



SESSION 2 - ADVANCED RESEARCH AND DIGITAL TOOLS
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A PARAMETRIC COMPOSITION BASED ON CORK MORPHOGENESIS
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ABSTRACT

Inspired in nature's production system, the generative design processes enable designers to rethink architecture design procedures. The objective of this paper is to describe a geometrical composition based on cork biological constitution and growth. This research was developed within the framework of the CEAAD course, at ISCTE-IUL, during the 2012/2013 academic year. The goal was to develop a parametric, customizable and adaptive geometric definition, using as starting point standard industrial products of expanded cork agglomerate and the biological morphogenesis of cork.

The reported work combines a rational and practical understanding of the micro-structural and compositional properties of the raw material - cork - and its derivative - expanded cork.

The result is a generative geometrical definition tool that is able to generate new products, totally adaptable to specific environmental conditions, personalized for its use and therefore, easily commercialized!

From micro-structural composition to macro-scale construction, this research explores new geometrical application possibilities through the implementation of design principles from biology - biomimicry.

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