



Press Information

Important: Blocking Period!

Not to be published before Oct. 15, 2021, 15:00 UTC

The 2021 BEYONDPLASTIC AWARD Winners are announced!

- Celebrating the excellence in eco-responsible design & initiatives across the world -

The global online platform for eco-designed solutions BEYONDPLASTIC.NET announces the winners of the 2021 BEYOND PLASTIC AWARD. The Award's motto is: Let us design and create eco-responsible products and solutions and reduce single-use plastic. **Let us start a material and packaging renaissance!**

The Award honors the innovation and creativity in sustainable design in four categories: I. Most practical impact to reduce the use of plastics, II. Most innovative approach, III. Most beautiful solution and IV. Best Initiative in Education / Journalism / Campaigning. For each category there is a Gold, Silver and Bronze Award with cash prizes of 7,000 Euros in total.

The Award is directed towards students, designers, engineers, makers, creators, inventors, artists: Everyone who has an idea, concept, project, prototype or even a solution already in market which supports less single-use plastic is welcome to take part. It can either be an entry which replaces an existing environmentally non-responsible product / package or it can be a completely new solution. The entries are judged and selected by a expert jury panel.

Details about the Award can be found at: www.beyondplastic.net/award

BEYONDPLASTIC.NET is a global initiative dedicated to reduce the use of single-use plastic products in order to decrease plastic pollution which is littering landmass, entering water streams and presenting an increasing risk to human and environmental health worldwide. It was launched in 2019 as an politically and commercially independent online platform for environmentalists, packaging designers & engineers and companies to present and exchange ideas, concepts and products of eco-responsible solutions replacing plastic packages. It is initiated by Ulrich Krzyminski - entrepreneur, engineer & inventor - who has an industry insight in the printing & packaging industry.

Media Kit for download: www.beyondplastic.net/mediakit

For further information please contact us at hello@beyondplastic.net.

Thank you for your support!

Gold Winners of the 2021 BEYONDPLASTIC Award

Most Innovative Approach to reduce the use of plastics

Device for the removal of microplastics from water

Fionn Ferreira

Netherlands

Microplastics are increasing in global oceans, freshwater, soil and atmospheric environments. They enter the food chain through particle-feeding organisms until they are finally ingested by humans.

The 20 year-old chemistry student Fionn Ferreira has envisioned a liquid polarity-based approach to extract all forms of microparticles from water, including nanoplastics and microfibers. Water enters the device and is poured through a plant-based oil phase. Due to the polarity of water and the non-polarity of both microparticles and oil, the oil attracts and traps the suspended particles. Particle-saturated oil is replaced with fresh oil. The saturated oil can be reused after separation of the particles. This novel approach is fast, offering extraction rates >80% at a water-oil contact of merely 1-2 seconds; more contact with oil could yield higher extraction. It is flexible and can be deployed onto both freshwater and saltwater streams without the need for high pressure used in current practise. The absence of filtration grids or sieves means it doesn't clog. The device poses minimal environmental risk and does not interfere with other suspended solids such as in river water or wastewater entering coagulation plants, and oil losses are minimal.

Fionn is passionate about solving the microplastic problem due to his childhood spent on the coastline of Ireland. The further work on his engineering approach will be conducted with support from the globally recognized engineering consulting firm Stress Engineering Services (SES), chosen because of its extensive experience in fluid science, where Fionn will act as project Co-Principal Investigator.

<https://www.fionnferreira.com/>

Most Practical Impact

Peel Pressure Made Us Do It

Aleksi Vesaluoma , Aleksu Puustinen, Richard Sullivan

Finland

Creating biodegradable products from organic waste – that's Caracara Collective's calling. The team has spent the last years experimenting with different recipes and techniques for turning bio-waste into functional objects. Their first collection includes hand-crafted lampshades made of orange peel, and they aim to implement the technology into packaging solutions of the future. With a binder made from 100 % natural ingredients, almost any type of organic by-product of agriculture and industry - fruit peels, coffee chaff, you name it - can be turned into new materials and products. Furthermore, the diversity of the world's organic waste creates a beautiful color palette to work with, adding a special characteristic and story behind each product.

The long-term aim is to share the techniques open source so that people around the world can utilize their waste to create solutions locally. Years of experimentation have proven that these materials and techniques are highly adaptable, scalable, and easy to produce. One could create a low-budget and low-tech setup for recycling bio-waste into artisan products, or a whole factory for producing large batches of biodegradable packaging. The goal is to create a global impact through local initiatives.

