

"Plastics & Environment – 3rd Edition"
Exploring Environmental, Sustainability and
Planetary Health Dimensions

4-5th June 2026
University of Milano-Bicocca, Milano, Italy



Conference Program

DAY 1 – 4 June 2026

08:30 – 09:30	Open desk - Registration
09:30 – 11:30	OPENING WORKSHOP
	DESIGNING THE NEXT GENERATION OF SUSTAINABLE TEXTILES - <i>How innovation and regulation come together through Safe and Sustainable by Design</i> . Event included in the registration fee, sponsored by INTEGRANO e AICTC.
11:30 – 12:00	Welcome Coffee
12:00 – 12:15	Opening Ceremony Prof. Marco Orlandi - Rector of University of Milano-Bicocca; Prof. Matteo Colleoni - Rector's Delegate for Sustainability of University of Milano-Bicocca Prof. Elena Fabbri - Head of Department of Biological, Geological, and Environmental Sciences, University of Bologna Prof. Paride Mantecca – Conference Chair, University of Milano-Bicocca
12:15 - 13:30	Session 1 - Innovative monitoring methods and intra- and inter-environmental compartment fate of micro and nanoplastics (sponsored by IOPAN) . Chairs: Luca Ferrero (University of Milano-Bicocca), Zoè Iannuzzi (École nationale des travaux publics de l'État), Arto Hiltunen (University of Turku)
12:15 – 12:45	Keynote Speaker: Francesca De Falco (University of Bayreuth) - <i>From Plastic Composition to Environmental Fate: Insights from Pyrolysis GC-MS</i>
12:45 – 13:05	Invited Speaker: Piotr Markuszewski (Institute of Oceanology, Polish Academy of Sciences) - <i>Inhalable microplastic across sea and atmosphere: release and uptake in function of ambient condition</i>
13:05 – 13:30	Session 1 - Selected Oral Presentations
	<i>Pietro Vahramian - Characterizing and counting micro and nanoplastics in complex liquids: applications of the SPES technique</i>
	<i>Alicia Checa Fernandez - Sampling and characterization of microplastics in drinking water treatment plants: towards a standardized and regulatory-compliant approach</i>
13:30 – 14:30	Light Lunch + Poster Session
14:30 – 15:45	Session 1 - Selected Oral Presentations
	<i>Valentina Balestra - First evidence of microplastic and microfibre pollution in cave dripping waters</i>
	<i>Cristina Cremonesi - Flocculation-Based Approaches for the Removal of Plastics in Wastewater Treatment Systems</i>
	<i>Giuseppe Suaria - Textile microfibers as stratigraphic markers in deep-Sea sediments</i>

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	<i>Saima Shaukat- Microplastics in Lake Tanganyika: Unravelling spatial distribution in one of the world's largest and deepest freshwater lakes</i>
	<i>Marina Núñez Rubio -Textile Microplastic Emissions and Their Associated Organic Additives</i>
	<i>Cyril Charriaud - Laboratory-based feasibility studies demonstrate the potential for monitoring airborne microplastics using SwisensPoleno Jupiter</i>
15:45 – 17:45	Session 2 - Ecotoxicological and environmental impacts of plastics: emerging evidences and future challenges (sponsored by NanoTERRAE project). Chairs: Elena Fabbri (University of Bologna), Rossella Bengalli (University of Milano-Bicocca)
15:45– 16:15	Keynote Speaker: Violette Geissen (Wageningen University & Research) - <i>The hidden risk of agroplastics for food safety</i>
16:15 – 16:35	Invited Speaker: Veronica Nava (University of Milano-Bicocca) - <i>Reframing plastics in freshwater ecosystems: from contaminants to drivers of biogeochemical and ecological processes</i>
16:35 – 17:45	Session 2 – Selected Oral Presentations
	<i>Serena Ducoli - Influence of fragmentation techniques on the physicochemical properties and biotic aging of true-to-life microplastics</i>
	<i>Beatrice De Felice - An integrated approach to assess the toxicity of accelerated aged microplastics from conventional and biodegradable polymers in Daphnia magna</i>
	<i>Lorenzo Federico - Breaking plastic, breaking balance: multi-level effects of mulches on terrestrial isopods</i>
	<i>Francesca Garaventa - Impact of leachates from in-field collected plastics on aquatic organisms</i>
	<i>Jessica Zampolli - Genome-scale transcriptional and metabolic profiling uncovers Rhodococcus-mediated polyethylene biodegradation pathways</i>
17:45 – 18:05	Sponsor Presentations
	<i>Mattia Valentini (Thermo Fisher) - Seeing the Unseen: Microplastics by Acoustic Flow Cytometry</i>
18:05 – 19:30	Aperitivo

