

# LANZAROTE DECLARATION, MICRO 2022 FOR THE UN TREATY ON PLASTIC POLLUTION

Under the Patronage of the United Nations  
Educational, Scientific and Cultural Organization



**MICRO 2022**

**14-18 NOVEMBER 2022 INTERNATIONAL CONFERENCE  
PLASTIC POLLUTION FROM MACRO TO NANO**



*MICRO\** is a biannual international conference;  
a collaborative process coordinated by the scientific community and stakeholders.  
*MICRO 2022* is licensed under Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

## **Richard C. Thompson - Opening remarks**

The UN Plastics Treaty is an amazing achievement. It's important for society, it's important for the planet, and I believe it's important to all of us here at MICRO 2022 as individuals. I can only speak for myself but the reason I do the science I do, is to try and change things for the better.

UNEP embraces the need for the treaty to be informed by evidence. This final session of MICRO 2022 is dedicated to an important, timely, and pressing question - what are the research needs to inform the UN Plastics Treaty? The evidence that we as individual researchers and teams can deliver in the field of plastic and microplastic. What is already known and how best to communicate that?

One thing that struck me this week was the presentation by Peter Simpson who said ECHA rapidly reached the conclusion that the scientific evidence base around risks associated with microplastics was already sufficient to legislate. I guess it's the same question we need to consider, in terms of the types of evidence now needed to inform the Treaty – what is known vs what is needed? I see this discussion as an opportunity to ensure research is aligned with what's needed to make positive change. Let's reevaluate the research priorities so that we can help guide our funding agencies and ultimately help guide UN Member States.

During this final session the Organizing Committee are keen to hear your views so that we can help synthesise and communicate perspectives on the UN Treaty from MICRO 2022!

**Thank you very much.**

As members of the scientific community, we welcome the emergence of the United Nations Global Treaty on Plastic Pollution as an invaluable opportunity to address plastic pollution.

We represent the MICRO community, which includes over 2500 researchers, who recently came together to share 500 oral and poster presentations in an Open Science context for the international MICRO 2022 conference (14-18 November 2022) under the Patronage of the United Nations Educational, Scientific and Cultural Organization.

The 2022 Lanzarote Declaration, offered with the intention of supporting Treaty Negotiators, reflects the most recent collective effort of the MICRO community. During the final day of MICRO 2022, researchers met in small groups to discuss three questions:

*1/ What do we consider as key evidence we in the MICRO community can provide to support the UN Treaty negotiations? What is most important for policy makers to understand about plastics and plastic pollution?*

*2/ In the UN Treaty, what approaches do we want to see for eliminating plastic pollution, keeping in mind the entire plastic production to post-consumer chain? What approaches must be avoided?*

*3/ If the intention is to stop plastic pollution, what are the implications for plastic research moving forward? And how can our research contribute to assessing the effectiveness of policies & approaches to eliminate plastic pollution?*

We present here the summary of responses provided by the MICRO 2022 community in the :

**Lanzarote Declaration, MICRO 2022 for the UN Treaty on Plastic Pollution.**

**November 25<sup>th</sup> 2022.**

## **We believe Negotiators need to know...**

... plastic pollution affects us All; it is a human issue, not a separate "environmental" one. It impacts human health and also our societies' structure and functioning. For this reason all sectors must be genuinely represented and involved in the Treaty negotiations.

. The evidence on human exposure clearly demonstrates impacts when we consider not only the physical effects of macro and microplastic but also the biological activity of the monomers, additives and attached chemical compounds. Microplastics have been detected in the placenta, colon, blood, feces, and human milk, which, through mechanisms of oxidative stress, inflammation, and translocation can lead to metabolic and hormonal diseases, and cancer.

. Plastic pollution persists in the environment, is ubiquitous in all ecosystems, readily travels across geopolitical boundaries, and is derived from all sectors of society. Meaningfully addressing it will require collaboration working within and across ecological and national boundaries.

. While we already have sufficient data about plastics' detrimental impacts to know plastic pollution can have lethal and sub-lethal effects, Negotiators should work according to the Precautionary Principle when they encounter knowledge gaps and limitations. Plastic pollution is not about one source, one mechanism of exposure, one organism, one effect. It is about the interactions of many factors together, including the synergy of plastics with other contaminants, plastic-associated chemicals, and plastics as a vector for microbes. We believe it is wiser to prevent additional plastic pollution now rather than attempt to mitigate impacts later.