The story starts in the summer of 2015 when designer mates Aleksu Vesaluoma and Richard Sullivan started playing around with orange peel in their kitchen in London. Then they encounter an event that leaves the Tate Modern's Turbine Hall full of orange peel. After a chat with the organizers, the guys walk out with as much orange peel as they can carry, which starts a new passion and a journey of material development. Alongside their industrial design studies in London, the guys keep testing new recipes and techniques for working with organic materials. In 2018 Aleksu moves back to his hometown Helsinki and starts Caracara Collective with designer Aleksu Puustinen. They work in a studio space which is a hybrid between a workshop, kitchen, laboratory, recycling station, and an urban farm. Most of their raw materials come from the orange juice machines of their local supermarket and pine needles fallen from discarded Christmas trees. The next stage in their journey is to travel to different places in the world to start sharing their knowledge of working with local biomaterials.

Weblinks: <https://www.caracaracollective.com/>

<https://www.instagram.com/caracaracollective/>

Most Beautiful Solution

Eggshell Ceramic

Laura van de Wijdeven

Netherlands

10 billion eggs a year are produced in the Netherlands, which makes the country the largest egg exporter in the world. An egg produces a valuable material which is often seen as waste; its shell. 'Eggshell Ceramic' is a circular material derived from this industry to show new possibilities with this material.

Laura van de Wijdeven beautiful objects show that we can also use the material one more time before it is given back to nature. She developed a biodegradable but strong material out of eggshells which can be a sustainable replacement for single use products. The material has the look of ceramics but the weight of cardboard, which makes it a versatile material. At the end of its life it still can be used for agriculture. The discarded eggshells are coming from a Dutch chicken company that sells its eggs to supermarkets. A part of those eggs are broken in the process from egg to packaging, which provide waste and useless material for them.

Currently Laura is working on further product development of the material and its recycling process. As a designer she is inspired by nature and the effect nature has on human. She tries to connect people to nature in different kind of ways. With her project 'Eggshell Ceramic' she shows the possibilities of a food waste we all know, all over the world and tells the story of this material and all its beautiful benefits.

Weblinks: <https://www.atelierlvdw.nl/concepts>

Best Initiative in Education / Journalism / Campaigning

Circuteria - Let's go circular

Gesa Schneider, Sebastian Stolzenberg

Germany

To tackle the roots of our global waste problem, we could replace up to 90% of fossil-based plastics with bio-alternatives, enabling a circular bioeconomy in which biomass is treated and traded as a valuable resource. However, a general lack of information paired with a lack of economies of scale still hinders us from taking action. Therefore, Circuteria, a smart and sustainable online platform, connects and advises efficiently all stakeholders along a circular bioeconomy to produce, use and recycle sustainable materials and products.

Circuteria uses a smart match-making and simulation methods to provide buyers and sellers of bio-alternatives with the right information they need. For example, manufacturers can easily find the best bioplastic material from a supplier to replace their currently used fossil-based plastic, using our BioMaterial Finder: First, a manufacturer uploads all necessary information about their currently used plastic and tests with a simulation the use of different bioplastic alternatives on their product avoiding production errors and over-engineering. For each finding, Circuteria then also takes important life cycle parameters of a material into account, including CO₂ emissions and the relative amount of recyclables. In principle, this method is applicable to many other interactions along a circular bioeconomy, for example, to convey biomass between farmers and suppliers. In the BioMaterial Finder prototype, manufacturers but also consumers can type in their currently used plastic ID and obtain information about the best bioplastics alternative offered by a supplier.

The motivation to develop the Circuteria platform is to disrupt the traditional, analog process of plastic purchasement, because product manufacturers should no longer be limited to a subjective and mostly fossil-based material selection. As a renewable resource, biomass is a natural "ingredient" of a circular bioeconomy, and therefore needs strong support. Also, Circuteria's concentration on 2nd and 3rd generation biomaterials, e.g. from waste, algae, and cellulose will improve the carbon footprint and agricultural sustainability even further. The start-up, located in Berlin, is an interdisciplinary team of a sustainable business developer, Gesa Schneider, who has excellent industry and leadership experience in the fields of renewable materials and sustainable manufacturing, and a computational scientist Dr. Sebastian Stolzenberg who is an expert in the simulation of biomaterials and hollow solids, and the development of online platforms.

www.circuteria.com

Silver Winners of the 2021 BEYONDPLASTIC Award

Most Innovative Approach to reduce the use of plastics

Human-Robot Interaction for a World Without Plastic Litter

Project.BB: Edwin Bos, Robin Lehmann, Martijn Lukaart, TU Delft incubator & RoboValley, supported by consultants, volunteers, interns and master students of TU Delft

Netherlands

The BeachBot detects small litter in outdoor areas, like beaches and parks and needs your help to detect even more. It is programmed with artificial intelligence enabling it to efficiently map and collect litter, detecting and acting at the same time. A swarm of robots can collaboratively hunt for litter.

