

INnovative matERial from TraditIonAL resource

Coordinator

Marco Marseglia | UNIFI-DIDA | Design

Natascia Biondi | UNIFI-DAGR1 | Microbiologia

Research Group

Francesco Cantini

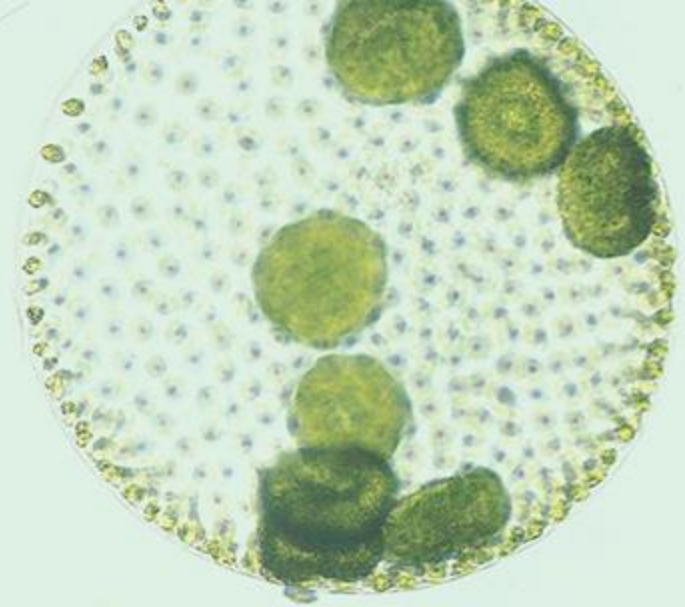
Edoardo Brunelli

Tommaso Celli

Lorenzo Reali

Giacomo Sampietro

Giuseppe Lotti



Inertial



Stone waste
MARBLE
TRAVERTINE
PIETRA SERENA



Microorganism
MICROALGAE
CYANOBACTERIA



Transdisciplinary Collaboration
DESIGN & MICROBIOLOGY
DESIGNER IN LAB





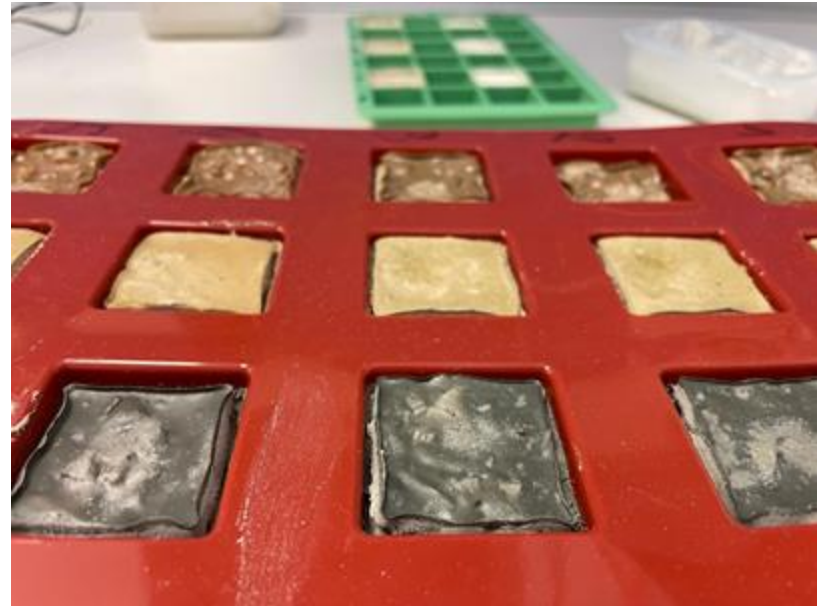
Interdisciplinary
BIOTINKERING



Material

SAMPLES OF BIOMINERALIZED MATERIALS

created with different stone waste and photosynthetic microorganisms (microalgae and cyanobacteria), by **MICP (Microbial-Induced Carbonate Precipitation)**.





Output

BIORECEPTIVE TILES

are part of a concept of a collection of biomineralized urban furniture. The Bioreceptive Tile was found to have a **pH of 8.46**



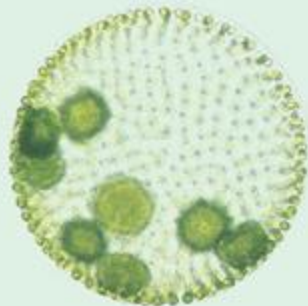
*Possible
Application*
URBAN DESIGN

Output
MULTICOLOR TILES
was created using the organic compounds (pigments) produced by the different types of cyanobacteria used; in this case, biomasses containing **different strains of cyanobacteria** were used and subsequently placed in well-defined regions of the tile to recreate the desired patterns





Possible Application
INTERIOR DESIGN

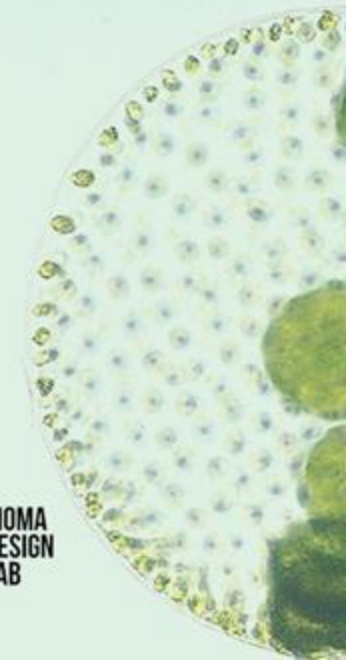


Laboratorio di Design per la Sostenibilità

www.designforsustainabilitylab.com

Design Campus

Via Sandro Pertini 93, 50041 Calenzano (FI)



UNIVERSITÀ
DEGLI STUDI
FIRENZE

DIDA
DIPARTIMENTO DI
ARCHITETTURA



UNIVERSITÀ
DEGLI STUDI
FIRENZE

DAGRI
DIPARTIMENTO DI SCIENZE E TECNOLOGIE
AGRIARIE, ALIMENTARI, AMBIENTALI E FORESTALI



Laboratorio
Design per
la Sostenibilità



BIOMA
DESIGN
LAB