. Eliminating plastic pollution will require reconfiguring the whole plastic economy in such a way that facilitates a reduction of plastic production and a simplification of the polymers produced in order to improve end-of-life recovery for equitable recycling processes that are non-exploitative, environmentally-safe, economically viable, and effectively displace virgin plastic production. To do this requires, for example, standardisation and transparency from producers in terms of the chemical composition of their plastics; minimizing the presence of intentionally and non-intentionally added chemicals; consistent labeling of polymer-type, chemical composition, and appropriate disposal; simplifying the range of products available and design them to be easily identified and sorted; reducing amounts of packaging by design; limiting packaging to a single material; along with designing products for longevity, reuse and repair, with legal and financial measures to encourage compliance, and to ensure funding is available for remediation should it be necessary. Given the context of globalized markets, this will require globally consistent policies and enforcement. Additionally, minimum quality standards for products should also stipulate safety standards for workers and their working conditions.

. Lobbying and corruption are important factors driving plastic pollution.

. Plastic recycling to date has failed to displace virgin plastic production, and has led to the grossly inequitable redistribution of plastic waste accompanied by the hazards it brings.

. Plastics contribute to Global Warming throughout their life cycle, from production to degradation in the environment.

. We can provide our specific and broad perspectives on global plastic pollution and its localised impacts, including baseline levels of existing plastic pollution, and knowledge on the threshold values.

. We can provide reliable, traceable, and reproducible methods for measuring microplastic pollution in the environment and other settings, and identify which methods can be used for monitoring by local and national agencies to ensure accountability and the effectiveness of efforts to reduce plastic pollution.

## **We want the UN Treaty on Plastic Pollution to include...**

...a holistic definition for plastics that encompasses all anthropogenic polymers and particle sizes, including nanoplastics, bio-based plastics, biodegradables, and water-soluble polymers, as well as chemical additives. The Treaty should focus on common characteristics of concern, and take into account the full life cycle of plastics: from the design to production to use to end-of-life, across all ecosystems (e.g., marine, freshwater, terrestrial, and the atmosphere).

. Robust, independent scientific data to demonstrate the effectiveness of interventions to eliminate plastic pollution. This should include measures to support open-access data.

. Establishing appropriate uses for plastics and prohibiting uses that are unnecessary. Along with this, the Treaty should stipulate that plastic producers and product manufacturers bear the burden of proof to demonstrate in advance of a product becoming available on the market whether the use of plastic for a product is necessary, safe, and sustainable.

. Measures to ensure that countries of the Global South are not forgotten in this process. It should include mechanisms to address legacy pollution such as a compensation fund, and be wary about off-setting strategies and quotas given the unequal power dynamics at play between governments and stakeholders. Furthermore, the Treaty should ensure capacity building and technology-sharing, and guarantee access to beneficial measures for eliminating plastic pollution. Additionally, the Treaty should include measures to provide clean, safe drinking water for all.

. Strong conflict of interest policies for the negotiation process to ensure the scientific evidence base is as independent from vested interests as possible. The Treaty should include measures to fight industrial lobbying and corruption.

. Measures to reduce virgin plastic production. However, we call upon Negotiators to avoid interventions switching from conventional plastics to alternatives without robust, independent scientific research on their risks and impacts.

. Requirements for the production and manufacturing phases that will prioritise reduction and reuse, and facilitate recovery and recycling of plastics once they reach their end-of-life. The Treaty must provide a clear legal framework for plastic waste management and disposal, as we anticipate the transition to an economy that does not depend on plastic accumulating as pollution will take time. This is not an excuse for allowing plastic production to continue unchecked. Other measures are already within reach. Along with this, the Treaty should make companies involved in plastic production and product manufacturing responsible for preventing plastic pollution and for its remediation. Negotiators should look to evaluations of current Extended Producer Responsibility schemes and close existing loopholes. Additionally, the Treaty should include guidance on second-use plastic, and incentivise repair and reuse.

. Measures to restore trust between all stakeholders. Accountability and enforcement measures will be key for this, including measurable limits, standards, and processes overseen by ongoing 3<sup>rd</sup>-party monitoring.

. Measures to educate the general public about interventions, prioritising their role as citizens over that as consumers.

