



PLASTIC HEALTH

SUMMIT 2021

ONE HEALTH

OCTOBER 21 - 2021
AMSTERDAM



PLASTIC FOUNDATION
SOUP



Only ten years left to solve the plastic crisis



In the summer of 2021, two very alarming reports emerged about the future of our life on earth. One of them, by the United Nation's climate panel IPCC, received the most attention, about their findings in August that our climate is changing at an unprecedented rate, with humans being the unmistakable cause.

At least as important however is the message in the second report, published in Science in July, by a group of scientists from Sweden, Norway and Germany. They conclude that we're approaching an irreversible tipping point: the point at which the consequences of plastic pollution will be so immense, that we'll never be able to undo them.

Following this, Marcos Orellana, the Special Rapporteur on Toxics and Human Rights, also made an urgent appeal, literally quoting the following text from the Plastic Soup Foundation in a recommendation to the UN General Assembly, "in the hope that it will have an impact on the Global Plastic Treaty":

Humans are eating, drinking, and breathing plastics. The presence of microfibrils and other plastic microparticles in human tissues has been documented. Plastic waste can be found in the lowest and highest places on the planet, from the depths of the Mariana Trench to the snows of Mount Everest. Given that plastics contain a myriad of toxic additives, human beings are exposed to a wide range of hazardous substances.

Plastic Soup Foundation believes the plastic crisis is currently just as big a danger as the climate crisis. Plastic pollution all over the world is damaging all ecological systems and is increasingly poisoning every living thing, including ourselves. If we're not able to beat this crisis within the next 10 years, we're putting future generations at risk.

These are the issues we'll be tackling, because everything is at stake. A very warm welcome to the second Plastic Health Summit ever. Once again, we'll be bringing you groundbreaking results from scientists all over the world. It's great to finally see you all again, here in Amsterdam.

Maria Westerbos

Founder & managing director, Plastic Soup Foundation



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The Plastic Health Summit is made possible by



Program

Moderated by Adam Fields

PLASTIC HEALTH
SUMMIT 2021

Introduction

09.00 - 10.00

Maria Westerbos
Jo Royle
Prof. Dr. Dick Vethaak

Exposure & Toxicity

10:00 - 11:45

Dr. Heather Leslie
Hanna Dusza
Prof. Dr. Patricia Hunt
Dr. Raymond Pieters
Dr. Bas van der Zaan
Dr. Esperanza Huerta Lwanga
Prof. Dr. Terry Collins

Environmental Justice

12:45 – 14:30

Angaangaq Angakkorsuaq
Prof. Dr. Susan Shaw
Jojo Mehta
Jane Patton
Mr. Hugo Schally
Lisa Hooyer

Plastic & Me

14.30 - 15.15

Sian Sutherland
Mr. Prigi Arisandi and Daru Setyorini
Diane Wilson

COFFEE BREAK

15.15 - 15.45

Next Generation

15:45 – 16:50

Gloria Majiga-Kamoto
Kelly Benchehib
Kristal Ambrose
Aeshnina Azzahra Aqilani (Nina)

Closure

16:50 – 17: 15

Charles Moore

Speakers

Introduction 9:00 – 10:00

Ms. Maria Westerbos

*Plastic Soup Foundation
Founder & Director*

Through fragmentation, plastics and their additives enter the veins of the global ecosystems. This has tremendous health repercussions for humans, animals, plants, and the environment. This should be the primary driver to reduce plastic consumption and production.

Maria Westerbos, founder and director of the Plastic Soup Foundation, will open the second Plastic Health Summit and states: plastic waste is the new asbestos. The World Health Organisation should declare it a public health emergency. We only have 10 years left to solve the plastic pollution crisis.

Ms. Jo Royle

*Common Seas
CEO and Founder*

As the founder of social enterprise Common Seas, Ms Royle will speak about how the massive growth in plastic production presents a growing threat to human health. She will talk about the choice of Common Seas to invest in catalysing ground-breaking research to prove the presence of plastic in our bodies, and explore how and why this research must be used to drive change in government, business, and across wider society.

