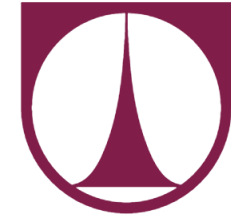


SGS 2022 FUA

Ing. JAROSLAVA FRAJOVÁ
Ing. arch. JAN KONÍČEK
Ing. arch. PETR SIEDLACZECK



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SELF GROWING MATERIALS FOR ARCHITECTURE

URBAN PROBLEM AREA



now



future



BIO-FABRIC

BAKTERIÁLNÍ
CELULOZA

01 **MIT MEDIA LAB'S MEDIATED MATTER**

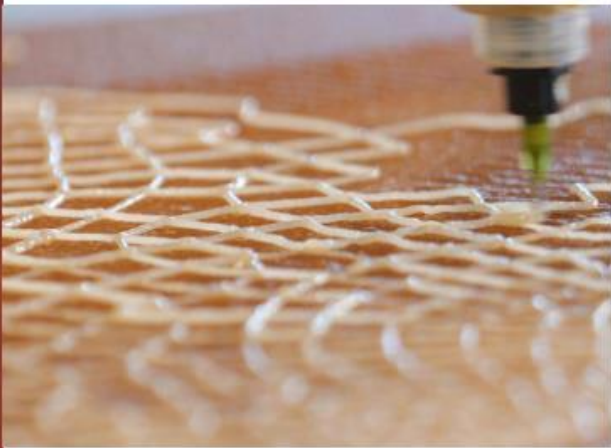
„Derived from organic matter, printed by a robot, and shaped by water. It embodies the Material Ecology design approach to material formation and decay by design, as well as the realization of the ancient biblical verse 'from dust to dust' — from water to water."

02 **JANNIS HÜLSEN, STEFAN SCHWABE**

Project investigates the potential of biofabrocatation with the use of bacteria - Acetobacter xylinum. Bio-manufacturing of modules directly in molds allows to achieve certain sizes and thicknesses depending on the mold's shape as well as the duration of growth process.

03 **IAAC**

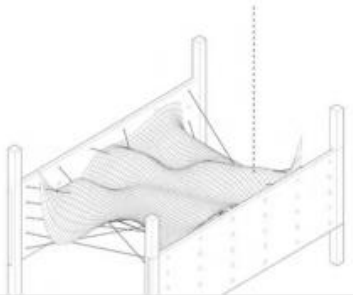
Our thesis aims at producing microbial cellulose from the organic waste generated in the city. The cellulose, when dried, becomes a material which can be molded to precise geometry and can be grown from a variety of organic raw materials and pigments. Further, the cellulose is grown on a mesh created with natural fibers such as jute which further reinforces it. The experiment would demonstrate how organic material can be reproduced and made bespoke. After collection of raw materials, we propose to grow the material in a public area involving the community in the process of production. The process is made transparent and interactive to help build a relationship with the material and the city.



01



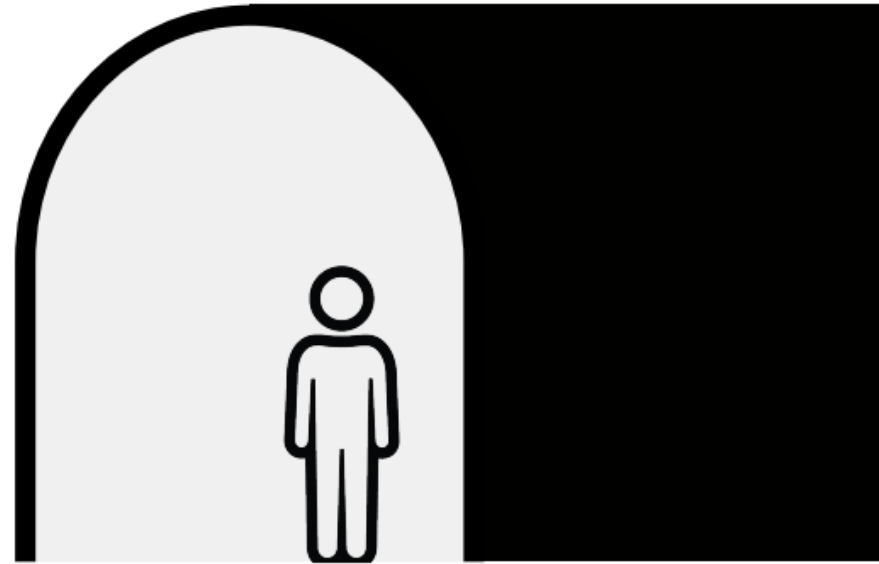
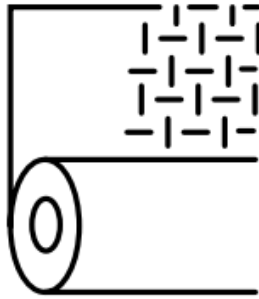
02