The project incorporates a human-robot interaction. By using a gaming application, anyone with a smartphone can contribute to improve the litter detection algorithm and make the robot smarter. The process is simple: The robot scans the area and collects litter images. Each raw image is then added to a database which forms the input for a labeling game where the gamer can match images with the right type of litter. This way, the initial detection is verified by a reliable (=human) source.

This is a win-win formula since (A) the detection algorithm will be improved enabling the robots to perform their task autonomously over time and (B) increasing human awareness on the effects of littering will contribute towards a changing mindset and reduce generating waste at the source.

Edwin Bos likes the nature of the Dutch coast. What he does not like is litter at the beaches. So he started to think and act. He and his fellow entrepreneur Martijn Lukaart have built the BeachBot together with the passionate people at the Technical University Delft. Edwin and Lukaart are the co-founders of TechTics, a consultancy based in The Hague that works to resolve social issues with technology.

<https://project.bb/>

https://www.instagram.com/project_beachbot/

Most Practical Impact

Solo Packaging

Ana Clara Argento, Mateus de Freitas Viana, Yago Bunim

Brazil

Solo is a delivery package made of only one material: the dry palm leaf. The packaging doesn't require resins, glues, or any kind of chemicals, being naturally biodegradable and compostable. Besides that, the container can go in the microwave, oven, and freezer.

Palm leaf is composed of natural fibers (hemicellulose, cellulose, and lignin) which are proven to have excellent properties to be used in delivery packages, like retaining heat. Additionally, no palms are ever cut or damaged to obtain the raw material. Only dry leaves are ideal for production, so we just have to be a little patient until they fall naturally. They fall during the whole year and each one can make two containers on average.

Putting botany and design together, Solo keeps the convenience of a disposable package whilst making no harm to nature. This material has equal or even better characteristics compared to the polymer ones, maintaining the food temperature, not absorbing liquid in short term, and having no smell or taste.

Solo Packaging designed two types of packaging so far: a rectangular one and round one. The first one has a locking system between the container and the lid. The lid also has a little slope to pile other packages and make a safe delivery possible. The second one is composed of two identical fitting parts. Both come with a seed paper belt to ensure proper sealing and to inform the properties of the container.

It all started when Ana, a Product Design student, researched about using palm leaves in products and presented a fictional project to a subject in university. Mateus, a Product Design student and botany lover, was there and fell in love with the idea. He spent months just studying and testing this material and realized how good the idea was. After that, he called Ana and they started to make it happen. Nevertheless, they still needed someone to help with all the machinery and to model the product, so they called Yago, the third co-founder and also a Product Designer, and invited him to be a part of the team.

<https://nowaste.whatdesigncando.com/projects/solo-packaging/>

<https://www.instagram.com/solo.embalagens/>

<https://www.youtube.com/watch?v=Rai6KCmK6PI>

Most Beautiful Solution

The Dissolving Bottle

David Guerrero, Karen Go, Federico Fanti, Rachel Yulo, Liz Castañeda, Choi Co, Meda Cruz, Ernest Pascual, Roshan Nandwani, Al Salvador, Vhilma Mhagsino, David Wright, Carl Graham, Sarah Arrogante, Dianne Sibal, Denise Galoyo, Leslie Tan, Lex Nocheseda

Philippines

The Philippines is commonly called a “sachet economy”. This is how most people purchase their toiletries, with little awareness on the impact of single-use plastics on the environment. And due to inadequate waste management, ocean pollution is huge problem, especially when taking to account that the country is completely surrounded by a marine ecosystem.

David Guerrero and his team at his creative agency in Manila redesigned a shampoo bar into the shape of a bottle to make it more intuitive.

