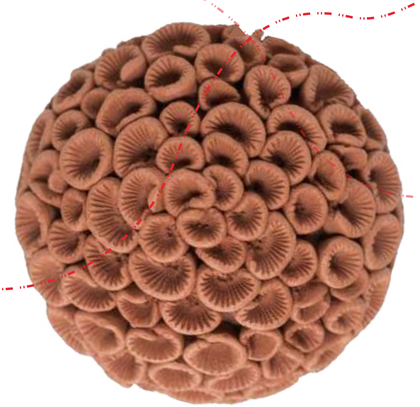
RESURRECT

Simone Kiswani

FABRICADEMY
textile and technology academy

A Program by | أحد برامج
مؤسسة ولي العهد
Crown Prince Foundation
مساحة الصنّاع
The Makerspace

Anniface



Exploring the connections between self, architecture, fashion, the design lifecycle, and clay as a medium.

Concept

Key Influencing Design Factors:

Design Crossovers: Fashion and Architecture

Before becoming separate disciplinesArchitecture and Fashion emerged from the same basic human need for protection and shelter. Early nomadic tribes lived in tents made from cloth or animal furs, the same materials used for clothing, making the weaver both tailor and builder.

Design for a Second life

Is an approach in which an object is intentionally conceived to transform after its initial use, taking on a new function or role rather than becoming waste. T is conceived with two lives: a first life serving human use, and a second life released into the environment as a habitat for other species. Use does not end in disposal, but in transformation.

Human and Non-Human Centered Design

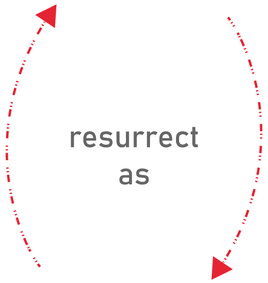
This project adopts both human and non human centered design by considering use beyond the human lifespan of an object. While the first life serves human needs, the second life is intentionally designed to support non-human species as habitat. Design decisions are therefore informed not only by human comfort and function, but also by ecological relationships and coexistence.

A project approach exploring the possibility of designing for a product that could resurrect for different use serving different species than the ones it's first life through the use of clay as a medium.

Concept

Start the design taking into consideration the multiple lives the product will go through.

A GARMENT



A SHELTER (A HABITAT)

Vision

Designing two products from **different disciplinary backgrounds** that are conceived to **transform** "reborn", shifting from their initial use to serve new functions and support different species.

A parallel design process for two independent products

First Life
Fashion (Purpose)

A FASHION PIECE (GARMENT OR ACCESORY)

Transition

Serve a Second Life as Marine life Habitat
"Artificial Coral Reef"

First Life
Architectural (Purpose)

A SPACE DIVIDER (PARTITION)

Transition

Serve a Second Life as Bee Habitat
"Artificial Beehive"

Research

Personal
Previous
Projects

Material Use

Emerging from Within

The use of Stacked Rammed Earth prefabricated units.

Attiya Park Library

The use prefabricated clay modular partition wall creating cooling effect through water circulation along it's inner vessels.

