

BIO.CODES

WORKSHOP – FMA 2022

BIO.CODES are the digital strategies that are able to translate the life that surrounds us into form. First, an introduction will be made to Parametric Design's context, contemporary applications and methodologies. Afterwards, through the gamification of cards to choose from, each group's assignment will be defined based on a challenge question to answer, with their type of artifact, a biological source of inspiration, an algorithm and a digital fabrication method.

METHODOLOGY

MAIN GOALS

The main goal of the BIO.CODES workshop is for the participants to be able to apply biolearning along with parametric tools on their projects, while also following a thorough methodology in its development. The "Input" phase is focused on the analysis and morphological interpretation of the natural context. Then on the "Code" phase, they'll be programming their digital concept for the final "Output", which will be the presentation of their results.

EXPECTED OUTCOMES

The final results will then gather all of the group's BIO.CODES created within the workshop that translates their own inputs into a model ready to be prototyped at their local fabrication lab.

GROUP'S PROFILES

HIPSTER: creative and design focused
HACKER: technical and problem solver
HUSTLER: planner and public speaker

GAMIFICATION CARDS

TYPE: panel, sculpture, pavilion...
BIO: sand, stones, palm trees, traditional patterns...
CODE: voronoi, metaball, venation...
FAB: metal laser cutting, CNC wood milling, 3D printing...
BIOME: aquatic, tundra, desert, forest...

CHALLENGE QUESTION

"How can a {TYPE} be created by the inspiration in {BIO}, programmed with the algorithm for {CODE} and digitally fabricated with {FAB}, result in the {BIOME} bio.code?"

For example:

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“How can a {PANEL} be created by the inspiration in {TREES}, programmed with the algorithm for {VENATION} and digitally fabricated with {WOOD MILLING}, result in the {FOREST} bio.code?”

PROGRAMME

01. Workshop introduction
02. Definition of each group's {input}
03. Programming of their generative {code}
04. Final presentation of the {output}

INSTRUCTORS

SELVAGEN

Brazilian office that specializes in generative and parametric design by programming technological solutions deeply inspired by nature and its own intelligence. As well as working in the educational field to teach advanced computational tools. With projects internationally renowned in Italian and Chinese awards, and publications in the biggest design/architecture websites. As for Selvagen's instructors, PAULO CARVALHO and LISSA SARUHASHI, are both architects, computational designers and Certified Rhino Specialists.



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