Object Experience

2022

Verena Ziegler

Growth Principles

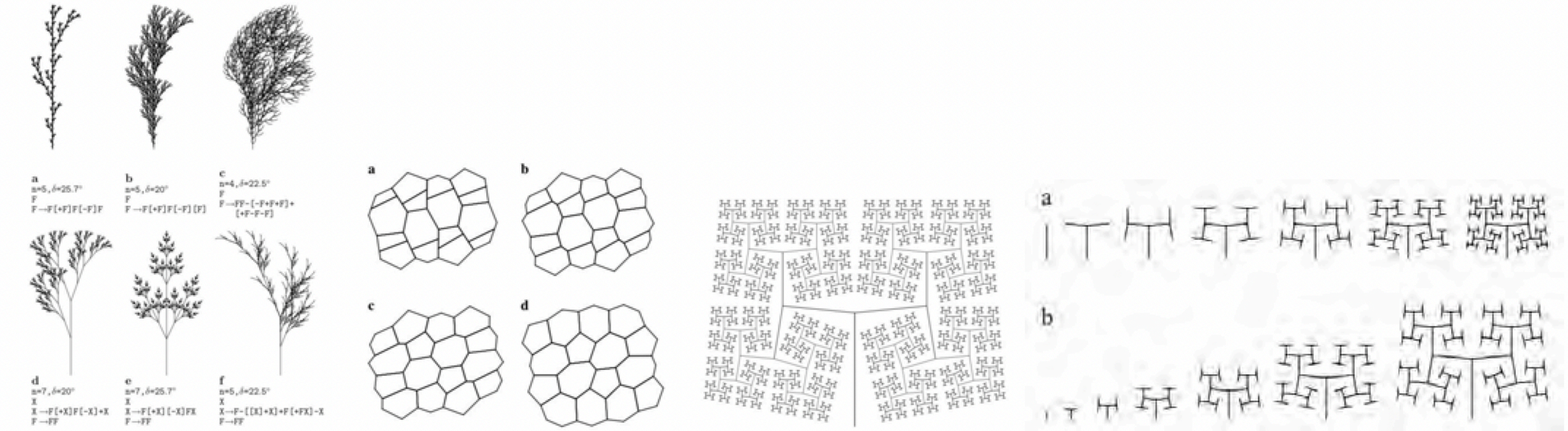
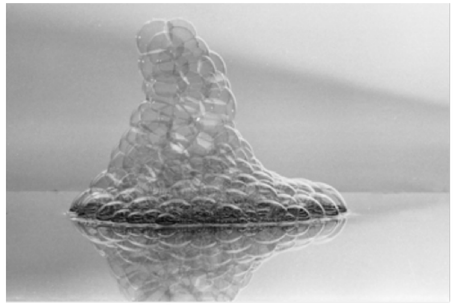
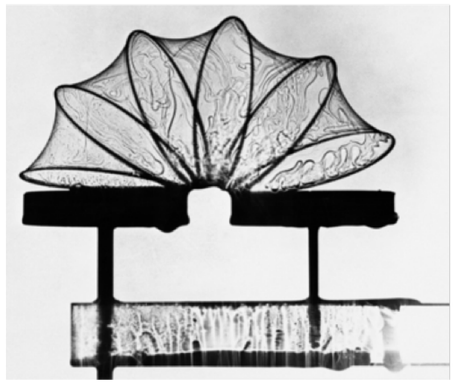
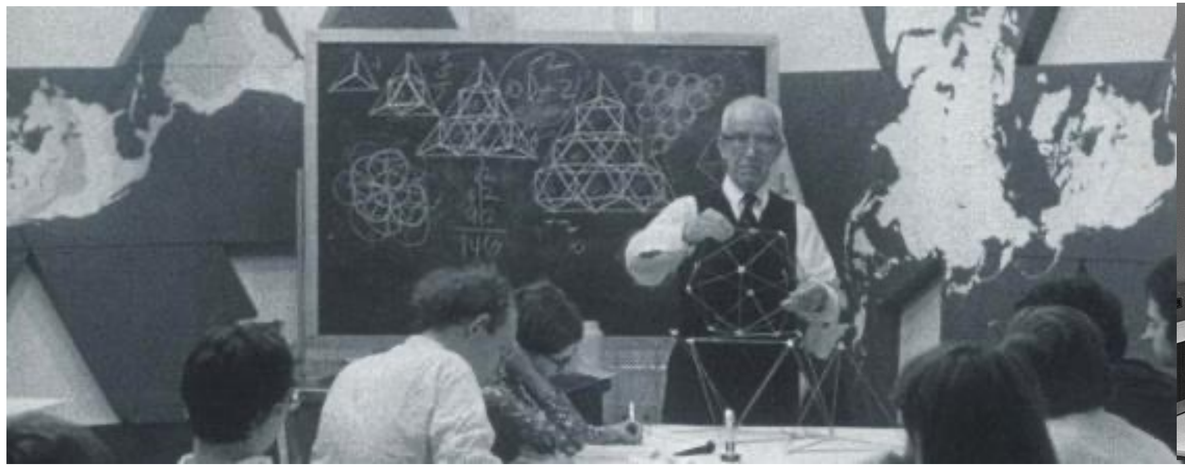