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Conference Program

DAY 2 – 5 June 2026

08:30 - 9:00	Open desk - Registration
09:00 - 10:45	Session 3 - Human exposure and adverse health effects of micro and nano plastics: unravelling the mysteries behind these ubiquitous threats (sponsored by POTENTIAL project). Chairs: Fabrizio Luppi (University of Milano-Bicocca), Rosalba Gornati (University of Insubria)
09:00 - 09:30	Keynote Speaker: Enrico Bergamaschi (University of Turin) - <i>An integrated approach to assess exposure and early health effects in human populations exposed to micro- and nano-plastics</i>
09:30 - 09:50	Invited Speaker: Paolo Bigini, Luisa Diomede (Mario Negri Institute for Pharmacological Research IRCCS) - <i>Development and standardization of a platform to evaluate the biological interaction and safety of micro-nanoplastics</i>
09:50 - 10:45	Session 3 - Selected Oral Presentations
	<i>Alberto Bernacchi - Microplastics interacts with the Intestinal Epithelial Barrier and disrupts permeability</i>
	<i>Maria Chiara Iachini - A multicellular 3D-airway assembloid model to assess the impact of micro- and nanoplastics on the human lung health: "life in plastic is not that fantastic"</i>
	<i>Ludovica Barone - Aged polystyrene leachates affect Human Dental Pulp Stem Cells</i>
	<i>Mayowa Olubukola Kolawole - Mechanical grinding of polypropylene bottles during pilot-scale recycling generates micro- and nanoplastic particles that can induce pro-inflammatory responses in macrophages</i>
10:45 - 11:15	Coffee break + Poster Session
11:15 - 13:05	Session 4 - Promoting Safe and Sustainable by Design, circularity and bioeconomy in polymers innovation (sponsored by INTEGRANO and REPLAY projects). Chairs: Paola Branduardi (University of Milano-Bicocca), Chiara Samorì (University of Bologna)
11:15 - 11:45	Keynote speaker: Andrea Amadei (European Commission, JRC) - <i>Plastic of today and tomorrow: production, consumption, circularity, and innovation at the science to policy interface</i>
11:45 - 12:05	Invited Speaker: Fabio Apone (Novamont) - <i>Industrial biotechnologies for circular economy models</i>
12:05 - 13:05	Session 4 - Selected Oral presentations
	<i>Marika Gargano - DIEGO: A Thermophilic PETase Enabling PET Upcycling for the Circular Bioeconomy</i>
	<i>Alex Pessina - An integrated biocatalytic platform for the circular valorization of PET</i>

