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Taylor, Andrew and Unver, Ertu

Practice based 3D Biomimetry Design Research: Sea Star Lamp Concept

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SEA STAR LAMP:

RESEARCH

The research explores biomimetic for surface, textiles and product design. The Sea Star lamp is one of a series of practice based collaborations; nature design experiments, product development and exhibition installations created between textile surface design researchers and 3D digital design practitioners.

The strategic search for role models in nature is what discerns biomimetic from the ever existing inspiration from nature. While bio-inspiration may be limited to a morphological analogy, biomimetic makes use of functional analogies, processes, mechanisms, strategies or information derived from living organisms. The term ‘biomimetics’ used in this research focuses on bio-inspired based design rather than direct copying of natural biological functions and implies the use of the natural world as a model to base an engineering development or innovative concept.

PARAMETRIC 3D MODELLING

The concept design and process sections were created in Solidworks to generate extruded organic shapes which were morphed into each part. These parts were then assembled in a circular pattern to construct the Sea Star lamp. 2D vector based drawing files were created from Solid data to laser cut individual pieces in acrylic. Each acrylic piece was dispersed dyed and then the parts are shaped by hand using a vacuum forming machine as shown in image above. Each part is designed to easily clip together and the lamp is assembled manually.

REFERENCES


Exhibited at ECOBUILD, 2012, LONDON, UK