Prof. Dr. Dick Vethaak

*Deltares and Vrije Universiteit Amsterdam
Expert on micro- and nanoplastics*

Prof. Vethaak will introduce the topic of micro- and nanoplastics (MNPs) and human health. He'll go into the extent of our exposure to MNPs and explain why plastic pollution is a potential public health hazard. By summarising current evidence he'll show us knowledge gaps in this rapidly emerging field.

Besides this, Vethaak will speak about the research work done under ZonMW (Dutch organisation for health research) and present major results for the first pilot projects.

Lastly, Vethaak will introduce the concept of ONE HEALTH, the notion that plastic pollution poses interconnected risks to public health, animal health and ecosystem health, and the need to apply a One Health approach to plastic health challenges.

Exposure & Toxicity 10:00 - 11:45

Dr. Heather Leslie

*Vrije Universiteit Amsterdam
Senior Researcher, Dept. of Environment and Health
Expert in international (micro)plastics research*

Can we find plastic particles in blood? Dr. Leslie will talk about how she and her research group developed an approach to look for micro- and nanoplastic particles in the bloodstreams of farm animals. Blood bathes all the organs and tissues. Mammals make milk from blood. When plastic particles are absorbed into the bloodstream, they gain access to the rest of the body. Plastic particles entering bloodstreams risk being deposited in these organs or potentially making their way into milk.

Leslie will discuss the results of her study in the context of the circulation of plastics through the food chain - from feed to animal to humans - and the implications this may have for humans and animals alike.



Speakers



Ms. Hanna Dusza

*Utrecht University
Researcher, Veterinary Medicine at the Department of Population Health*

The placenta is a complex temporary organ that plays an essential role during pregnancy. It is a lifeline for the developing baby, regulating the exchange of nutrients, gases and waste products between the mother and the foetus. The placenta is also an important endocrine organ, producing hormones crucial for the maintenance of pregnancy. Ultrafine particles in air pollution can reach the placenta, increasing the risk of pregnancy complications such as pre-eclampsia, pre-term birth or low birth weight. Recent studies have shown that microplastics are also detected in the placenta, though their effects are unclear. Our research (funded by ZonMw) shows that plastic particles of different sizes are efficiently taken up by placenta cells, where they may exert subtle effects on endocrine function.



Prof. Dr. Patricia Hunt

*Washington State University
Meyer Distinguished Professor in the School of Molecular Bioscience
Expert on transgenerational effects of exposure to EDCs*

Prof. Hunt will speak about her research on the chaos affecting several generations that plasticising chemicals cause to the endocrine system. This affects growth, sexual function, and behaviour, among other things.

Her talk focuses on her work with pregnant mice, their foetuses, and the eggs of female foetuses; and effects of endocrine disrupting chemicals (EDCs) which are observed in both males and females across several species and generations.

Hunt will also touch upon a new method to measure how humans metabolise EDCs, revealing unexpectedly high levels of BPA for some. Important, as this impacts regulatory processes around the world.

Dr. Raymond Pieters

*University of Utrecht
Associate Professor Veterinary Medicine at the Department of Population Health*

What does air pollution do to our immune response? Every year, 7 million people worldwide die as a result of air pollution. Dr. Pieters will present us with initial indications that plastic in the air triggers an immune response; he'll show us that for hazard assessment it makes no difference to the immune system if the particles are plastic or something else. Assuming that an exposure estimate can be made by measuring particle concentration in the air and the respiratory rate, you can evaluate immune health risks. This is what his new research EC HORIZON POLYRISK project, including real life exposure scenarios, is all about.