Research

Relevant Projects

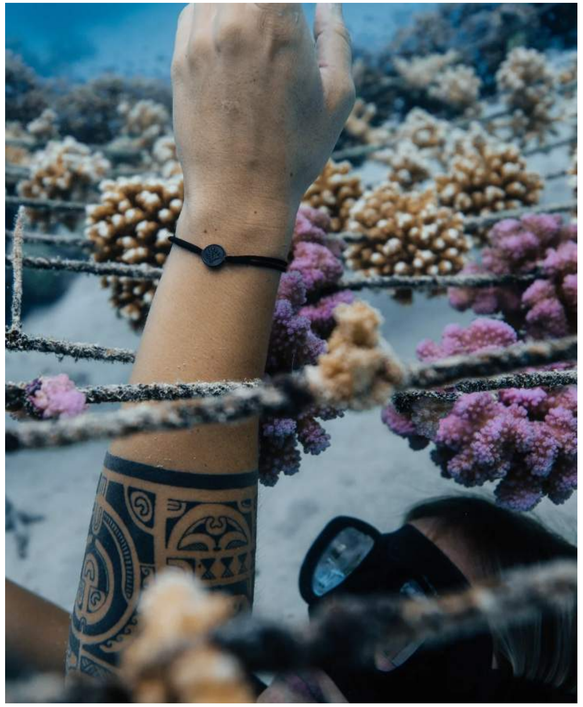
"The Tidal Stool" project

- With its intricate spaces and cracks, the stool provides many hide-outs from predators for creatures and enhances the ecology of the shoreline.
- Dual Function; During high tide, these are par tially submerged in water, during low tide, it invites residents and visitors to take a break and enjoy the beach.

Archireef

- These tiles, made of clay, are designed with intricate, fine-scale topography to promote coral attachment (high survivorship rates reported). This fulfills the role of a customized, high-surface-area substrate.

Coral Gardeners



- Coral gardeners work to restore and protect damaged coral reefs. They grow coral fragments in underwater nurseries, monitor their health, and later transplant them onto degraded reef areas so they can grow and rebuild marine habitats.

Terra Mound

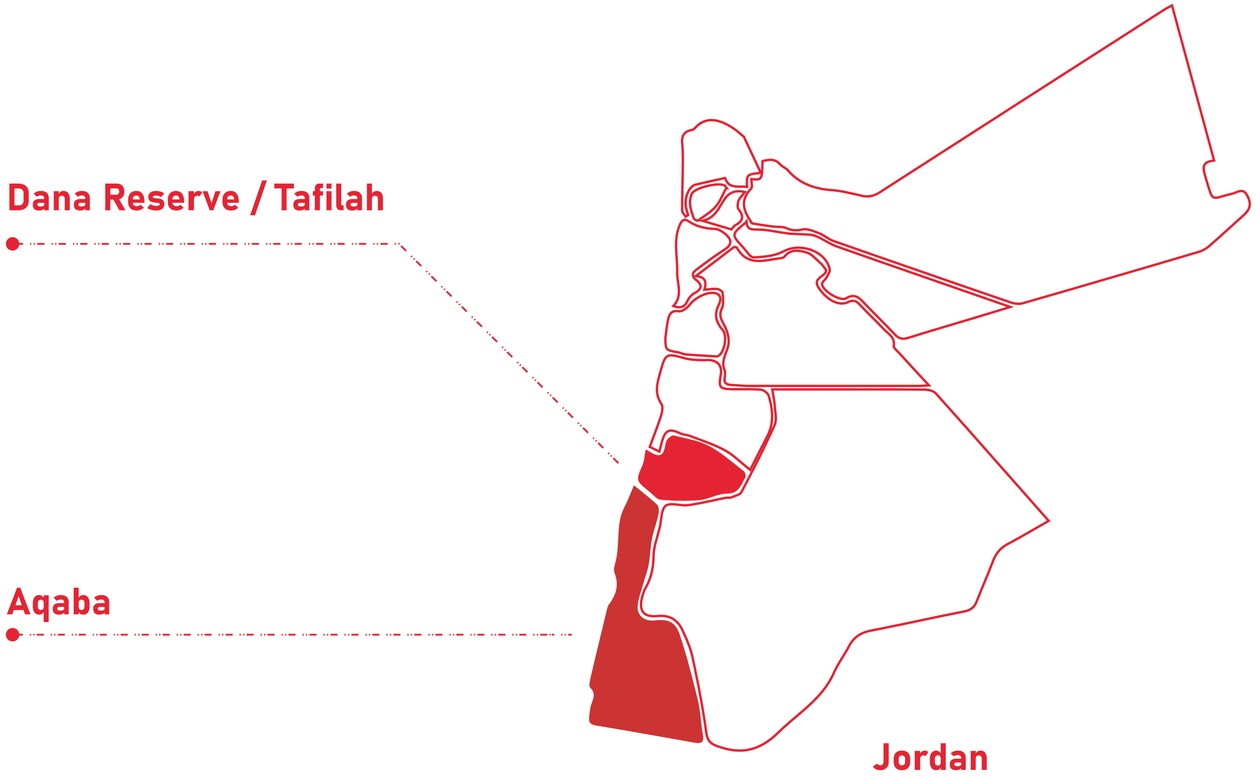
- Drawing inspiration from termite built tunnel systems, whose patterns are designed to regulate airflow, this project uses their logic as a model for passive, man-made cooling solutions through the use of 3d printed clay stackable columns.

