
Press release

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Lilian van Daal presents Radiolaria #1 - Fragments of Nature

Bio-inspired fragments of nature captured in a 1:1 soft seating concept

Lilian van Daal presents her newest biomimicry project: Radiolaria #1. Radiolaria #1 is a real size 3D printed model of a chair made out of a single material that incorporates all functionalities: flexibility, adaptability, firmness, and stability. With Radiolaria #1, [Lilian van Daal](#) continues her quest to improve, adjust and innovate the production of soft-seating by making use of nature's laws. In this project design, nature and the newest technology come together to use energy and material in the most efficient way. This result is a chair constructed without glue out of a single material: recycled polyamide (PA 12), provided by [Oceanz 3D printing](#).

Inspiration from nature

What can nature and its smallest life-forms teach us? These small life-forms are the starting point of Lilian van Daal's research. The microorganisms Radiolaria and Bryozoa form the main source of her inspiration. Radiolaria are unicellular organisms that are found as zooplankton throughout the ocean and take their name from the radial symmetry of their skeletal spines. The structure of Radiolaria amplified by 3D printing affords various levels of flexibility and comfort without using different types of foam like in common soft seating. Bryozoa are moss animals that live in tropical waters and freshwater environments. The lattice of connections within Bryozoa skeletons inspired Van Daal to create a system of connection points for assembly of the chair without extra materials such as glue. In general, the leading principle in Radiolaria #1 is formed by symmetry which is also the main characteristic in all unicellular organisms.

"The intricate shapes of flowers. The mesh-networks of fungi. The perfect geometry of organisms. They have been crafted, remodeled and burnished during billions of years of biological trial and error. Implementing their unique and meticulous properties in design has been difficult, but recent technology has fueled possibilities for new development of products and systems." - Lilian van Daal

Bridging technology and nature through design

Radiolaria #1 is a successor to Van Daal's graduation project Biomimicry Soft Seating presented four years ago. Since the very first soft seating project, production time and energy consumption have both been decreased by 50% due to optimizations in the design that allow all elements of one chair to fit in one production run of the 3D printing machine. Novel material research conducted by [Oceanz](#) has allowed Van Daal to use recyclable materials for printing.

Radiolaria #1 was produced by Oceanz 3D printing which provides cutting edge machines with which structures can be created that mimic natural solutions for durability, flexibility and connectivity on a microscopic level. The result is a blend of technology, design and nature celebrating the best of all three.

"Nature may seem at first glance random and free-flowing, but if you look on a microscopic level, you can find symmetry and geometry in almost all cell structures." - Lilian van Daal

Lilian van Daal

Lilian van Daal acts as a mediator between the natural and the artificial or designed world. She experiments with innovative technologies and materials in order to create new shapes and structures. With the resulting objects she aspires to provide insights and contribute to more sustainable production methods. Lilian van Daal believes in the solutions and inspiration that nature and organic processes offer. Looking at the ordinary from a new perspective, gives way to new possibilities. She converts the experiment to useful connections, collaborations and applications.
www.lilianvandaal.com

Oceanz

Oceanz is a professional 3D printing company, with many years of know-how in the market, about the most relevant peers and the professionals that matter. With gained knowledge and concrete business cases, Oceanz has gained extensive experience in various industries. Together with our customers we develop and create 3D printed innovations that make the difference in every production process.
www.oceanz.eu

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