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	<i>Irene Tagliaro - PFAS-free biopolymer-based coatings with tailored wettability</i>
	<i>Stefano Fava - Polyhydroxybutyrate-based materials: characterisation and potential applications in agriculture</i>
	<i>Sara Borin - Evaluation of biobased carriers derived from agri-food waste for microbial biostimulant delivery in horticulture</i>
13:05 - 13:45	Sponsor Presentations
	<i>Gabriele Bulla (Jeol) - SEM Principles and main problems in plastic & polymers analysis</i>
	<i>Patrizio Barbini (Horiba) - Horiba Solutions for Microplastics: Systems & Strategies"</i>
13:45 - 14:45	Light Lunch + Poster Session
14:45 - 16:30	Session 5 - Plastics and climate-neutral cities. Rethinking practices, governance and politics for urban and environmental health. Chairs: Monica Bernardi (University of Milano-Bicocca), Alessandra Landi (University of Bologna)
14:45 - 15:15	Keynote Speaker: Luigi Pellizzoni (Scuola Normale Superiore) - <i>Beyond plastic futures</i>
15:15 - 15:35	Invited Speaker: Alberto Pizzocchero (Comune di Milano) - <i>New circular policies for the City of Milan</i>
15:35 - 15:55	Invited Speaker: Massimo Di Domenico (Confservizi Lombardia) - <i>Plastics and Climate-Neutral Cities: Governance, Circular Practices and the Role of Waste Utilities in Urban Environmental Health</i>
15:55 - 16:30	Session 5 - Selected Oral Presentations
	<i>Gianni Tartari - Microplastics in Lombardy's Waterbodies: An Environmental and Social Concern</i>
	<i>Emilio Cocco - Plastic Pollution and Artisanal Fisheries: A Comparative Analysis Between the Abruzzo Coast and Andaman Sea Communities in Thailand</i>
	<i>Mattia Lucertini - Urban Living Labs and Participatory Governance to Promote Alternative Circular Pathways for Plastics</i>
16:30 - 17:00	Closing remarks + Awards

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Posters on Display

Session 1 - Innovative monitoring methods and intra- and inter-environmental compartment fate of micro and nanoplastics			
Poster Nr°	Name	Family Name	Title
S1.P01	Guia	Morelli	Characterization and quantification of microplastic (MPs) in groundwaters on Pianosa Island (Tuscany, Italy)
S1.P02	Guia	Morelli	Abundance and distribution of microplastics and microfibers in water and riverbank sediments of the Arno River (Tuscany) and the impact of the urban area of Florence
S1.P03	Enmanuel	Cruz Muñoz	A Rapid Monitoring Protocol for Complex Microplastic Mixtures: Combining Portable NIR Spectroscopy with Machine Learning
S1.P04	Zoé	Iannuzzi	Identifying sources of microplastics in a city: a case study of an industrial catchment
S1.P05	Francesca	Pittino	Polyethylene terephthalate weathering in cryoconite holes
S1.P06	Léa	Davy	Model microplastics for studying fate and interactions in urban stormwater runoff
S1.P07	Elena	Tortarolo	Quantification and Characterization of Fibrous Microplastic Release from Synthetic Textiles: Preliminary Results of the SUMMIT Project
S1.P08	Mohammed Monsoor	Shaik	Controlled Generation of Representative PET Micro- and Nanoplastics by Ethylene Glycol Fragmentation for Environmental and Toxicological Studies
S1.P09	Sofia	Lorenzini	Fabrication of PET nanoplastics and their interactions with chlorpyrifos and bisphenol A
S1.P10	Mara	Putzu	Towards validated and standardised workflows for microplastic quantification
S1.P11	Korinna	Altmann	Reference materials for precise and accurate microplastic results
S1.P12	Tommaso	Gatti	Microfibers in drinking water, a new analytical challenge: detection of disinfection by-products of microfibers
S1.P13	Silvia	Lupato	A Dye-Based Approach for Quick Synthetic Microfibres Characterisation in Water Samples
S1.P14	Stefano	Fava	Assessment of hydrothermal carbonization (HTC) efficiency for microplastic removal from sewage sludge
S1.P15	Beatrice	Dal Pio Luogo	From wash to wear: a cross-value chain assessment of textile and washing process variables for sustainable, system-level design guidelines
S1.P16	Giovanni	Dolci	Analysis and characterisation of microplastics in composts

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S1.P17	Mattia	Alessi	Microplastics in inflowing streams of Lake Orta (Northern Italy)
S1.P18	Camilla	Fantasia	Integrated analysis of microplastics in marine sediments and air involving GC-MS-pyrolysis and Agilent LDIR spectroscopy with a single shared sample preparation workflow.
S1.P19	Davide	Riseri	Detecting the route of Mediterranean Litter, tracing back natural volcanic pumice
S1.P20	Giorgia	Dassiè	Microplastics release from UHMWPE ski bases: tribometer simulation and spectroscopic analysis
S1.P21	Anna	Waleczek	Microplastics at the Air–Sea Interface: Comparative Observations from the Maldives and the North Atlantic