## **We see as priorities for our future research...**

...being intervention-oriented. For example, we can analyse the effectiveness of potential interventions and remediation efforts before they are implemented. Along with this, we can provide scenario models to illustrate the effects of different interventions from various sectors, including modeling economic systems to see which scenarios we would want to move toward. We can also strengthen our focus on the fate of fluxes of plastic pollution to monitor whether the implemented measures have the desired impacts.

. Intercalibrating monitoring strategies to find the most suitable methodologies for different regions and ecosystems. Additional research is needed to establish better bench marks to reduce sampling time for standardised monitoring approaches. For nanoplastics and water-soluble polymers, we will need to develop new methods to facilitate efficient monitoring approaches.

. Continuing to study what happens to plastics over time, using long-term experiments with organisms and long-term observations to study accumulation and impacts in different regions and ecosystems. Along with this, given the amount of plastic pollution already in the environment and plastics' persistence, future research should include interventions for addressing legacy pollution.

. Conducting life cycle assessments on the risks posed by conventional plastics and plastic alternatives, from production to end-of-life, in different ecosystems and biota, in relation to other anthropogenic stressors (e.g., climate change, other pollution, etc.). Along with this, we will continue improving research on these materials' ecotoxicity.

. Deepening our understanding of the human dimensions of plastic pollution, from the social to the economic to the educational to the psychological to the impacts on human health. These aspects can provide key insights for preventive approaches to production, transport, and use of plastics resulting in pollution.

. Continuing efforts to harmonise methods and establish standards for plastic pollution research. This process takes time and is not an excuse for inaction.

. Collaboration across the scientific community and all sectors of society. Multi- and transdisciplinary approaches demonstrate the benefits of such collaborations in order to have a comprehensive approach to addressing the physical, chemical, and social impacts of plastic pollution in all environments.

. Applying leverage on our national and international funding agencies to provide support for the collaborations required for this research.



## **In conclusion, we hope...**

... to see a UN Treaty on Plastic Pollution that is legally binding and adopted by all signatory countries, enforcing national plans for each country in a way that is equitable and considers the unequal distribution of who benefits from the use of plastic and who lives with the brunt of its consequences. We also call for setting plastic reduction targets and deadlines, and guidance on how to achieve them.

We call for collaboration within and between the scientific research community and stakeholders in all sectors to identify, evaluate, and implement interventions to stop plastic pollution. While plastic pollution is complex, its complexity is no reason to delay action. And for the Treaty and all stakeholders, we call for actions to address plastic pollution that are: Ambitious, Transparent, and Accountable.

We commend the UN and the Treaty Negotiators for their efforts, and call upon them to be courageous in this process to redefine society's relationship with plastics and eliminate plastic pollution. We, as representatives of the scientific community, are here to support these efforts.