Dr. Bas van der Zaan

*Deltares
Senior scientist
Expert in environmental microbiology*

Microplastics are transported through water and air. Along these plastic particles' journey, various micro-organisms can grow on their surface area and form a biofilm. Most of these are harmless and can even play a role in the degradation of plastic material. However, in hotspots like sewage systems, pathogenic micro-organisms like Salmonella sp. or antibiotic resistant bacteria can also settle on plastic particles and be transported to other areas. The first steps to understand the health risk of these 'microbial hitchhikers' are evaluating environmental microplastics, and studying the innate immune reaction when exposed to microbial contaminated water. Apart from that, we need to identify the most important sources of microbial contaminated microplastics.



Speakers

Dr. Esperanza Huerta Lwanga

*Wageningen University & Research
Researcher in Soil Ecology. Microplastics specialist in terrestrial environments*

How do microplastics affect food safety? Dr. Huerta Lwanga will discuss the issue of plastic use in agriculture (fertilizer, compost, mulch, sludge etc.). Microplastics in soil affect soil life and crop growth; these plastic particles can additionally migrate through the soil food chain and eventually into the crops.

Huerta Lwanga's work has found that soil diversity and soil ecosystem services change due to the presence of microplastics. So, what does this mean for the environment and food safety?

Prof. Dr. Terry Collins

*Carnegie Mellon University
Teresa Heinz Professor in Green Chemistry,
Director of the Institute for Green Science*

Prof. Collins warns us about the devastating effects of endocrine disrupting chemicals (EDCs) and asks the critical question: can the Chemicals Strategy for Sustainability (CSS) result in a sustainable chemical enterprise in the EU, which leads the world?

Are we going to just keep making EDCs until the ecosphere is irreparably compromised and future generations are sterile? EDCs are at least as ominous as climate change and probably faster moving but quietly so. The principal challenge will be to prove that democracies can bring down corrupt power —realising the CSS is the perfect opportunity to show we can do it.

Environmental Justice 12:45 – 14:30

Uncle Angaangaq Angakkorsuaq

Shaman from Greenland

Uncle Angaangaq, a healer, storyteller and carrier of the Qilaut (wind drum) from the Eskimo-Kalaallit culture in Greenland, will take the audience on a journey to his land and culture, in a very remote area, where the communities are faced with plastic pollution, blown in from regions far away from their own.

As a former representative of the Arctic people at the UN General Assembly, Uncle will show the world how plastic pollution accelerates climate change in the Arctic region and how that affects the communities living there.

Prof. Dr. Susan Shaw

*Professor, School of Public Health, U. Albany NY
Shaw Institute Founder / President*

Are we changing human biology? Prof. Shaw joins us to discuss how the illegal plastic waste trade is killing children in low-income countries, where more than 90% of the waste is openly burnt. Millions of young children who work as waste pickers and e-waste recyclers are living in what can only be described as a toxic nightmare.

These lost children serve as worst-case models for all children today who have microplastics coursing through their bodies, starting in the womb. Given a lifetime of exposure, Shaw asks: are we changing human biology?



Speakers



Ms. Jojo Mehta

*Stop Ecocide International; Stop Ecocide Foundation
Co-Founder & Executive Director; Chair*

Ms. Mehta will introduce us to the concept of ecocide. As the co-founder of Stop Ecocide Foundation, she will share her in-depth understanding of how and when plastic pollution will be recognized as ecocide, and subsequently have ecocide recognized as an international crime at the International Criminal Court (ICC) in The Hague. Once this is achieved, who can and should be prosecuted for the world's greatest oil spill, plastic pollution? Mehta will update us on the progress of this journey and how it goes hand-in-hand with the fight against plastic.



Ms. Jane Patton

*CIEL (Center for International Environmental Law); IPEN
(International Pollutants Elimination Network)*

Expect huge social injustice coming to light in Ms Patton's talk. Patton will enlighten us about the new Formosa report (released on 06/10) on the human rights violations in the US, China, Taiwan, Vietnam and Cambodia by Formosa Plastics and the plastic industry in general. She will expose the immense social injustice happening there: production plants in the middle of low- and middle-income communities, exposing inhabitants to toxic waste, spills and explosions. The examples highlight the necessity of a Global Plastic Treaty.

