



**MARLICE 2022**

II International Forum on Marine  
Litter and Circular Economy



**MARLICE 2022. SUMMARY OF SESSIONS**

# **SOLUTIONS OF & FOR INDUSTRY TO MITIGATE MICROPLASTICS POLLUTION**



**MARLICE 2022**  
II International Forum on  
Marine Litter and Circular Economy  
Seville 18 - 20 May



**2021  
2030** United Nations Decade  
of Ocean Science  
for Sustainable Development

# SOLUTIONS OF & FOR INDUSTRY TO MITIGATE MICROPLASTICS POLLUTION

 AQUARIUM OF SEVILLE - ATLANTIC ROOM

 19/05/2022  15:00-17:00

Chairperson: Juan Ruiz - Sustainability and Public Affairs Manager. Plastics Europe

## DESCRIPTION

Microplastics can be released directly into the environment or can be the result of fragmentation or wear of articles, mainly in pellets, particles or fibers. Concern about these contaminants is increasing due to their wide distribution, their ability to be transported long distances in the environment, and their effects on ecosystems, animals, and people. However, currently there are still data gaps on the nature, persistence and reliable assessment of the risks. Regulators have recently started looking at how to address this issue. There are multiple factors, related to the way a product is designed, produced, used and handled. Therefore, there are opportunities to prevent or reduce emissions by adopting prevention and mitigation measures and technologies at all stages of the product life cycle. In this session, after an introduction on the distribution of microplastics and how the industry addresses the lack of knowledge about their influence on health, a sample of success stories on this contaminant is presented.

## CHAIRPERSON

Mr. Juan María Ruiz Alarma

 Plastics Europe  
 Public Affairs and Sustainability Manager



## SECRETARY

PhD Vanessa Sarah Salvo

 Institut de Ciències del Mar of the Spanish National Research Council (ICM-CSIC)  
 Institutional & International Relations and Knowledge Transfer Unit ICM-CSIC Scientific Director Posidonia Green Project



## PROGRAMME

(See the available presentations of this session by clicking on the presentation title)

**115:00 - 15:05 h - Introduction of the session**

**Juan Ruiz - Sustainability and Public Affairs Manager. Plastics Europe**

**15:05 - 15:20 h - Microplastics in the different environmental compartments**

**Roberto Rosal - Professor of Chemical Engineering, University of Alcalá**

**15:20 - 15:35 h - Plastics Europe's microplastics solutions**

**Camilla Carteny- Microplastics Technical Manager, Plastics Europe**

**15:35 - 15:50 h - Application of marine litter to accelerate biodegradation of plastics**

**Pablo Ferrero - Researcher in Chemical Recycling Group, AIMPLAS**

**15:50 - 16:00 h - Advancing enzymatic depolymerization of PET one atom at the time**

**Francesco Colizzi - Investigador, Intitute of Marine Sciences, ICM-CSIC**

**16:00- 16:10 h - Microplastics in wash water (washing machine and dishwasher)**

**Belén Ramos - Sustainability Project Manager, Organization of Consumers and Users (OCU)**

## SPEAKERS

**PhD. Roberto Rosal**

 University of Alcalá

 Professor of Chemical Engineering



**Ms. Camilla Carteny**

 Plastics Europe

 Microplastics Technical Manager



**PhD. Pablo Ferrero Aguar**

 AIMPLAS

 Researcher in Chemical Recycling Group



16:10- 16:20 h - Textile to minimise the emission of textile microfibres  
Carol Blázquez - Head Of Innovation & Sustainability, ECOALF

16:20-16:55h - Debate Q&A and open discussion

16:55 - 17:00h - Wrap-up

## SPEAKERS

PhD. Francesco Colizzi

Instituto de Ciencias del Mar,  
ICM-CSIC

Ramón y Cajal Researcher



Ms. Belén Ramos Alcalde

Organization of Consumers  
and Users (OCU)

