

Living with cacophony

Master thesis
Design For interaction
IDE TU Delft

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12.04.2021

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1 Growing design

This research contributes to the field of growing design which takes account for the livingness as a material quality in design. In growing design the designers work together with the living organisms they guide their growth by crafting the conditions that create the material or product.

2 Mycelium materials

Mycelium based materials are made of the vegetative state of fungi called hyphea and a substrate material. The hyphae cement the material together and can upcycle biological waste streams. The "new" material has the potential to be a green alternative for several existing materials like plastics and woos.

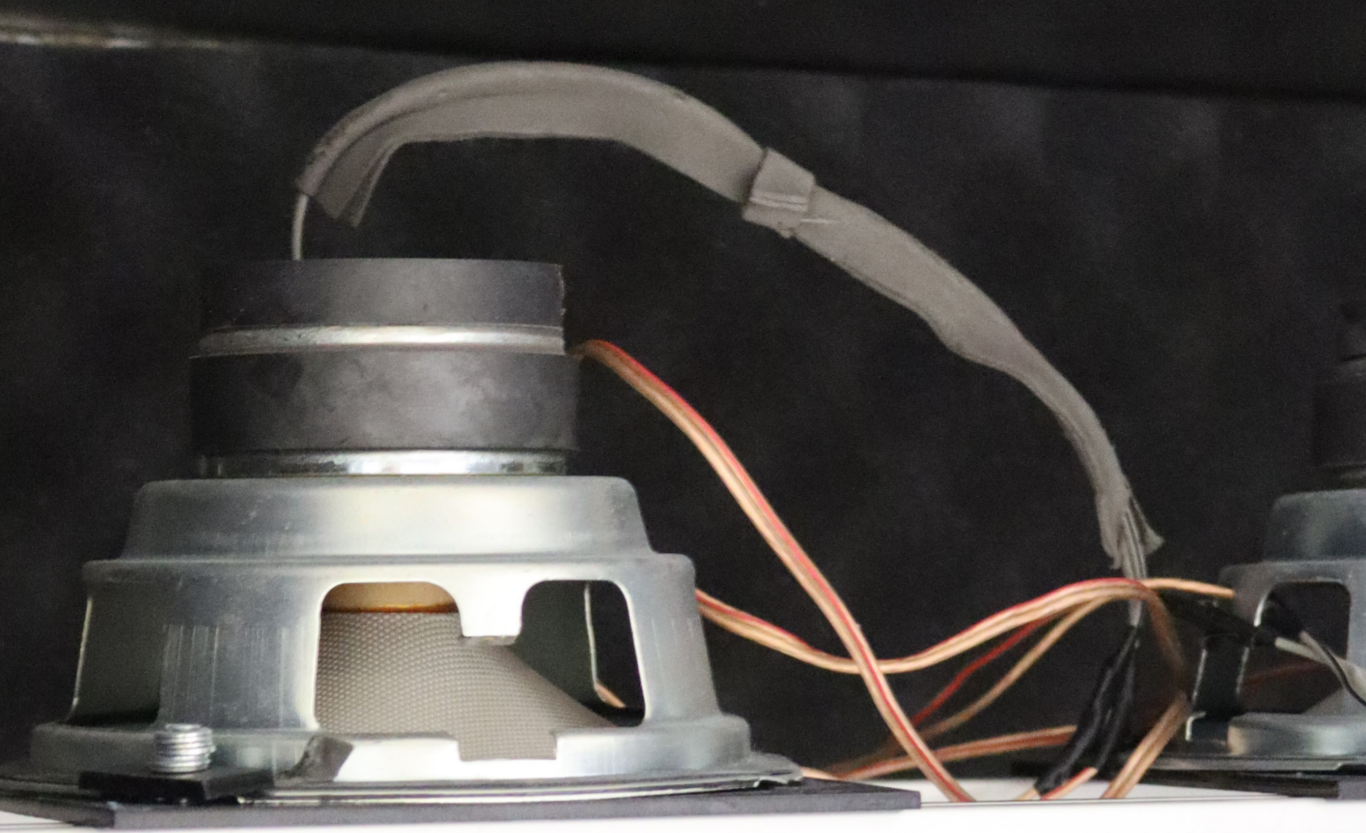
3 Scientific playground

The aim of this project was to reveal the purpose and quality of the effect of acoustic environments on mycelium using the Material Driven Design method. An acoustic environment for the mycelium to grow in is developed including three modular incubators. These incubators are a scientific playground that can host a variety of systems and stimuli for myclium and composites Secondly, by performing experiments to discover new unique performative and experimental material qualities enabled by this acoustic-mycelium relationship.

4 Induced growth

This research has provided first insights effect of sonic stimuli on the growth rate and textural qualities of mycellium. It proved a correlation between the acoustic environments and mycelial growth of trametes hirsuta and Ganoderma resinaceum where the growth is induced at higher volumes.

The effect and potential of acoustic environments on the growth of mycelium.



Designers, artists, researchers and companies are discovering the potentials of this "new" material by discovering how to improve the material properties of mycelium resulting in tailor-made mycelia for innovative design solutions.