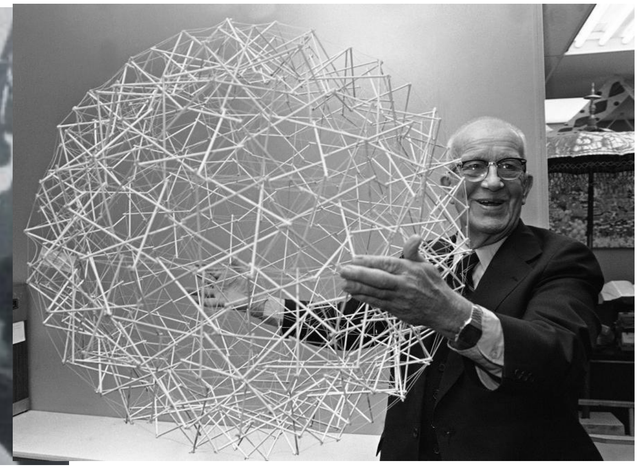
Abb.1: Przemyslaw Prusinkiewicz, Aristid Lindenmayer, “The Algorithmic Beauty of Plants”, 2004

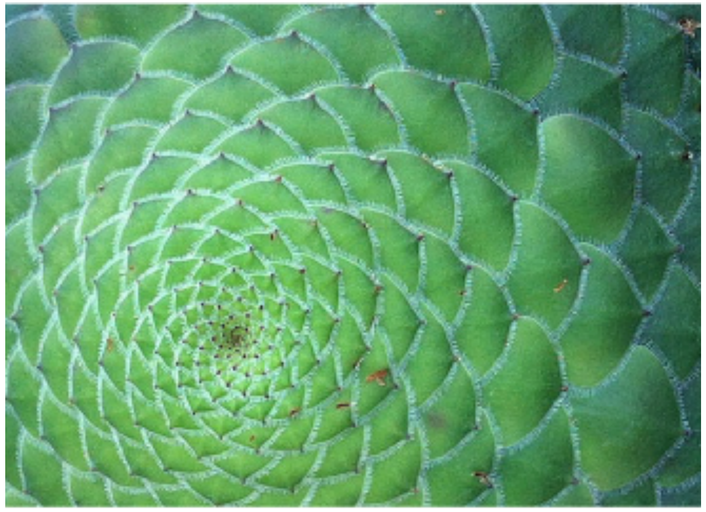
Minimal Surface Structures and Bionic Principles