#KONCEPT



+



Oxman, N., Duro-Royo, J., Mogas-Soldevila, L. (2014). 3D Printing and Additive Manufacturing. Published in Volume: 1 Issue 3: September 19, 2014

Venter, C. and Cohen, D. (2004). The Century of Biology. New Perspectives Quarterly, 21: 73-77.

REPRODUCE

PRŮŮST

/MATERIAL
/ANALÝZA
/IMPLEMENTACE
/DESIGN

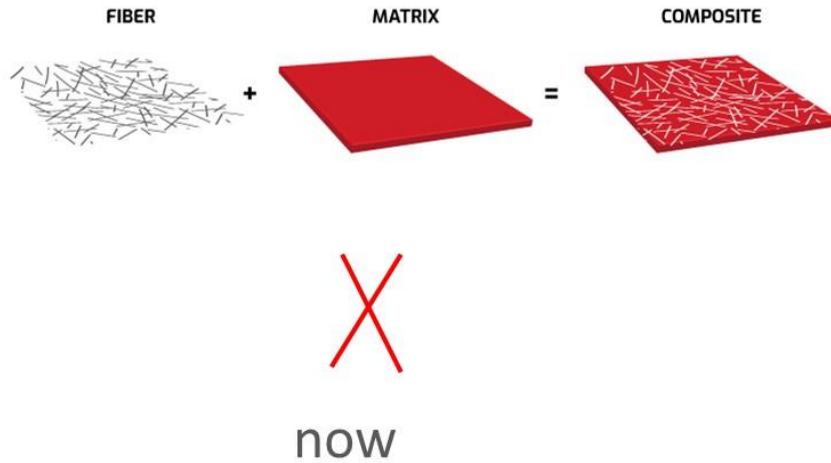
BIOGRADABILITA

RŮST



MATERIALS MATTERS

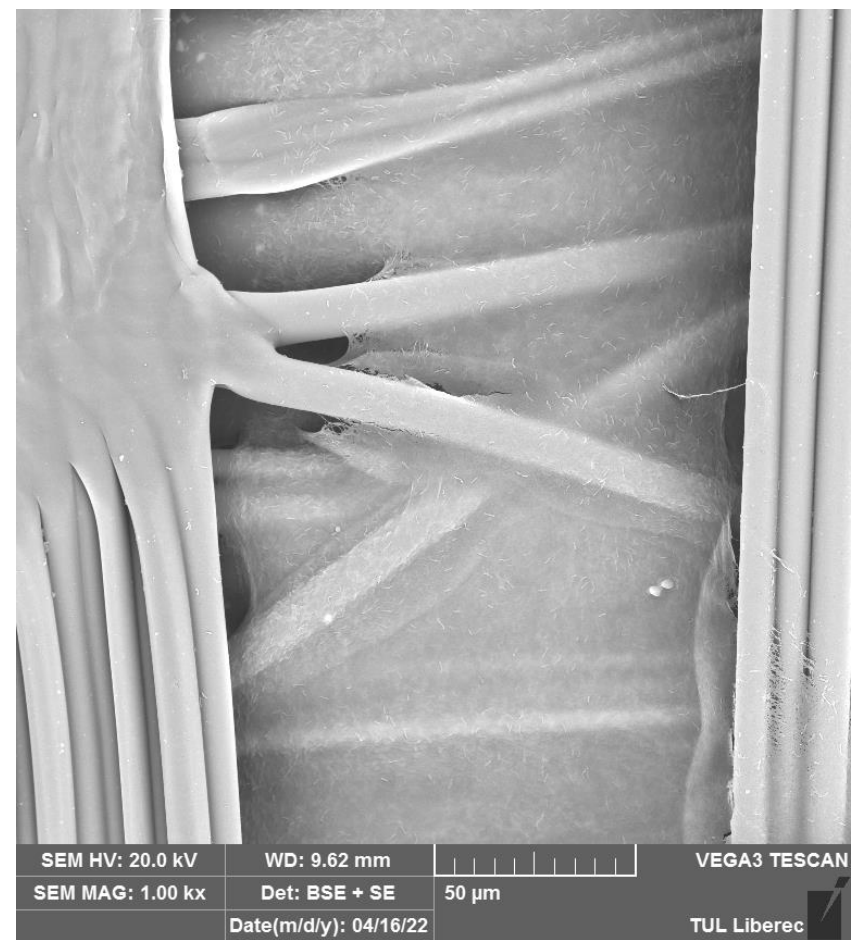
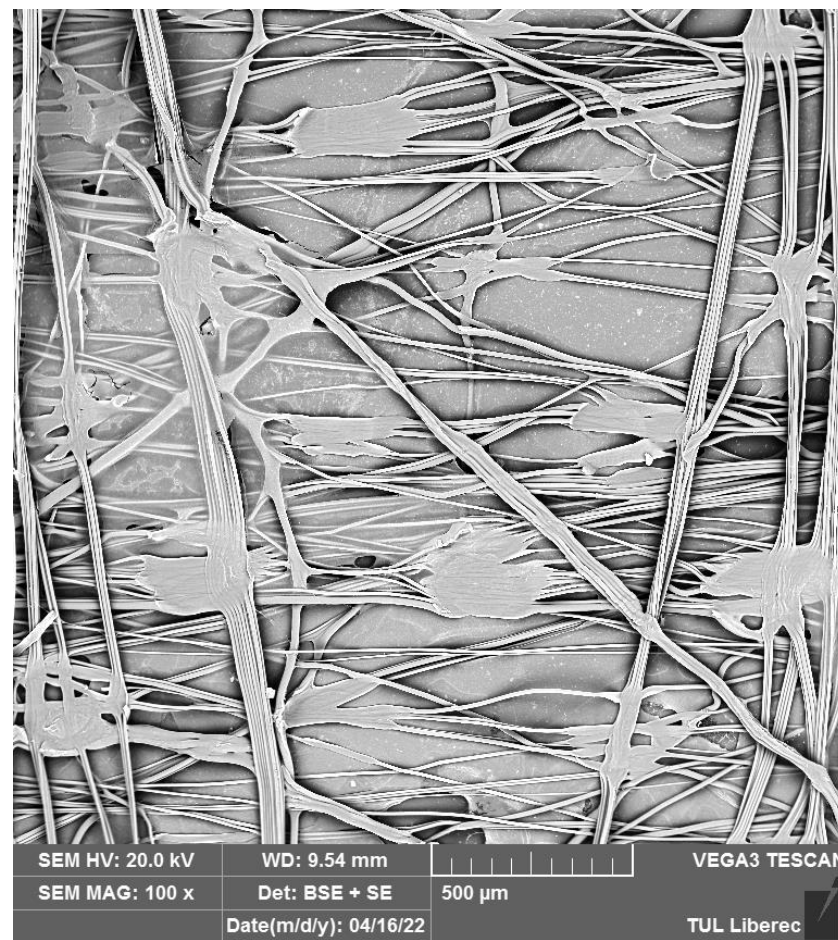
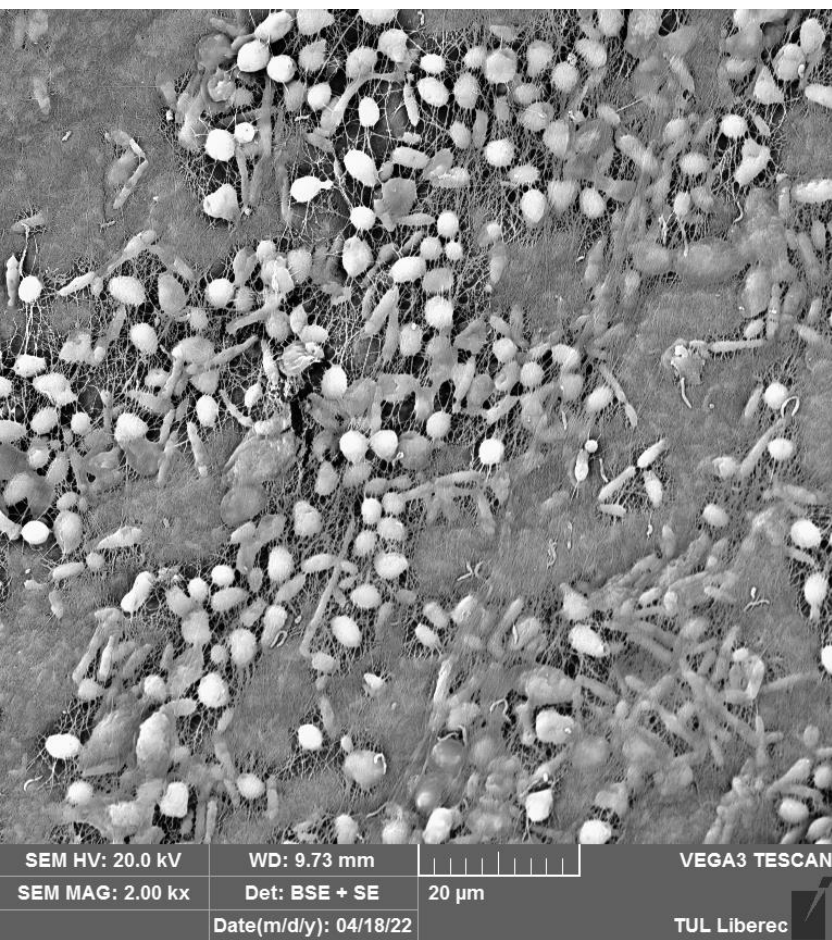
Polluting synthetic composite materials