Session 2 - Ecotoxicological and environmental impacts of plastics: emerging evidences and future challenges

Poster Nr°	Name	Family Name	Title
S2.P01	Giada	Caorsi	Beyond pure polymer: the Role of Additives in ecotoxicity of PEG-based Pharmaceuticals on <i>Danio rerio</i>
S2.P02	Sonia	Tassone	Impact of Polyethylene Terephthalate Microplastics on Rumen Activity
S2.P03	Francesco Alessandro	Palermo	Microplastics as vectors of organic contaminants accumulated in aquatic environments: chemical characterization and endocrine–metabolic effects in fish
S2.P04	Riccardo	Sbarberi	Multigenerational effects of fossil-based versus recycled nylon on benthic freshwater macroinvertebrates
S2.P05	Paola	Valbonesi	Biological effects of cellulose-based bioplastics leachates on adults <i>Mytilus galloprovincialis</i>
S2.P06	Serena	Scala	Chemical characterization of leachates from cellulose-based bioplastics and their biological effects on larvae of <i>Mytilus galloprovincialis</i>
S2.P07	Simona	Mondellini	Exposure to polyethylene terephthalate (PET) nanoplastics induced oxidative stress and altered swimming behaviour in <i>Daphnia magna</i>
S2.P08	Enrico	Stuani	From Material to Organism: A Comprehensive Pipeline for “True-to-Life” Micro- and Nanoplastics Characterization and Biological Interaction
S2.P09	Manon	Auguste	Leachates from paper-based bioplastic items induce shifts in microbiome composition of different tissues of marine mussels

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S2.P10	Teresa	Balbi	Impact of leachates from paper-based bioplastic items on immune function and oxidative stress biomarkers of marine mussels
S2.P11	Andrea	Masseroni	Exploring the effects of microplastic leachates on <i>Porcellionides pruinosus</i> and <i>Folsomia candida</i>
S2.P12	Simona	Ortelli	Colloidal characterization of bio/eco-corona formation on nanoplastics
S2.P13	Shabab	Hussain	Impact of Microplastics From Face Masks On Zebrafish Embryo Development And Toxicity
S2.P14	Alessia	Dicesare	Investigating Roadside Soil Microbiomes: Metagenomic Analyses to Identify Taxa Driving Rubber Degradation
S2.P15	Luis Fernando	Zambrano Mite	Combined Effects of Microplastic Contamination and Phosphorus Deficiency on Tomato Rhizosphere Dynamics
S2.P16	Federico	Cerri	Plastic pollution in Maldivian mangroves: emerging evidence of macroplastic accumulation

Session 3 - Human exposure and adverse health effects of micro and nanoplastics: unravelling the mysteries behind these ubiquitous threats

Poster Nr°	Name	Family Name	Title
S3.P01	Martina	Motto	Impacts of Micro and Nano Plastics on Brain and Intestine Inflammation Through [18F] FDG PET/CT Imaging and Immunohistochemistry
S3.P02	Sara	Bozzer	Nanoscale membrane disruptions induced by polymeric nanoplastics in human umbilical vein endothelial cells (HUVECs) revealed by synchrotron nano-XRF imaging
S3.P03	Matilda	Pedrinazzi	Development of a dynamic 3D in vitro model of the neurovascular unit to investigate micro/nano-plastics neurotoxicity
S3.P04	Rossella Daniela	Bengalli	Hazard assessment of advanced nanotextiles in a safe and sustainable by design perspective
S3.P05	Utkarsh	Sharma	Human Exposure to Micro and Nano- plastics and Risk Assessment
S3.P06	Martina	Broggiato	Immune responses of human monocytes to pristine and UV-aged micro- and nanoplastics
S3.P07	Gaia	Panzeri	Assessing The Interaction Between Micro- And Nanoplastics (Mnps) And Human Gut Microbiota
S3.P08	Ada	De Luigi	The surface charge of plastic nanoparticles plays a key role in their interaction with biological matrices
S3.P09	Matilda	Porro	Analysis of production and characterization of PLA micro and nanoplastics using ball-milling
S3.P10	Anna	Baroni	The impact of polystyrene nanoplastics on microglial function: Preliminary evidence of neurotoxicity, oxidative stress and impaired neurotransmission