Research

Endargered Microhabitats Analysis

Dana Biosphere Reserve: Despite hosting one of Jordan's **richest assemblages** of species across four biogeographical zones, Dana **is experiencing a progressive loss of micro-habitats**, leaving solitary **pollinators and other small fauna** increasingly vulnerable to **habitat fragmentation**, erosion, and the scarcity of **suitable nesting and sheltering structures.**

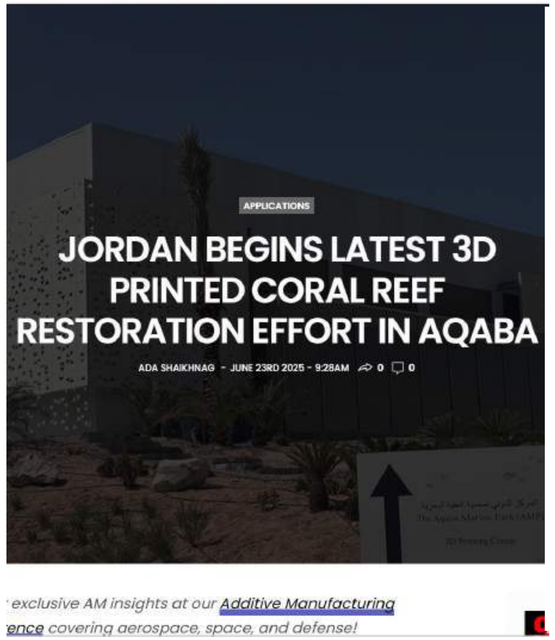
Coral Reefs in Aqaba: Despite the Gulf of Aqaba's corals being **uniquely resilient to global climate change** and mass bleaching events, they are **confined** to a narrow 13 km stretch of fringing reef along Jordan's coastline and remain under severe, continuous pressure from localized human induced disturbances. The most critical threats are physical degradation and habitat loss caused by irresponsible tourism, illegal fishing practices, and land based pollution, particularly plastic and solid waste, which directly damage coral structures and inhibit larval settlement and natural regeneration. Given the **extremely slow growth rates of reef-building stony corals**, full ecological recovery can take **several decades**, making these impacts both long-lasting and cumulative.



Research

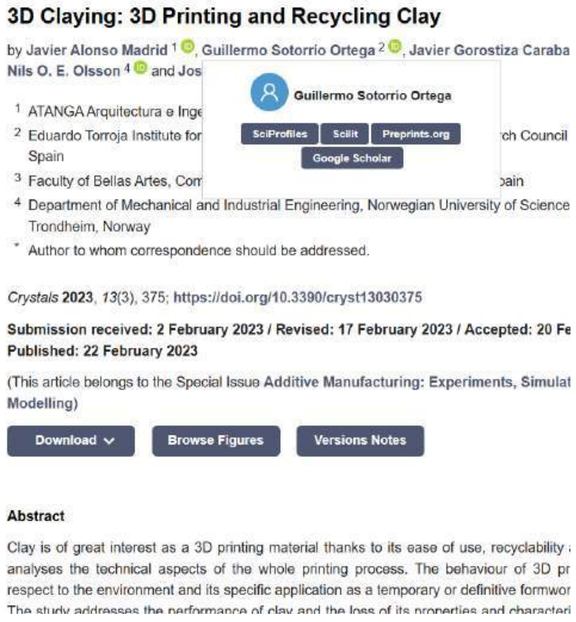
Research Papers and Articles

JORDAN BEGINS LATEST 3D PRINTED CORAL REEF RESTORATION EFFORT IN AQABA



- Shows Aqaba's commitment to large-scale Additive Manufacturing (AM) for reef structures, establishing a local 3D printing center for marine applications.

