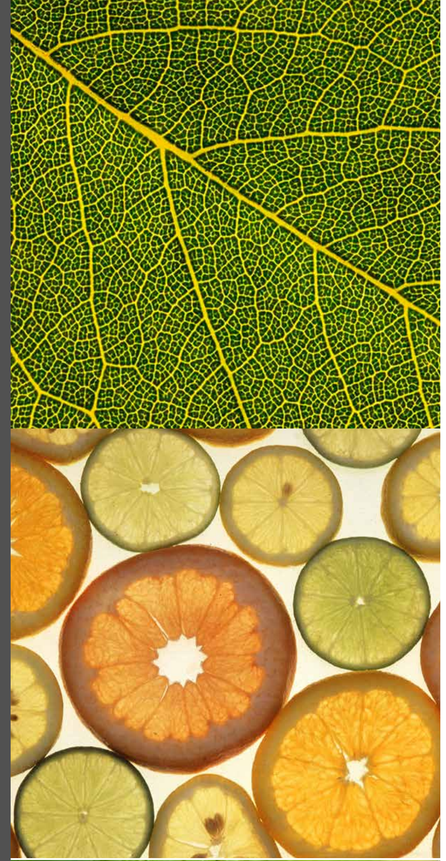


BIOMIMICRY AND THE DESIGN PROCESS

What is biomimicry?
How is it being applied on the design process?
Who are the bio designers nowadays?
Why they are developing bio inspired design instead of brand new purposes?

GOALS

The goal of this project is, first of all, to understand the concept of Biomimicry and how this technique can be beneficial to solve human problems; then to experiment, create and build a digital fabricated product, exploring the side of Digital Fabrication – materials, techniques, software and machines – that I have never explored before as much as the time permit.

PHASE 1: EXPERIMENT

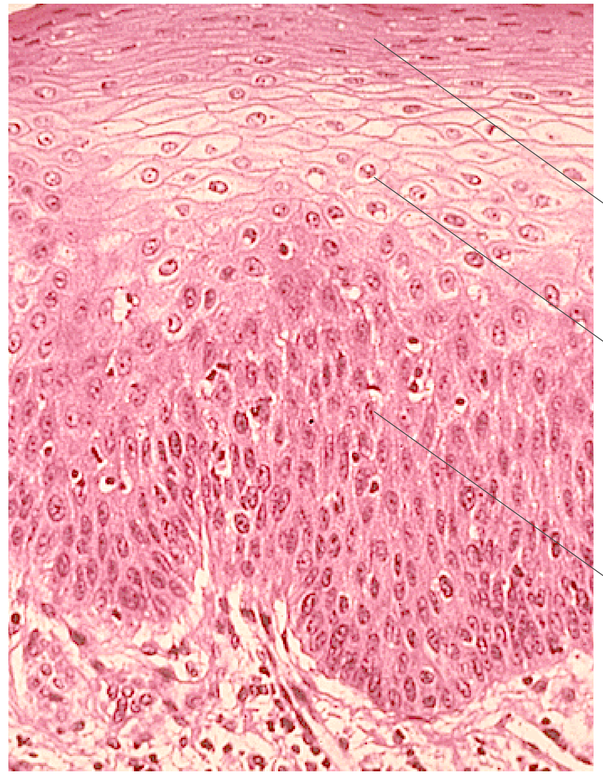
In the experiment phase, I will build a sand box where volunteers will play with the sand in order to produce images to be captured by a Kinect positioned on the top of the sand box and connected with Grasshopper. The images will represent the state of the sand at the time of the capture, representing regions of more or less material.

PHASE 2: MODEL

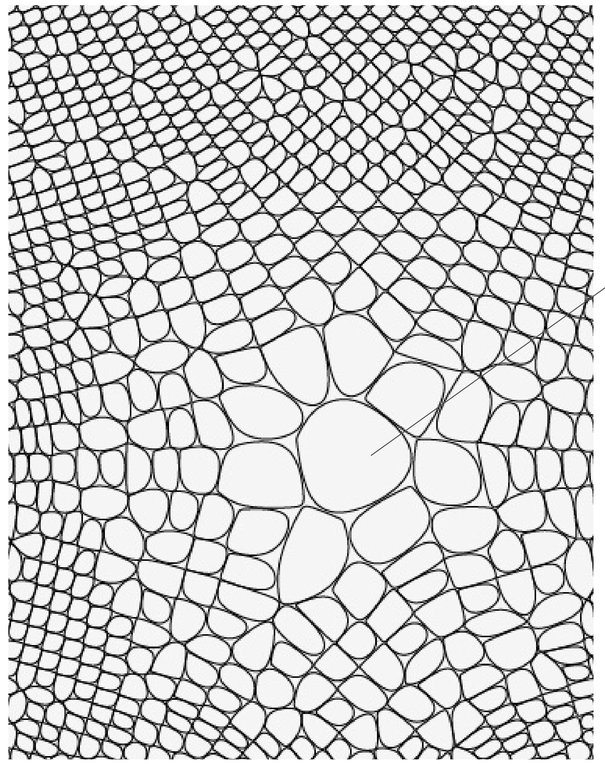
Based on the results of the first phase, I will model a nature-based pattern, which is going be an interception between mimicking what exists in nature and following the points generated on Grasshopper with the experiment. The inspiration I chose to design the pattern is the epithelial tissue's disposition of cells, specifically the stratified squamous type (Picture 1).

PHASE 3: PRINT

On the last phase, the pattern will be printed in 3D, laser cut and cut using the CNC machine. The idea is to see different results of the same pattern using different materials and techniques, which will be defined by the machine that is going to be used.



Picture 1



Picture 2