Mr. Hugo Schally

*European Commission
Head of the Multilateral Environmental Cooperation Unit at the
Directorate-General for Environment*

As Mr. Schally will explain, plastic's challenges can't be tackled by one jurisdiction alone. Hugo will introduce the current initiative aimed towards launching negotiations for a Global Agreement on Plastics. The way plastics are currently designed, produced and consumed doesn't fit into a circular economy. Recycling plastic is too often in fact downcycling and recycling of hazardous chemicals. The problems of where our plastics end up and who they affect cannot be solved by action in any one jurisdiction alone. That's because plastic's challenges occur during its entire lifecycle, beginning with the extraction of petrochemicals and too often ending with unmanageable and toxic waste. Addressing this problem requires systematic and global change.

Lisa Hooyer

*Minderoo Foundation • Flourishing Oceans
Engagement and Impact Manager*

Tackling plastic pollution of both the environment and our bodies requires knowledge sharing and collaboration across a wide range of multidisciplinary groups for change. Minderoo Foundation is using information of all kinds to eliminate the harms of plastic to people and the planet. They are collaborating with international experts to develop global standards for measurement of plastic in the human body, and harnessing satellite data to track and trace plastic pollution in our environment. This complements their recent report identifying the world's top producers of single-use plastic and the financial institutions who fund and enable its production. All this information is opening conversations premised on the notion that 'you cannot change what you cannot measure'.



Speakers

Plastics and me 14:30 – 15:15

Ms. Sian Sutherland

*A Plastic Planet
Co-Founder. Serial Entrepreneur*

What makes a serial entrepreneur and self-confessed plastic addict transform into an unlikely plastic warrior? Building brands, businesses and campaigns with soul and purpose at their very heart has always been Ms. Sutherland's passion throughout many different careers. But her personal epiphany, realising the devastation we are causing with our misuse of this toxic and indestructible material, has led her to co-create a totally different kind of business model; a pro-activist, pro-solutions, pro-industry organisation with a single goal - to ignite and inspire the world to turn off the plastic tap. Hear why Sutherland believes plastic is the canary in our climate coal-mine and question whose job it is to fix it.

Mr. Prigi Arisandi and Ms. Daru Setyorini

*Prigi - Founder & Executive Director Ecoton
Daru - Manager Research & Program Development Ecoton*

Mr. Prigi and Ms. Daru and their three daughters live in a region where nearly 96 percent of the drinking water comes from the Surabaya River. Sadly, this river is a dumping ground for plastic waste from the communities living along its borders.

As founders of the environmental organisation ECOTON, Prigi and Daru will talk about microplastics contaminating the river water, the fish living in the river, and the fact that these microplastics have been found in human faeces. What makes matters even worse is that the population is largely unaware of the degree of the river's toxicity, as well as the lack of waste management facilities. This means the majority is living in a severely polluted environment.

Ms. Diane Wilson

*San Antonio Bay Waterkeeper
Executive Director of San Antonio Bay Estuarine Waterkeeper
Book author
Environmental activist*

A fourth-generation shrimper, boat captain, and mother of five, Ms. Wilson began a campaign against Formosa Plastics, a Taiwanese chemical company building a facility near the bays where many fishermen made their living. Formosa Plastics makes plastic: PVC powder, polyethylene, and polypropylene pellets. Wilson will take us on her journey fighting against this plastic giant for violations of the Clean Water Act resulting in discharges of pollution along the Texas coast. Along with other volunteers, she collected millions of nurdles (tiny pieces of plastic used as raw material) that served as evidence in the case. The suit was settled for \$50 million in October 2019.