3D Claying: 3D Printing and Recycling Clay



- This study analyzes the technical aspects and environmental advantages of 3D printing with natural clay, highlighting its recyclability, reusability, low carbon footprint, and high durability all supporting its use as a sustainable, non-toxic reef substrate.

How Clay is Connected to our Bodies

Das Both of you work with clay as part of your wider practice. What drew you to this ma
do you engage with its malleability and other physical properties, as well as its transform
aking process?

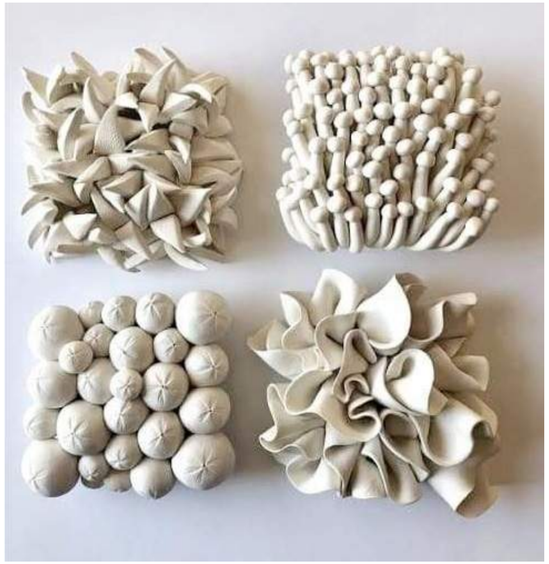
- Working with unfired clay is a tactile and immersive process that engages multiple senses. Through touch and resistance, the maker develops an intuitive understanding of the material's texture, plasticity, and behavior.

Forest Health Assessment in Four Jordanian Reserves Located in Semi-Arid Environments

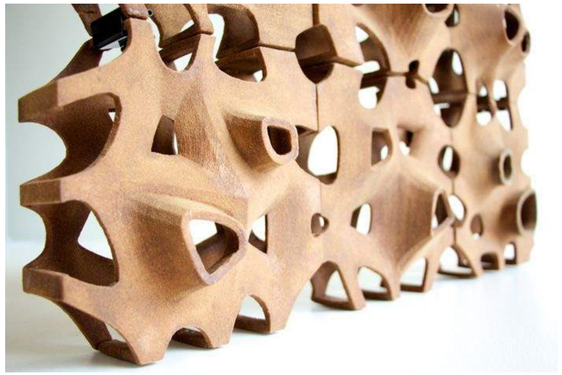
- Confirms that Dana is experiencing a progressive loss of micro-habitats, leaving solitary pollinators and other small fauna increasingly vulnerable to habitat fragmentation, erosion, and the scarcity of suitable nesting and sheltering structures.

Inspiration

State of Art



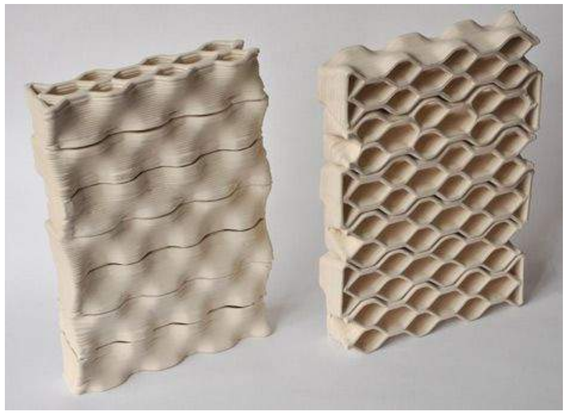
Brick By Bit by Victoria Roznowski



Poroso

Scultura “Radiolaria”

Reef - Porcelain Micro Tile



Building Bytes 3D printed bricks by Brian Peters

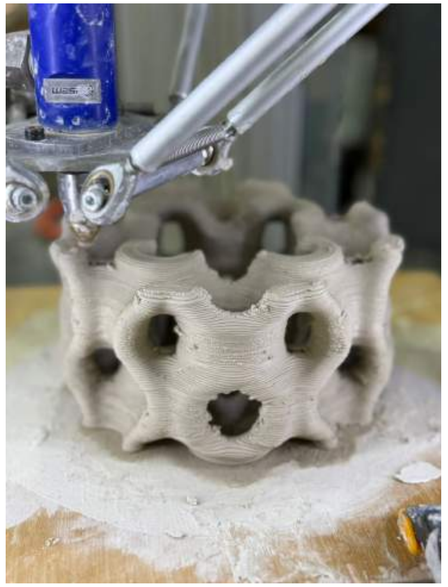
Mushroom Corset

The Coarse Pottery Air-Humidifier

2nd Person Research







A group study at Makerspace, Amman on 3rd printing possibilities using Jordanian clay from multiple local regions.