Bio-composite materials



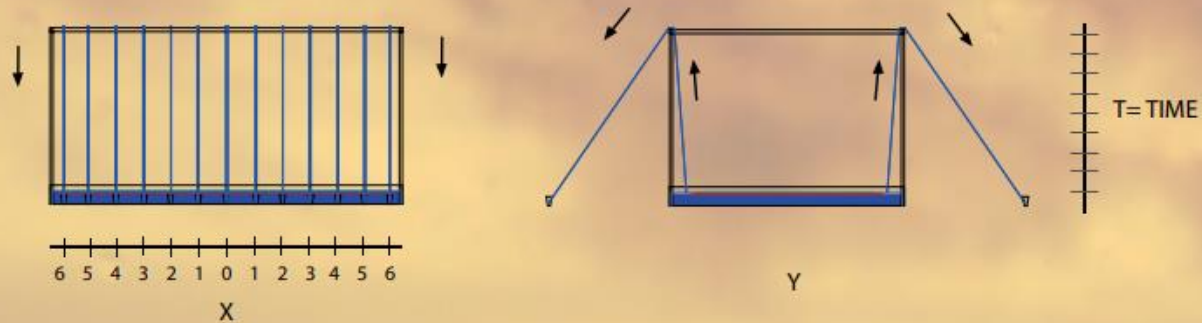
my research



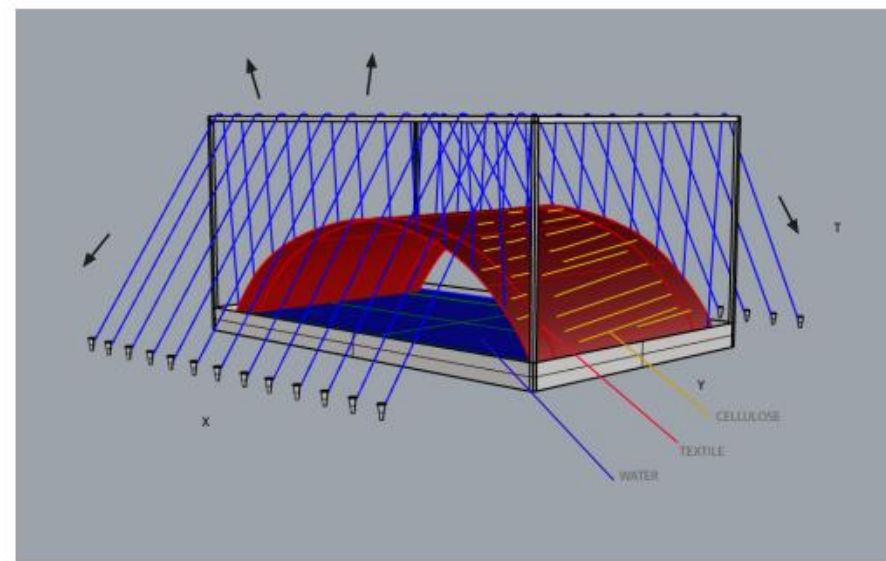