Next generation 15:45 – 16:50

Ms. Gloria Majiga-Kamoto

*Centre for Environmental Policy and Advocacy
Programme Manager - Natural Resources
Goldman Environmental Prize winner 2021*

Ms. Majiga-Kamoto, 2021 Goldman Environmental Prize recipient, helps farmers adapt to climate change in one of the most vulnerable countries in the world, dealing with drought and other impacts. She will take the audience on a journey to her country Malawi where, just like in any other country, the people 'need' plastic. We will hear how she helps them understand that this is a problem that affects not only them but a lot of people, and not just today but in the long run. People need to appreciate that their voice is the only one that matters. Majiga-Kamoto will show us how we can come together to change the world.



Speakers



Ms. Kelly Benchehib

*Make A Change World
Co-Founder*

For ten years now, the three siblings Kelly, Gary and Sam Benchehib have been at the forefront of the environmental battle. They focus on getting plastic pollution in front-page news and letting the world know about the urgency of acting now.

They will take us along their journey, from running across the US with up-cycled plastic shoes, to traveling down the world's most polluted river in plastic-bottle kayaks - which inspired Indonesia's biggest mass clean up – and to the plastic barriers deployed in rivers to stop plastic waste entering the ocean.



Kristal Ambrose

*Bahamas Plastic Movement
Founder & Director*

Ms. Ambrose, 2020 Goldman Environmental Prize recipient, will speak on The Power of Youth and her organisation's approach to plastic pollution solutions through research, education, citizen science and policy change. Instead of going in-depth on the consequences of plastic pollution for our health, Ambrose will highlight how hope and inspiration can drive personal and policy change.

She will draw examples from how her organisation's students (Plastic Warriors) petitioned for The Bahamas' single use plastics ban. Connecting with nature on a personal level inspired activism and lifestyle changes. Lastly, Ambrose will discuss the Bahamas Plastic Movement's most recent summer camp, which focused on the chemical components of plastic and personal care products and DIY alternatives for such items.

Ms. Aeshnina Azzahra Aqilani (Nina)

Youth environmental activist, High school student

Ms. Nina, the Indonesian highschool student who told the then president Trump to 'take back your toxic rubbish', will share her story on how she fights plastic waste that pollutes the tofu and eggs she and her friends eat.

Nina is building public awareness to prevent plastic pollution in Indonesian rivers and has even called on the leaders of the world to put an end to the export of plastic waste from developed countries.

Despite being only 13, Nina is a true hero and demands children's rights to a clean and healthy environment.



Mr. Charles Moore

*Moore Institute for Plastic Pollution Research
Oceanographer who first discovered the Great Pacific Garbage Patch
Founder of Algalita Marine Research and Education; Long Beach Organic; Moore Institute for Plastic Pollution Research*

Our day will end with a moving call to action from Mr. Moore. He will emphasise the need for a global revolution to overthrow the systems that become more powerful with plastic pollution, human exploitation, and environmental destruction. We owe it to ourselves, our environment, and future life on the planet.

Plastic pollution is a climate emergency, and if we continue on this path, we will not be able to deal with the disasters that we have created. There is hope, but we need to act now.



Scientific Advisory Board



Dr. Pete Myers

Scientific Advisory Board

Pete Myers is Chair, founder and Chief Scientist of Environmental Health Sciences, a nonprofit organisation driving science into public discussion and policy on environmental health issues. In 1991 while working with Theo Colborn on the book *Our Stolen Future*, he coined the phrase endocrine disruption. He has been working on this subject since the early 1990s. Dr. Myers has chaired the board of the Science Communication Network since its founding in 2003 and also served as board chair of the H. John Heinz III Center for Science, Economics and the Environment. He has served as Board President of the Consultative Group on Biological Diversity, an association of 40+ foundations supporting work on biodiversity, climate, energy and environmental health.