Masterclass by Christiano Pesca,
Clay expert and former WASP R&D

Ideation

Ideation

Product I: From Garment to Artficial Coral Reef

Ideation

Product II: From Architectural element to Beehive/ insect habitat

1) BEE HOTEL MODULES

2) CRACKED STONE/CORAL-LIKE LATTICE

3) ROCK-CREVICE HOLLOW FORMS

4) POROUS SEED-ADJACENT TILES

5) STACKABLE EROSION MODULES

6) TEXTURED HEAT-RETAINING SURFACES

Defined Scope

What?

A **design/research** project **exploring clay** as a single material system across the scales of the **body** and **architecture.** Through a **wearable garment** and **an architectural element**, the project investigates how objects can be designed with **multiple lives**, first serving **human use**, then **transforming into habitats for non human species**, **reconnecting** fashion and architecture through **lifecycle driven design.**

Who?

- Me, a **designer and maker** working with clay and digital fabrication.
- Human users: **wearers**.
- **Non-human species**: marine life, plants, and insects benefiting from the objects second life as habitats
- **Researchers** interested in the ecological situation of the marine life in the red sea.

Why?

- It **challenges the linear lifecycle of design**, where objects are created for single use and later reduced to waste or recycling. By designing with multiple lives from the start , it addresses sustainability through transformation rather than disposal.
- It **addresses a critical global challenge** through technological and sustainable innovation by integrating clay 3d printing to couture-level textile fabrication, and architectural elements fabrication offering a true circular design model where a fashion and architecture are intentionally designed to transition into a life supporting ecological product (artificial reef) .

Timeline

How and When?

Product I: Resurrect Garment

Step I

Material study : Begin with an in depth clay study to test different clay bodies and formulations in order to select the most suitable one for 3D printing, firing behavior, porosity, and ecological performance.

Step II

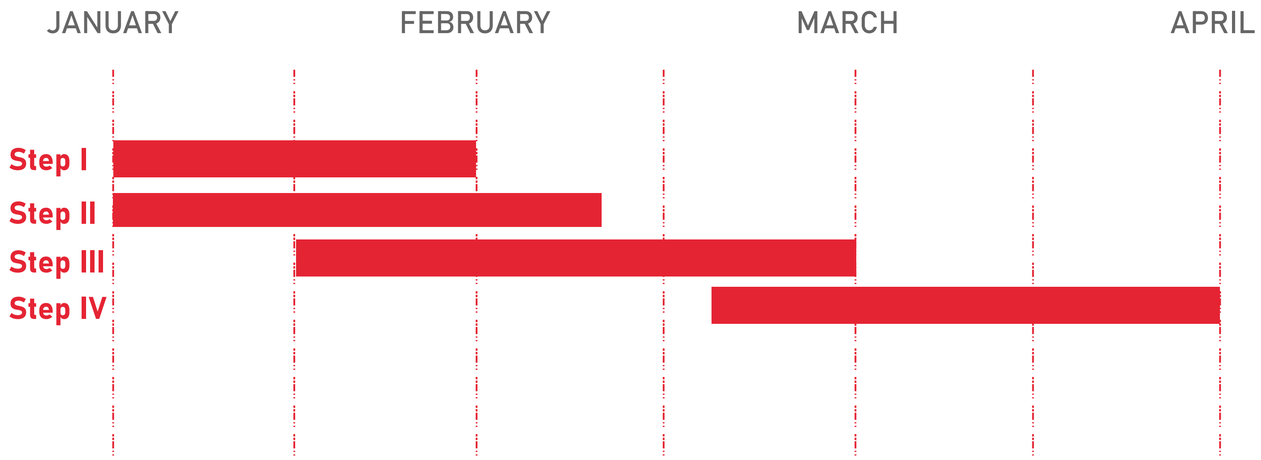
Prototype: Test geometries on Rhino then fabricate clay modules using LDM WASP for 3D printing, assemble them into 20 cm x 20 cm sample and document their characteristics feel and weight, afterwards soak them on the sea bed and document their possible transformation into habitats.