Solid shampoo bars are a genuinely simple solution to get rid of plastic packaging, but most people still think it's a bar of soap. Bottles for hair. Bars for the body. So far this was not appealing for the hotel industry or home consumers to use. So by changing its shape, maybe we can change the consumer mindset. David says, “We have long been involved with campaigns to fight plastic waste. And with The Dissolving Bottle we have a solution that can clean your hair without a bottle.”

Each bar is made with all-organic ingredients by local Filipino manufacturer The Naturale Market. Partner brands have the chance to customize their own versions of The Dissolving Bottle and the agency is also offering to supply the molds at cost to artisanal producers for community livelihood projects.

<https://www.thedissolvingbottle.com/>

<https://vimeo.com/524865760>

Best Initiative in Education / Journalism / Campaigning

Suppli: The Future of Sustainable Takeout!

Megan Takeda-Tully, Julianna Greco

Canada

Suppli is a reusable takeout container service that uses an innovative approach to eliminate single-use plastics from the takeout and delivery industry. Female-founded and based in Toronto, Suppli partners with local restaurants to provide reusable containers so customers can enjoy takeout without the waste. In 10 months, the founders Megan & Julianna and her team have signed up almost 2,000 consumers and 25 partner restaurants and saved 8,500 single-use takeout containers from landfills (for context, that's 8 minivans worth)! After launching and refining the service in Toronto's downtown east end, Suppli's on an exciting growth path building an app to expand city-wide (and beyond!) in the coming years.

How it all began: Single-use waste has been a problem weighing on the founders for years. While at a dinner party 6 years ago, Megan, floated the idea by a group of friends with no takers. Everyone went on to talk about how convenient single-use products were. The market was not ready. Fast forward to 2019, the same group of people we're lamenting about the excess amount of packaging that comes with meal kit deliveries! Megan floated the idea of a reusable takeout container service again, and this time, it was a hit. The market was ready!

And this is why Suppli is on its mission: Globally, we extract an unsustainable amount of resources from the Earth to produce single-use items that are used for a mere 10 minutes and then spend the next 400 years negatively impacting developing countries, nearly 700 species (especially seabirds), and our oceans. Locally, Toronto serves approximately 39M takeout meals per year, which conservatively means we are tossing 78M pieces of waste each year! What's worse, only 9 % of what we place in our recycling bins actually gets recycled. Also plastic recycling is energy-intensive downcycling.

<https://www.mysuppli.ca/>

<https://www.instagram.com/mysuppli/>

Bronze Winners of the 2021 BEYONDPLASTIC Award

Most Innovative Approach to reduce the use of plastics

Growing with Sprout

by Patricia Mangulabnan

with the Design Center of the Philippines

Philippines

Eco-Designer Pat Mangulabnan from the Philippines contributes with her sustainable packaging concept Sprout to the growth of local plants. Sprout is made from discarded pineapple leaves that grow after using the package into a new plant. The plantable feature ensures that its life does not end right after consumption; its purpose continuously changes before, during, and after use. It's where circular economy meets sustainable design.

The concept also includes a digital application with a QR code, which guides the user when, where, and how to correctly plant the used packaging depending on the seed season. The app would let people know where they have already made an impact by planting their Sprout, further challenging and motivating them to continue Sprout's mission.

Pat works with the Design Center of the Philippines and local agricultural communities to ensure proper composting and planting is possible. The artwork is printed by using organic soy ink and the food is protected by an edible starch wrapper.

Sprout's design eliminates unnecessary waste and encourages locals to actively contribute to the preservation of the diverse Philippine flora. Sprout's packaging design lets us consumers interact better with the product, gives us a sense of fulfillment and responsibility, as well as reinforces a positive behavioral change towards living a more sustainable life. As Pat says: „I love that the package is interactive – you can learn about the seeds and plant them instead of discarding the packaging!“

<https://www.yankodesign.com/2021/02/24/this-sustainable-packaging-design-is-made-from-discarded-pineapple-leaves-that-grow-into-a-new-plant/>

<https://www.instagram.com/p/CLrMRg7AbHz/>

Most Practical Impact

MEDLastic

Agostina Laurenzano

Spain

Agostina Laurenzano's work at the intersection of artistic and scientific research has led to the creation of bioplastics in order to fulfill a circular economy. She had repeatedly researched different renewable sources in the area where she lives under the condition that it should be agricultural waste which is no potential food, or anything derived from animals. She identified a very rich source of starch at the bottom of her garden, thanks to the collection of Japanese medlar seeds. After this discovery, she has devised a production system. Then two prototypes have been developed. The first is a 100 % biodegradable bowl, made from starch and silicate. Silicate is of mineral origin containing silicon, the second most abundant chemical element in the earth's crust. It is incorporated in the recipe to increase the resistance to humidity, making it waterproof and reusable. For decorative purposes, dehydrated vegetables are used to create a more romantic result. The second prototype is a disposable sachet of virgin olive oil, made from starch, with heat-sealed edges.

