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Oceanographer & Computational Modeling

What was your position at ocean clean up?

I used to oversee the Computational Modeling area, basically we did diagrams and 3D prototypes on the computer of the project we were working on, which was the NORTH SEA PROTOYPE, the main purpose of our computer prototypes work was testing as many situations as we like, such as the maximum amount of waste that the devise can put up with. And as an oceanographer I used science and mathematics to study and explain the complex interactions between seawater, fresh water, polar ice caps, the atmosphere and the biosphere.

Could you tell me more About Ocean Clean Up?

Ocean Clean Up was founded in 2013 by Boyan Slat in the Netherlands, where our headquarters are located, specifically in Rotterdam. The Ocean Cleanup is a non-profit organization, developing advanced technologies to rid the world's oceans of plastic. Our main goal is to clean up half the Great Pacific Garbage Patch in 5 years' time.

What is marine pollution?

Pollution is the introduction of harmful contaminants that are outside the norm for a given ecosystem. In other words, is when something that doesn't form part of the natural ecosystem, enters to the habitats and harm its balance.

What is the main component that pollutes the oceans?

Common man-made pollutants that reach the ocean include pesticides, herbicides, chemical fertilizers, detergents, oil, sewage, plastics, and other solids.

There are two main types of plastics in the oceans and in the garbage islands: the macro plastics and the microplastics, which causes more troubles because it's harder to eliminate, also because the fish eats these plastics and then another fish eat it and so on in food chain until it reaches us.

Water pollution is the most serious or there are other pollutants worse?

All types of pollution are serious. We need no eliminate that culture, that one is more important or severe than the other.

Our project focuses on the marine pollution of the Pacific Ocean, as you know in this area there are the so-called islands of garbage, what can you tell me about this?

This island is formed due to the existence of the marine current, the subtropical gyre of the North Pacific, together with the winds and the atmospheric pressure produce a circulation that includes the floating debris and keeps them united in that mass of water.

For you, what is the best solution to the problem of garbage islands? Do you really think we can solve it?

Culture, we need to share the culture of recycling and respect of the natural ecosystem. More important we need to take action, sure we can solve it, it will take an enormous amount of time, but it will work.

What action do you think is worse ... the garbage that people throw into the sea, the liquids that are spilled by the companies or the garbage like the nets of the fishermen?

All of then cause several problems, I would say the chemicals thrown by the industries, because it integrates completely in the ecosystem and it makes it almost impossible to clean it. The garbage and the nets are relatively easy to catch and clean, but chemicals pollute the water in a more profound way.

Consider that it is better to educate new generations or try to reason with adults about this issue?

Both, but if we convince adults then they can teach these culture and style of living to their children and so on.

What are the consequences for maritime life?

Plastic pollution in the world's oceans is one of the biggest environmental issues of our time, impacting more than 600 marine species.

What consequences for people are that we have contamination in our oceans?

Plastic pollution does not only impact sea life, it also carries toxic pollutants into the food chain – a food chain including us humans.

According to the United Nations, plastic pollution is conservatively estimated to have a yearly financial damage of 13 billion USD. The costs stem from the plastic's impact on marine life, tourism, fisheries and businesses.

Many of these pollutants collect at the ocean's depths, where they are consumed by small marine organisms and introduced into the global food chain. Scientists are even discovering that