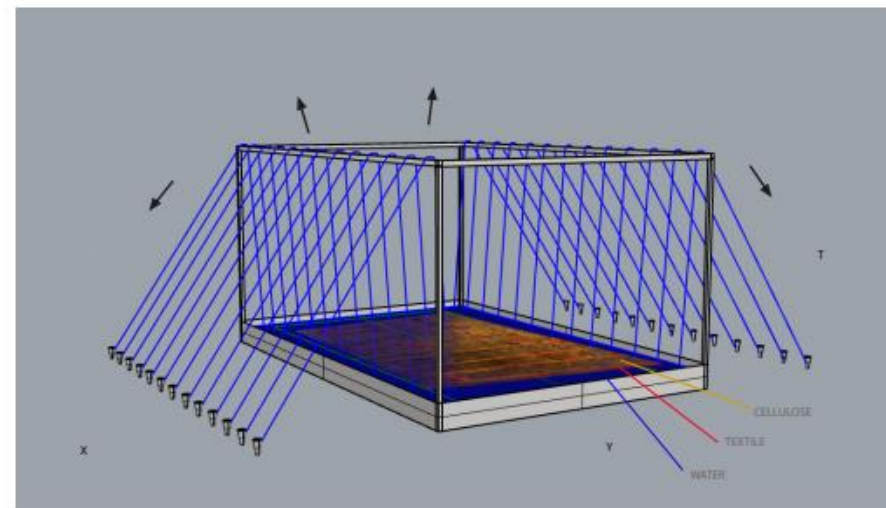
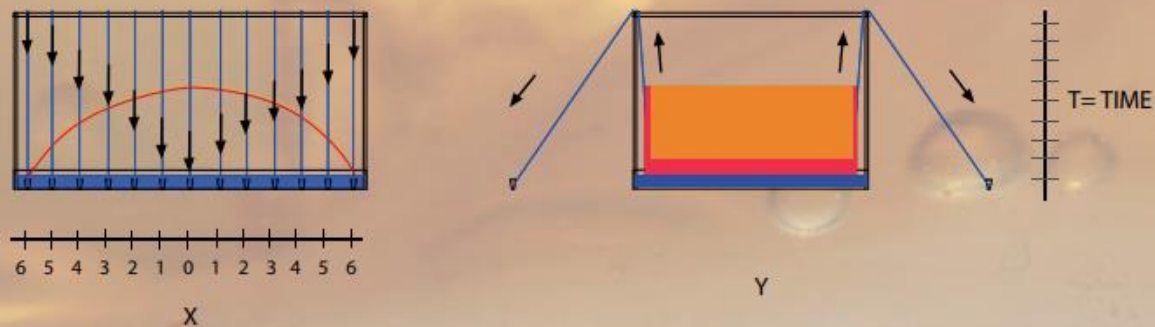
#ANALÝZA

