for structural composites
- P1.34.** Arantxa Eceiza. Furan-containing biobased polyurethane nanofibers: A new versatile and green support clickable via Diels-Alder reaction

P1.35. Stamatina Voiyiouka. PRecycling: Making “waste to product” transformation of plastic waste streams viable, scalable and safe-to-use

P1.36. Gerda Gaudikova. Hydrothermal ageing of 3D printed biopolymers: Effect of water type and printing conditions

P1.37. Francesca Luzi. Mechanical performance of polybutylene succinate composites loaded with mycelia grown on different media

P1.38. Franco Dominici. Effect of metal organic frameworks (MOFs) as stabilizers of natural pigments in bioplastic composites

P1.39. Franco Dominici. Polymeric films produced by plasticizing non-edible durum wheat flours: processing and variety-property relationship

POSTER SESSION 2. Tuesday 15th November 2022 (16:05-17:15)

P2.1. Nicolas Joly, Conception, characterization and behavior towards fungi and bacteria of clay-added α - and β -chitosan-based films

P2.2. Carol López de Dicastillo. Development of an antimicrobial multilayer food packaging material through the combination of processing techniques

P2.3. Mohammad Mahbubul Alam. Development of innovative biofilms from waste materials for packaging applications

P2.4. Abel Guarda. Development of a sustainable food packaging material based in a novel polymeric and biodegradable multilayer system with antibacterial property

P2.5. Alejandra Torres. Processing of PLA-based bionanocomposites by supercritical foaming with CO₂ to obtain sustainable materials

P2.6. Francisco J. Rodríguez-Mercado. Design of ethylene scavenger materials based on ecofriendly thermoplastic materials and nano-TiO₂

P2.7. Frutos Carlos Marhuenda Egea. Importance of composting systems in biodegradability and compostability studies of biopolymers

P2.8. Javiera Sepúlveda. Recycling processes of food grade non-PET materials: Legislation, EFSA evaluations and challenges

P2.9. Marina P. Arrieta. Plasticized PLA reinforced with bacterial cellulose obtained from Kombucha fermented in coffee waste

P2.10. Marina P. Arrieta. Rosemary tea encapsulated into cellulosic particles for the production of active PLA films

P2.11. María José Galotto. Supercritical foaming and impregnation with eugenol of PLA nanocomposites

P2.12. Julio E. Bruna. Development of biodegradable active material with antimicrobial capacity based on Graphene Oxide, PLA/PHB and Copper oxide nanoparticles with potential use in food packaging

P2.13. María Dolores Samper. Effect of sericin and maleinized linseed oil on polylactic acid films properties

P2.14. María Dolores Samper. Development of biodegradable films based on polylactic acid incorporating nanoparticles from residues of herbal infusions

P2.15. Carolina Villegas. Effect acid ellagic/chitosan active coating on commercial biopolymer Mater-Bi® films

P2.16. A. Candela Gil. Study of lignin glyoxilation to phenol substitution in PF resins

- P2.17.** M. Muñoz-Martí. Screening of enzymes for the degradation of polyurethane of different nature
- P2.18.** Patricia Rivera. Evaluation of the incorporation of inclusion complexes by supercritical impregnation
- P2.19.** Soraya Sánchez. Fluorescent markers for bioplastics from encapsulated algae chlorophyll
- P2.20.** Alejandro Aragón-Gutiérrez. Scale-up production of compostable gliadin/polycaprolactone blend films by twin-screw extrusion
- P2.21.** Salvador García. Use of packaging waste and confectionary industry waste for bioplastic production using haloarchaeas as cell factories
- P2.22.** Salvador García. Upcycling of polyethylene terephthalate (PET) wastes to generate biodegradable bioplastics for food and drink packaging
- P2.23.** Cristina Muñoz. Disintegrability under composting conditions of active polylactic acid films loaded with inclusion complexes
- P2.24.** Tannia Silva Pavez. Effect of reprocessing on the physical properties of poly (lactic acid)
- P2.25.** Gregory Albornoz-Palma. Dielectric characteristics of lignocellulose nanofibrils from *Eucalyptus*
- P2.26.** F.R. Beltrán. Effect of maleinized linseed oil on the structure and properties of mechanically recycled poly(lactic acid) bowls
- P2.27.** Laura San Sebastián. Biocomposites based on bio-polyethylene reinforced with rice straw for food packaging applications
- P2.28.** Asma Khalfi. Microwave-assisted extraction of essential oils from date seeds and encapsulation by spray-drying
- P2.29.** Radia Belhadj. Invasive seaweed *Rugulopteryx okamurae*: an overview of its biochemical composition for potential food packaging applications
- P2.30.** Yaiza Flores. Research and development of biorefineries with applications in textiles. VEGGIE 2021 project
- P2.31.** Pilar Albaladejo. Application of chitin nanofibers extracted from black soldier fly insects as biobased coating for food packaging applications
- P2.32.** Alejandro-Aragón Gutiérrez. On the use of black soldier fly *Hermetia Illucens* as a novel source for the development of chitin nanofibers by disintegration method

P2.33. Daniel Domene-López. Raman technique as a useful tool for the determination of carbon nanotubes dispersion in starch matrices

P2.34. Cristina Mellinas. Synthesis of lignin nanocapsules for active food packaging applications

P2.35. Cristina Mellinas. Active films based on pectin, cocoa bean shell extract and ZnO/Zn-NPs for food packaging applications

P2.36. R.L.L Fialho. Melting and drying properties of PBS bio-composite with wood sawdust and lignin for injection moulding applications

P2.37. Alaitz Etxabide. Environmental and physicochemical analyses of whey protein films

P2.38. Luis Quiles-Carrillo. Analysis of the incorporation of a natural terpene-based plasticizer on the mechanical properties of a PLA and tangerine peel flour WPC

P2.39. Juan Carlos García-Quesada. Biodegradable composite films prepared from starch/PVA blends plasticized by ionic liquid

P2.40. James Hewlett. Submerged Fermentation of *Ganoderma lucidum* and *G. tsugae* mycelium for the production of exopolysaccharides