**To: United Nations Secretary-General António Guterres.  
@antonioguterres**

**From: MICRO 2022 Scientific Committee, on behalf of the Chairpersons and All Participants.**

**Lanzarote, November 25<sup>th</sup> 2022.**

## **MICRO 2022 Scientific Committee, in alphabetical order we are:**

Adam Porter, University of Exeter;  
Alexandre Dehaut, Agence nationale de sécurité sanitaire de l'alimentation, de l'environnement et du travail;  
Ana Liria-Loza, Universidad de Las Palmas de Gran Canaria;  
Andy Booth, Stiftelsen for industriell og teknisk forskning;  
Aquilino Miguelez, Cabildo de Lanzarote;  
Arnaud Huvet, Institut Français de Recherche pour l'Exploitation de la Mer;  
Bart Koelmans, Wageningen University;  
Bethany Jorgensen, Cornell University;  
Bettie Cormier, Norwegian University of Science and Technology;  
Bruno Tassin, École des Ponts ParisTech;  
César Cunha, Universidade da Madeira;  
Chelsea M. Rochman, University of Toronto;  
Christian Laforsch, Universität Bayreuth;  
Christophe Maes, Institut de Recherche pour le Développement;  
Cristina Panti, Università degli Studi di Siena;  
Denis Bailly, Université de Bretagne Occidentale;  
Elke Brandes, Thünen Institut für Lebensverhältnisse in ländlichen Räumen;  
Emily Cowan, Stiftelsen for industriell og teknisk forskning;  
Eva Cardona, World Network of Island and Coastal Biosphere Reserves;  
François Galgani, Institut Français de Recherche pour l'Exploitation de la Mer;  
Guillaume Duflos, Agence nationale de sécurité sanitaire de l'alimentation, de l'environnement et du travail;  
Gunnar Gerds, Alfred Wegener Institute;  
Ika Paul-Pont, French National Centre for Scientific Research;  
Jesús Gago, Instituto Español de Oceanografía;  
Joao Frias, Atlantic Technological University;  
Joëlle Richard, Université de Bretagne Occidentale;  
Johnny Gasperi, Université Gustave Eiffel;  
Juan Baztan, Université de Versailles Saint-Quentin-en-Yvelines, Université Paris-Saclay;  
Juliana-A. Ivar-do-Sul, Leibniz Institute for Baltic Sea Research;  
Lisa Devriese, Flanders Marine Institute;  
Maria Murcia, World Network of Island and Coastal Biosphere Reserves;  
Maria-Cristina Fossi, Università degli Studi di Siena;  
Martin Wagner, Norwegian University of Science and Technology;  
Mateo Cordier, Université de Versailles Saint-Quentin-en-Yvelines, Université Paris-Saclay;  
Melanie Bergmann, Alfred Wegener Institute;  
Melanie Pöhlmann, Universität Bayreuth;  
Montse Compa, Instituto Español de Oceanografía;  
Nereida Cordeiro, Universidade da Madeira;  
Nicolás Olea, Universidad de Granada;  
Patricia Ostiategui, Universidad de Las Palmas de Gran Canaria;  
Ricardo Beiras, Universidad de Vigo;  
Richard C. Thompson, Plymouth University;  
Sabine Pahl, Plymouth University;  
Salud Deudero, Instituto Español de Oceanografía;  
Sonja Oberbeckmann, Leibniz Institute for Baltic Sea Research;  
Thierry Huck, French National Centre for Scientific Research;  
Winnie Courtene-Jones, Plymouth University;  
Xavier Cousin, Institut Français de Recherche pour l'Exploitation de la Mer.

**Chairpersons, Speakers and Programme:** <https://www.micro.infini.fr/prog.html>

*"Ayer, sobre las seis de la tarde, después de trabajar desde el almuerzo en una conferencia que tendré que llevar a Canadá, me fui a la Montaña Torsa, hermana frontera y menor de la Montaña Blanca, en tamaño, quiero decir, porque en cuanto a edad deben de andar ambas por la misma, algo así como unos diecinueve millones de años... No iba con la intención de subirla, tanto más cuanto el viento soplaba fuerte y a ráfagas, que es la peor manera de ser soplado cuando se camina. Pero cuando llegué allí, no resistí: desde el principio del mundo se sabe que los montes existen para ser subidos y éste, allí, esperando hace tanto tiempo, hasta había dejado que la erosión lo cavase y recavase, en escalones y hendiduras, en salientes, todo para ayudarme en la ascensión. Me parecía mal volverle las espaldas, por eso subí. Lo peor, como dije, fue el viento." (Cuadernos de Lanzarote, José Saramago).*

*"Yesterday, around six in the afternoon, after working since lunch on a conference that I have to take to Canada, I went to Montaña Torsa, smaller bordering sister of Montaña Blanca, in size, I mean, because in age they must both be the same, something like nineteen million years... I didn't go with the intention of climbing it, especially since the wind was blowing strong and gusty, which is the worst way to be blown when walking. But when I got there, I did not resist: since the beginning of the world it has been known that mountains exist to be climbed and this one, there, waiting for so long, had even allowed erosion to dig and dig away at it, in steps and crevices, in ledges, all to help me climb. It seemed wrong to turn my back on it, so I went up. The worst thing, as I said, was the wind." (Cuadernos de Lanzarote, José Saramago).*



PHOTO BY: FERNANDO PÉREZ RODRÍGUEZ / JOSÉ SARAMAGO FUNDACIÓN  
JOSE SARAMAGO, LANZAROTE 1997

*"...assim é que a vida deve ser,  
quando um desanima,  
o outro agarra-se às próprias tripas e faz delas coração."*

*"... that's how life should be,  
when one gets discouraged,  
another one seizes their own guts and makes a heart"*

José Saramago (November 16th 1922, Azinhaga do Ribatejo, Portugal).