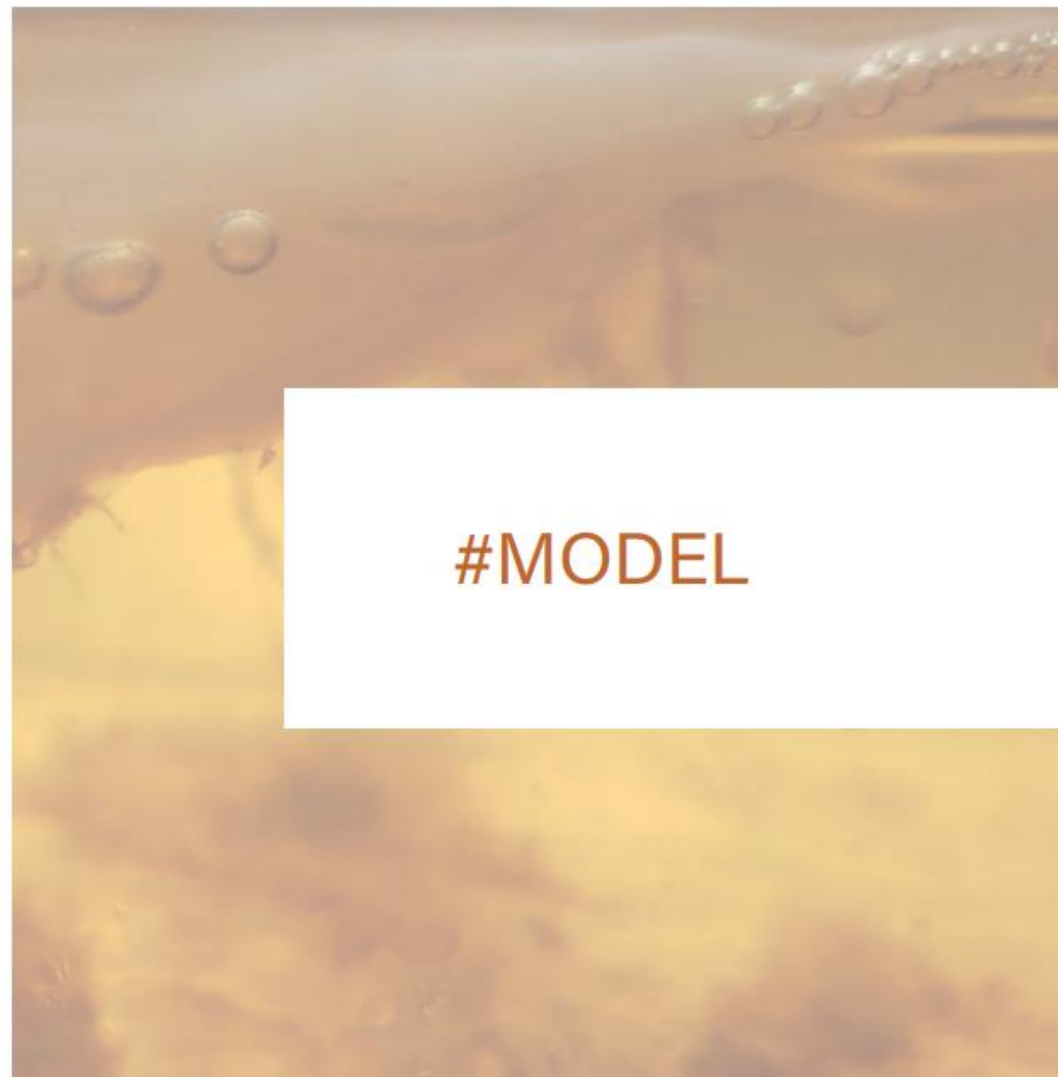


- WATER
- TEXTILE
- CELLULOSE



#VARIANTA A







Jaroslava Frajova,  jary_fraj,



+420604634627,



jaroslava.frajova@gmail.com, support: Technical univerzity in Liberec