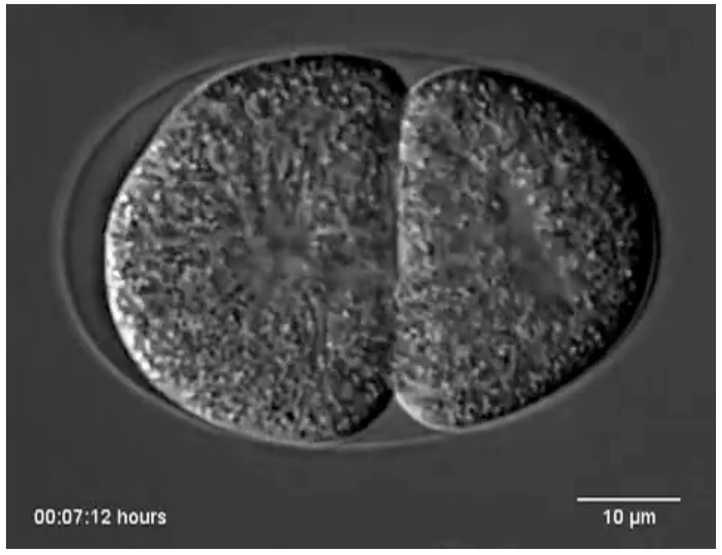








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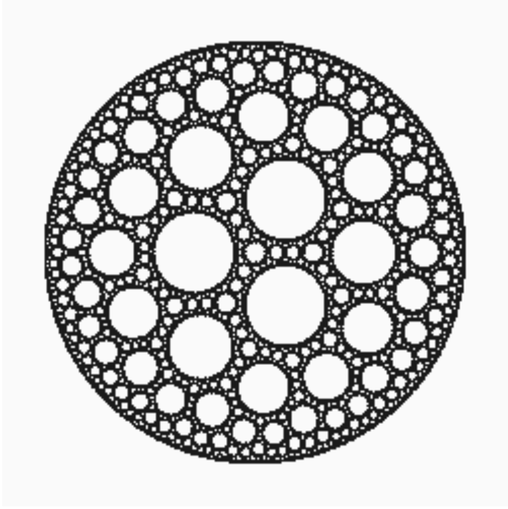
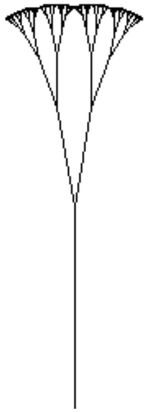
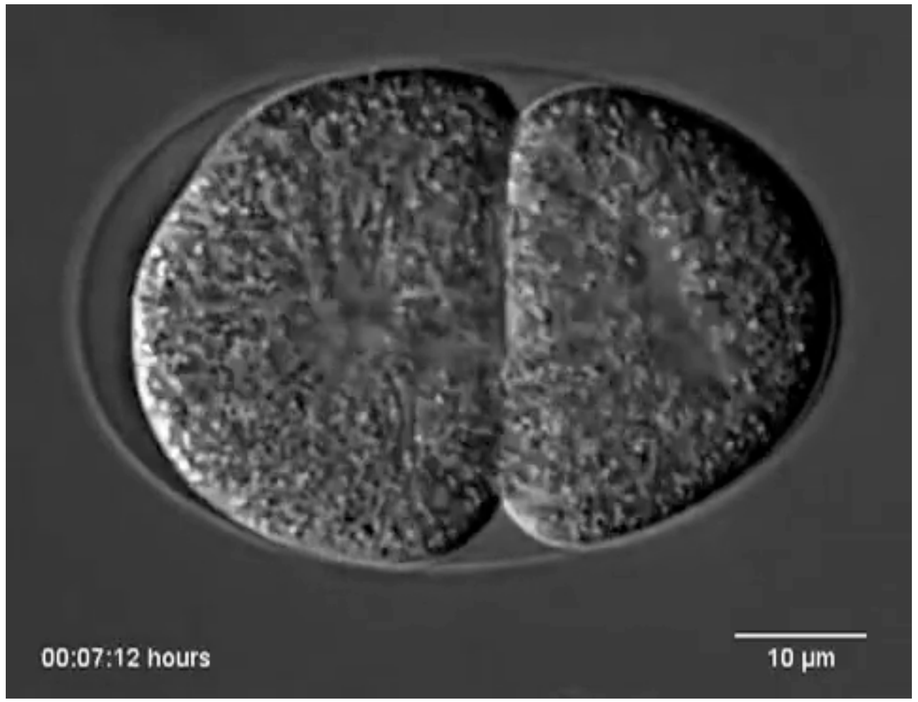
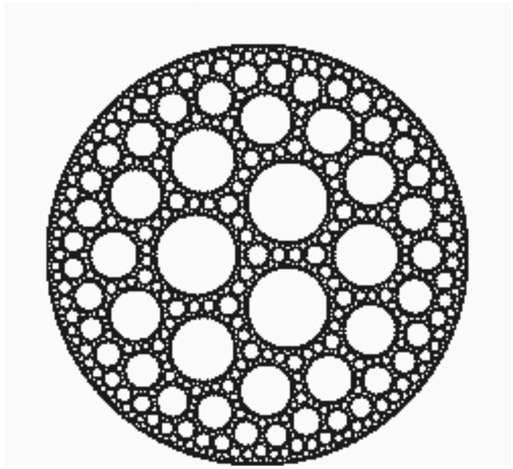