Dr. Jane Muncke

Scientific Advisory Board

Dr. Jane Muncke is the managing director of Food Packaging Forum, a charitable foundation she set up in 2012 in Zurich, Switzerland. She holds a PhD in ecotoxicology and an MSc in environmental science from ETH Zurich. She specializes in science communication and scientific research about chemicals in all types of food contact materials and articles, and their impacts on human health and the environment. Muncke has been working on the issue of hazardous chemicals in food packaging plastics since 2007 and has published many scientific articles and studies on hazardous chemicals in food contact plastics, such as the recent article *Tackling the Toxics in Plastics Packaging*.

Dick Vethaak

Scientific Advisory Board

Dick Vethaak is a biologist and toxicologist (PhD, ERT), working at the scientific institute Deltares in Delft, The Netherlands. Dick has many years of experience in the field of ecotoxicology, water quality and environmental health issues. Most of his recent work focuses on ecological and human health risks of micro- and nanoplastics. He is actively engaged in the front-runner Dutch ZonMw Microplastics & Health programme and is co-leader of the MOMENTUM project, which aims to determine the effects of micro- and nanoplastics on human health, and to find ways of minimising potential effects. Since 2020 Dick is also professor emeritus at the department of Environment and Health at VU University Amsterdam.



Plastic Soup Foundation

Scientific Advisory Board

Environmental organization accredited by UNEP, founder of campaigns and initiatives such as Beat the Microbead and the Plastic Diet, and founder of the Plastic Health Coalition, based in Amsterdam

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Plastic Justice Exhibition

Plastic Justice is a pan-European educational collaboration between five art and design academies in The Hague, Reykjavík, Barcelona, London and Vilnius. Together with regional environmentally engaged NGOs and scientists, the educational programme includes a conference, exhibition and website, and focusses on the long-term impact of invisible micro-plastics on the human body. The collaboration aims to create new knowledge through cross-academic exchange and field-research promoting conscious design education for an upcoming generation.

At the Plastic Health Summit in October 2021, students from across the participating EU schools will present a selection of works in which they have examined topics like marine debris, aeroplastics and scientific vocabulary among others. The final student outcomes were developed after one semester of independent field work and interviews conducted with experts in the field of science, biology and geology. Using storytelling skills from the practices of filmmaking and design, students translated their quantitative findings into time-based and interactive works that offer a personal, accessible, often non-linear reading of the complex problem of micro-plastics.

The participating schools are the Royal Academy of Art in The Hague, Iceland University of the Arts in Reykjavík, Elisava in Barcelona, Central Saint Martins (UAL) in London and Vilnius Academy of Art. Plastic Justice is funded by the Strategic Partnership programme of the European Union. For more information please visit www.plasticjustice.eu.

Participating Art Schools



Iceland University of the Arts, Reykjavík

Rakel Gróa Gunnarsdóttir, Jakob Hermannsson, Jóhanna Guðrún Jóhannsdóttir, Þórir Georg Jónsson and Sigrún Hanna Ómarsdóttir Löve



Royal
Academy of Art
The Hague

Master
Non Linear
Narrative

Royal Academy of Art (KABK), The Hague

Jeroen van de Bogaert, Jan Johan Draaistra, Camilla Kövecses, Coco Maier, Paul Mielke, Blandine Molin, Niels Otterman, Daan Veerman, Talita Virgíni de Lima and Thais Akina Yoshitake López

ELISAVA

Escola Universitària de Barcelona
Disseny i Enginyeria

Elisava, Barcelona

Silvia Giménez Puig, Sara Maestro Gómez, Diego Quílez Garcés, Jaume Sans Llorente and Natalia Soto Ceballos



Vilnius Academy of Art

Evelina Germanovic and Emilis Jonaitis

ual:
university
of the arts
london

Central Saint Martins, London

Jasmine Key, Georgia Morrison, Libby Higgins, Zac Procter, Max King and Jordan Sterry

Supervision

Lauren Alexander, Ragnar Freyr Pálsson, Raúl Goñi Fernandez, Peter Hall, Audrius Klimas, Lizzie Malcolm, María Isabel Ordóñez Pizarro, Dan Powers, Alisa Raides, Niels Schrader and Abbie Vickress

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