Sustainability Project  
Manager



Ms. Carol Blázquez

ECOALF

Head Of Innovation &  
Sustainability



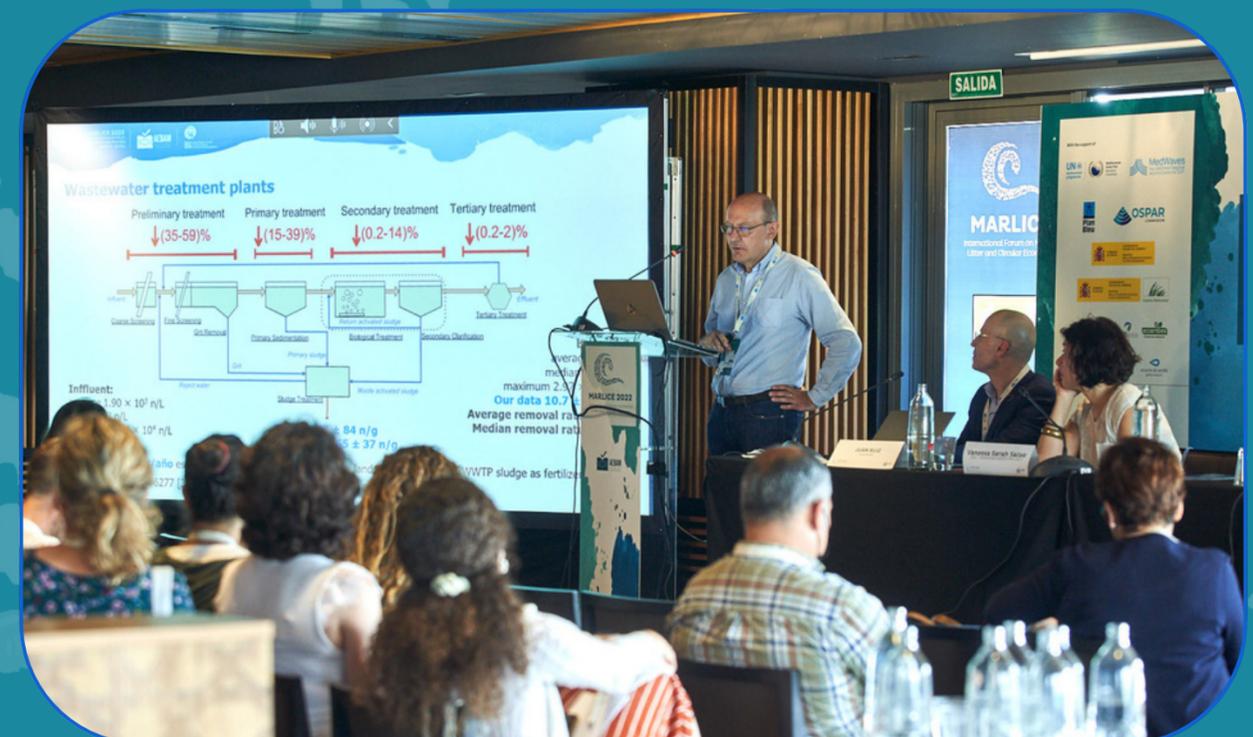
## Meeting objective - Expected output

Recommendations document. During the discussion and starting from the conclusion of the previous session Solutions For Preventing And Recycling Marine Litter, a bullet point of recommendations will be set down.

## Short list of the main topics discussed

- Microplastics are found in all environmental compartments, fibers predominating in the atmosphere compartment, with greater deposits in large cities and transport over long distances and over the planetary barrier.
- WWTP sludge is a source of microplastics when used as fertilizer in agriculture.
- Plastics and microplastics have also been found in urban solid waste treated in composting plants.
- Toxicity and risk analysis is particularly challenging for the microplastic component.
- The plastic industry is working on solutions to the problem of microplastics at three levels.
- Prevent plastic raw material from reaching the environment.
- Participate in several research projects with public funding in different European countries.
- Promote research on microplastics and their influence on human health through a project on ingestion of microplastics.

- Sewage sludge can be treated in its composting phase by adding microorganisms that degrade microplastics, from strains of microorganisms evolved in the laboratory.
- PET hydrolase enzymes can also be produced that degrade PET into other usable compounds, in a scalable process at an industrial level.
- With regard to microfibers from washing clothes in washing machines, it has been shown that water-soluble detergent capsules do not have an influence on the production of microplastics, although some detergents do. Some commercial solutions for capturing microplastics that enter the washing machine have no influence or their influence is limited and the problem should be tackled through other solutions such as improving the finish of fibers and garments or carrying out pre-purchase washes with filtration and capture of microplastics.