Step III

Failure Compensation: If clay printing or firing fails, adapt the process using alternative clay formulations, partial firing, or half hand built modules while maintaining the same material system and concept.

Step IV

Build the Garment: After confirming the most suitable clay sample and construction method, build the full wearable garment using the finalized system.



Timeline

How and When?

Product II: Resurrect Partition Wall

Step I

Material study : Test different clay formulations, firing levels, and porosity to identify a clay suitable for wearability, structural stability, and underwater performance and ecosystem suitability.

Step II

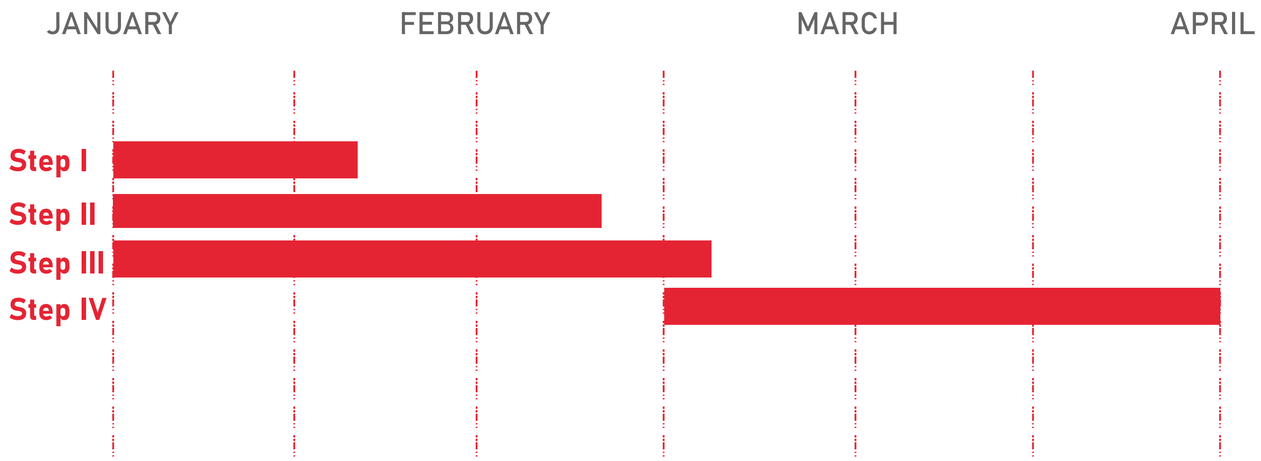
Prototype: Test Design & Module Development, Design modular clay units inspired by natural airflow systems, and define assembly logic for stacking, water circulation (print smaller scale for prototype) and after confirming the module, test in the sea.

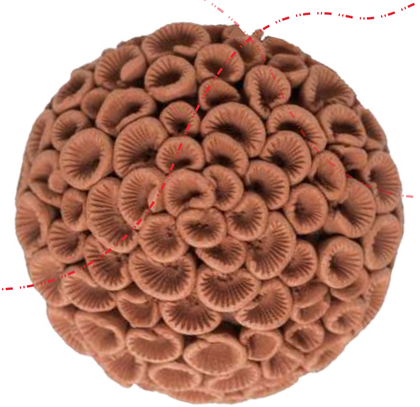
Step III

Fabrication & Assembly
3D print and fire the clay modules, then assemble them into a functional partition wall prototype and test cooling and airflow performance.

Step IV

Second Life Transformation & Documentation: After confirming the most Reconfigure the modules for ecological use as planters or habitats, and document the material's transformation from architectural element to ecosystem.





Thank You!