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Session 4 - Promoting Safe and Sustainable by Design, circularity and bioeconomy in polymers innovation

Poster Nr°	Name	Family Name	Title
S4.P01	Filipa	Lima	System-level assessment of additives in recyclable polymer value chains using material flow analysis
S4.P02	Muhammad	Farhan	Comprehensive Characterization of Novel Ceramic Filler (Black Obsidian) Reinforced Polymer Composites: A Safe and Sustainable by Design (SSbD) Perspective
S4.P03	Laura	Badalucco	PLEIADES: Design-Driven Innovation for Sustainable Polymer Products
S4.P04	Yang	Wang	Rapid Enzymatic Screening of Polymer Biodegradability for Sustainable Packaging Applications
S4.P05	Mina	sabahi lotfabadi	Testing durability of next-generation marine composites on a racing yacht: bridging performance and circularity
S4.P06	Paola	Branduardi	Insights and roadblocks in terephthalic acid upcycling with <i>Saccharomyces cerevisiae</i>
S4.P07	Fiorella	Masotti	Microbial upcycling of terephthalic acid into protocatechuic acid via optimized <i>Pseudomonas putida</i> fermentation
S4.P08	Riccardo	Milanesi	Optimization of ethylene glycol upcycling to glycolic acid through yeast biodiversity and process conditions
S4.P09	Leonardo Maria	Colnaghi	Production of microbial oils by oleaginous yeasts for bioplastic applications
S4.P10	Silvia	Galafassi	From source to resource: recovery and biotechnological valorisation of textile microfibres from domestic appliances
S4.P11	Chiara	Pizzigoni	Hydrophilic polysaccharide coatings for ice adhesion reduction
S4.P12	Rosa	Zullo	From Microplastic Hotspots to Solutions: Leveraging Wastewater Treatment Plants for PET Valorization and Emission Reduction
S4.P13	Kacper	Pobłocki	Options for riverine plastic waste collected in Motława river (Poland)
S4.P14	Roberto	Pelusio	Innovative Low-Friction Coatings for Synthetic Fabrics: Preventing Microplastic Pollution at the Source
S4.P15	Andrea	Vezzulli	The ProPla project: A Patent Landscape Analysis of the main technological trends for the microPET conversion into value-added products
S4.P16	Gaia	Pilerici	Metabolic engineering and in silico modelling of ethylene glycol assimilation in <i>Saccharomyces cerevisiae</i> .
S4.P17	Ananth	Selvan	Safe and Sustainable by Design Approach for Lapis Lazuli Fine Stone Filler Toward Advanced Polymer Composite Applications

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Session 5 - Climate-neutral cities and plastic. Rethinking practices, governance and politics for urban and environmental health

Poster Nr°	Name	Family Name	Title
S5.01	Aurora	Nurce	Defining Plastic Pollution: Framing Struggles and Regulatory Outcomes in the Global Plastics Treaty Negotiations
S5.02	Eleonora	Bechis	Energy Transition and Environmental Violence in Sacrifice Zones. The Case of Spinetta Marengo Chemical Complex, Alessandria
S5.03	Senzio Sergio	D'Agata	Recycling as a Political Artefact: When the Numbers Tell a Different Story
S5.04	Marta	Caria	Do Urban Policies Really Reduce Plastic Waste? Evidence and Limits from European Cities
S5.05	Selene	Tondini	Plastic Transition: New Practices, Negotiation Processes and Resistances in Local Contexts of Circular Innovation
S5.06	Fabiola	Fasolo	Grest 'Plastic Free': A Parish Summer Programme as a Non-Conventional Channel for Microplastics Awareness
S5.07	Valentina	Pantaleo	Migrants, Ecomafia Processes and De-territorial transformation in Ragusa (Sicily)