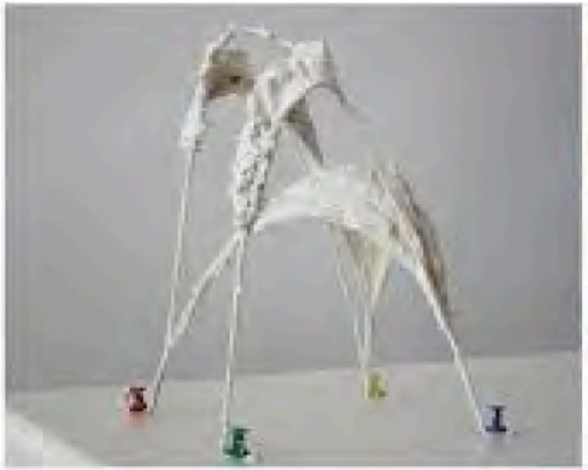


InBetween - an alchemic approach towards fomfinding principles





Form Giving Process



Examples

Open
innovation
Lab

!!!

Abschlussarbeit
Projektarbeit
Bachelor

Für ein Forschungsprojekt suchen wir einen Studierenden aus dem Bereich Maschinenbau zur Durchführung einer Abschlussarbeit zu folgendem Thema:

Konstruktion und Bau einer “Zuckerwattemaschine“ für Kunststoffrecycling

Für das Forschungsprojekt im Designbereich mit dem Titel „Cloud“ möchten wir eine Maschine entwickeln, die Kunststoff-Abfälle und Fehldrucke von 3d Druckern in einer Zerkleinerungsmaschine verarbeitet und in einem zweiten Schritt in einer “Zuckerwattemaschine“ für Kunststoffe zu wolkenartigen Lampenschirmen wiederverwertet. Weitere Nutzungsszenarien wie z.B. Verpackungsmaterial sind denkbar.

Eine Aufteilung in Projektarbeit und Bachelorarbeit ist möglich. Start idealerweise ab sofort, Abgabe bis spätestens Oktober 2017.

Für **RÜCKFRAGEN** und weitere **INFOS** melde Dich doch bitte im **OIL** oder per mail an:

oil@htwg-konstanz.de

Das Open Innovation Lab Konstanz (OIL) ist ein fakultätsübergreifendes, hochschulweit nutzbares Labor der Hochschule Konstanz. Die interdisziplinäre Zusammenarbeit von Studierenden, Lehrenden und Forschenden aller Fachbereiche ist zentrales Element. Das OIL versteht sich nicht als Werkstatt, sondern als „Innovationspool“, in dem Neues erfunden und entwickelt werden kann.