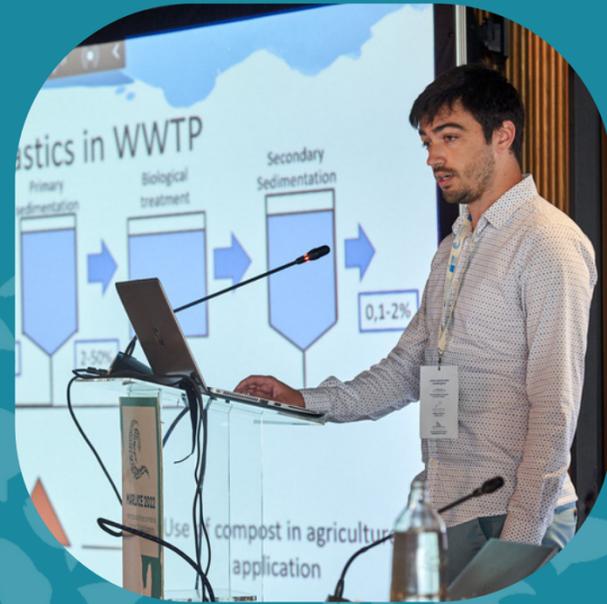
## Conclusions

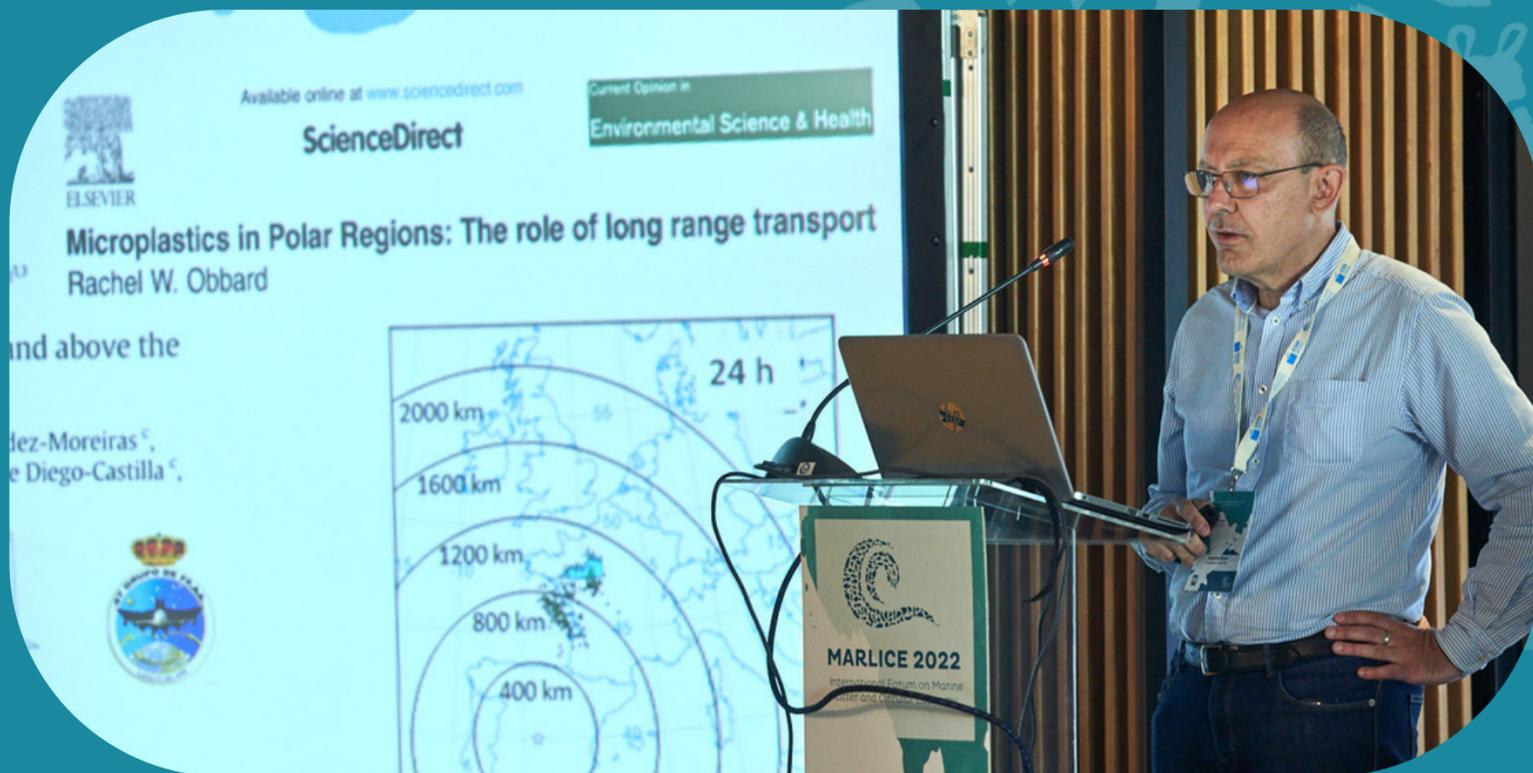
Recommendations of stakeholders to promote and commit on

:

- The development of harmonized definitions of microplastics
- The development of harmonized sampling and monitoring protocols for microplastics
- The development of harmonized risk assessments on microplastics
- Research on microplastics in the different environmental compartments through local and regional coordinated programs.
- The inclusion of technologies for the reduction and/or elimination of microplastics by degradation with microorganisms in the composting phase of sewage sludge.
- The development and scaling of enzymatic degradation technologies for microplastics.
- The development and scaling of technologies to prevent microfibers release when washing textiles, e.g., by means of pre-washing industrial treatments
- The development and scaling of improved fabrics manufacturing technologies that emit fewer microfibers into the environment.
- The development of coalitions between research and industry to foster the innovation and R+D to mitigate and reduce impact in microplastic particularly







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