

# The world's first self-supporting mycelium pavilion - entirely made of hemp and mushroom roots.

**Amsterdam November 29th 2024** · Stijn Dries and Ivana Mik created a site-specific, circular pavilion for the Larnaca Biennale, an international art and culture event on Cyprus in the fall of this year. Working together with nature, they built the pavilion at a local mushroom farm. It is the first truly self-supporting mycelium pavilion ever made, meaning the material and construction were designed in such a way that the structure stands stable without any supporting construction.

The Dutch designers exhibited their mycelium-hemp pavilion in the city of Larnaca during the Biennale. It introduced locals and visitors from around the globe to the idea of biodesign. Cypriots have adopted the pavilion as "The Mushroom Tower". Dries and Mik call it "Building Blocks By Nature".

## **Mushroom roots as a building material**

Mycelium can be imaged as the roots of mushrooms. These microscopic threads are everywhere. A spoonful of soil can contain eight kilometers of them. Mycelium can also be used to create building materials. To do so, the mycelium needs to grow through another material: a granular substrate. By growing through this substrate, it binds everything together and creates a firm mass. Preceding mycelium pavilions (like those at MoMA 2014, and DDW 2019) have been made, but they were always supported by a wooden or metal skeleton.

## **Collaborating with nature**

To create a mass with sufficient strength to be self-supporting, Dries and Mik used hemp wood as a growth substrate. (A wink to the joyful spirit of contemporary Dutch design.) Industrial hemp has no psychoactive qualities, but it does sequester more carbon dioxide per acre than any other crop. It also reduces the need for synthetic fertilizers in many crop rotation systems. Cyprus proved to be an excellent location for experimentation, as the naturally hot weather offers the opportunity to dry the material without using large amounts of energy. The uses, qualities, and applications of both hemp and mycelium are seemingly infinite and people are just beginning to (re)discover them. For example, Dries and Mik also believe in the potential of hemp and mycelium to replace a lot of the oil-based insulation in buildings. There are many practical and legal hurdles before it can have a significant impact on the way we build. That is precisely why arts and events can have a significant role in disseminating mycomaterials.

## **Ancient inspiration for a novel construction**

To engage visitors of and viewers on (social) media, the design employs the striking visual features of an ancient mosque that dominates the site. The shape of the pavilion relates to the mosque's round tower, and the size and color of the blocks is similar to those used to build the mosque. These aspects create a visual dialogue, that allows viewers to imagine the potential of biodesign on a grand scale.

Further sensory experiences are reserved for those who visit Cyprus. After a rain shower, edible mushrooms grow from the pavilion. When standing inside, the surrounding wall dampens the clamor of the square. The comparative silence might create a moment of reflection; perhaps on the necessity, challenges, and benefits of transitioning to a circular economy.

### Future work

Stijn Dries and Ivana Mik about "Building Blocks By Nature": *this is our contribution towards developing innovative building techniques for a circular economy. The circular structure is left unfinished. The wall is not complete, but it offers hope. Its shape signifies the shift from a linear to a circular economy. The very matter of the wall is a tangible shift in our attitude towards our natural environment. It is not made, refined, or extracted. It is grown.*"

To bring more magic of mycelium to a broad audience the designers will continue to create ephemeral mycelium structures in places where people gather. During these events, the structures will slowly be eaten as mushrooms grow from the pavilion. Afterwards, the blocks can be used to further generate food for local communities. When the mushrooms stop growing, the structures can be fully composted.

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### About the Larnaca Biennale

With more than 25000 visitors and spectators at the main exhibition and parallel events, Larnaca Biennale is the biggest and most popular international art and culture event in Cyprus. The next edition will take place in October – November 2023. In addition to the main exhibition, the Biennale will host a series of artistic and cultural events in the city such as concerts, theater, performances, lectures, and workshops. Co-organizer is ARTION Cultural Association of Larnaca. Main supporter of the Biennale is the Municipality of Larnaca and several art organizations and institutions including "The Cyprus Chamber of Fine Arts, E.KA.TE" and "WAVA, World Association of Visual Arts". If you're an artist, join us for the competition. If you are an art lover, join us to experience the Larnaca Biennale 2023.

### About Stijn Dries

Stijn Dries is a co-founder of Bouwmeesters ([bouwmeesters.com](http://bouwmeesters.com)). A Dutch studio for architecture and engineering. Within the firm Stijn specializes in research by design and project development. His personal work can be seen on [stijndries.com](http://stijndries.com)

### About Ivana Mik

Ivana Mik is the founder of Fou Food Lab - a fermentation-focused company. Her background is both theoretical and practical. She learned the hard-core science during her masters in Food Biotechnology and Biorefinery at Wageningen University. Hands-on experience was drilled into her system at the fermentation lab of restaurant Noma in Copenhagen, Denmark. No project is too funky for her and as long as it features microbes, she is on board. Visit [foufoodlab.nl](http://foufoodlab.nl) to find out more or if you want to reach out.