In 2017 Agostina Laurenzano was given the opportunity to attend the laboratory of the Faculty of Biology at the University of Barcelona where she built up her own portfolio of research in natural polymers over the years with projects in jewellery design and lately on a more functional level in packaging design. She currently gives workshops on bioplastics and eco-design.

<https://www.agostinalaurenzano.com/>

<https://www.instagram.com/agostinalaurenzano/>

Most Beautiful Solution

Bacterial Cellulose And Eggshell Snack Packaging

by Julia Correia Campos

with Ponto Biodesign, Caroline Pagnan, Elena Amato, Universidade do Estado de Minas Gerais

Brazil

Julia Correia Campos designed and developed a snack packaging with a compostable material made out of bacterial cellulose from Kombucha SCOBY and eggshell. Both materials are abundant resources that would normally go to waste. They are low-cost and easy to process, making its manufacturing process feasible. The bacterial cellulose and eggshell bio-composite is home-compostable. Since eggshells contain macronutrients that are essential for plant growth, the packaging can also be torn down into small pieces and used as fertilizer.

In order to manufacture the foldable, rigid, light-colored, and printable material, the bacterial cellulose and eggshell are washed, boiled, and ground. Then they are mixed together forming a pulp that was then dried between two fabrics, using as reference the manufacturing process of papermaking.

The shape and structure of the packaging were designed to be practical in use with its opening and closing flaps. The Brazilian Modernism artistic movement inspired the visual concept and these characteristics are portrayed in its organic silhouettes, vibrant colors, and the use of local decorative patterns.

The project was part of Julia's design studies at the University of the State of Minas Gerais in Brazil. The material was created together with Ponto Biodesign, which is an experimental laboratory that develops materials with bacterial cellulose and local food waste. The aim was to create a solution that had less negative environmental impact compared to the traditional single-use plastic food packaging and to celebrate the local design culture.

<https://isola.design/Designer-Projects-Bacterial-Cellulose-And-Eggshell-Snack-Packaging#Projects>

<https://www.youtube.com/channel/UCNELRC7qjXHj59jL2Jw1YCg>

Best Initiative in Education / Journalism / Campaigning

Sowing Circularity

Big Circle Studios

South Africa

Big Circle Studios, based in the community of Lorentzville in the bustling city of Johannesburg, South Africa applies circular economy hands-on locally through grassroots research and design.

Members of the local community envision a new way to valorize organic waste. Local waste streams from businesses in the area are identified and biomaterials and products are developed from these waste materials. At each stage, the information learned is packaged and shared through open-source mediums that are accessible to those within the local community and those on the outside as well. This creates the opportunity for people to learn, create work, and build businesses that are centered around sustainable materials at all levels of the supply chain. For example, one person could build a business creating eggshell powder for its chemical properties of calcium carbonate, and another could create a business making a lamp from a provided prototype design. The main aim of this grassroots approach is to make the final outcomes as accessible, low-tech, and low-cost as possible in order to accelerate the way in which people engage with a circularity economy. To ensure this information is clear and approachable, free workshops are conducted where participants are walked through each stage of the material and product development process, enabling them to go home with a biomaterial product that they have created.

Big Circle Studios was found in the midst of the pandemic by Kiera & Matt in the hope of reimagining and reshaping the narrative of how green, circular, and sustainable economies exist in the world. They became aware of how limited the western perspectives of the circular economy due to their technocratic, theoretic and top-down-minded approach are, so they created their vision which works practically for the land that they call home – Johannesburg, South Africa.

More than a year ago, they began working on a materials library and low-tech plastics recycling workshop funded by the British Council. As they built momentum, they received funding for an informal waste economy mapping project and a biomaterials workshop by the Goethe Institut. Since then they have been expanding their expertise in biomaterial creation and working to further their mission of grassroots development of the circular economy with support from the South African government.

<https://www.bigcirclestudios.com/>

<https://www.instagram.com/bigcirclestudios/>