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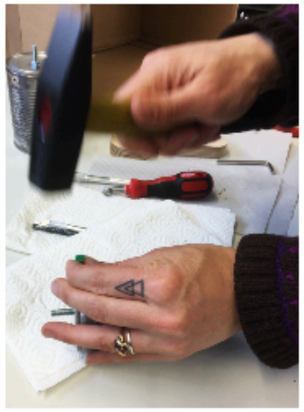
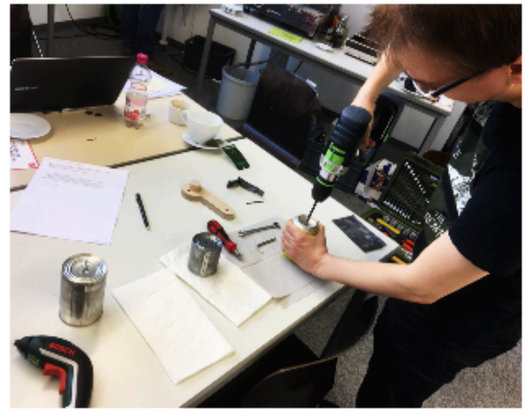
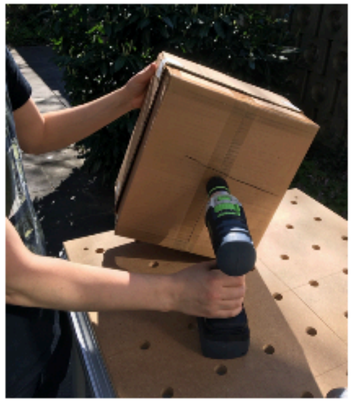
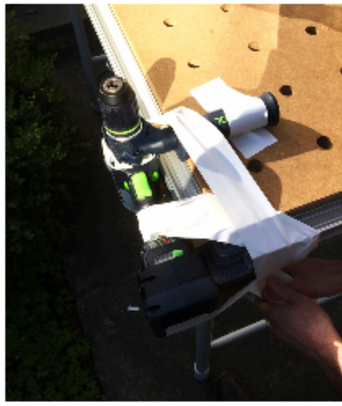
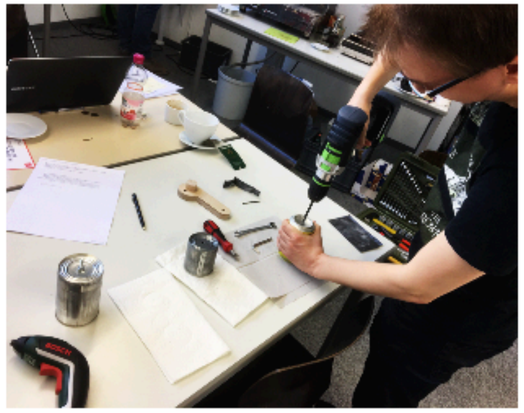
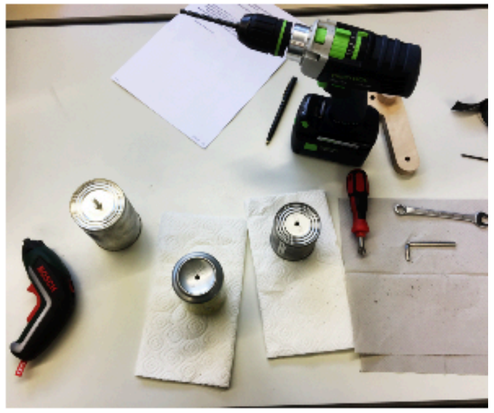
Alfred-Wachtel-Str. 8
78462 Konstanz
OPEN INNOVATION LAB KONSTANZ
Mehr Informationen:
openinnovationlab.de



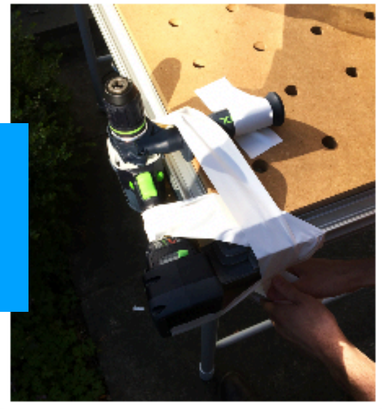








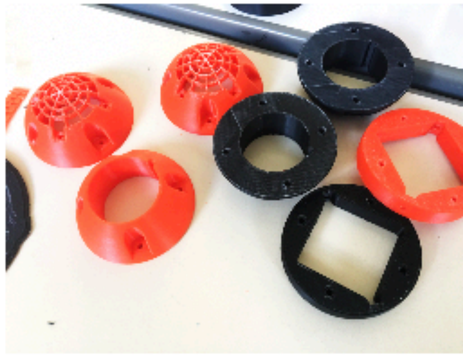


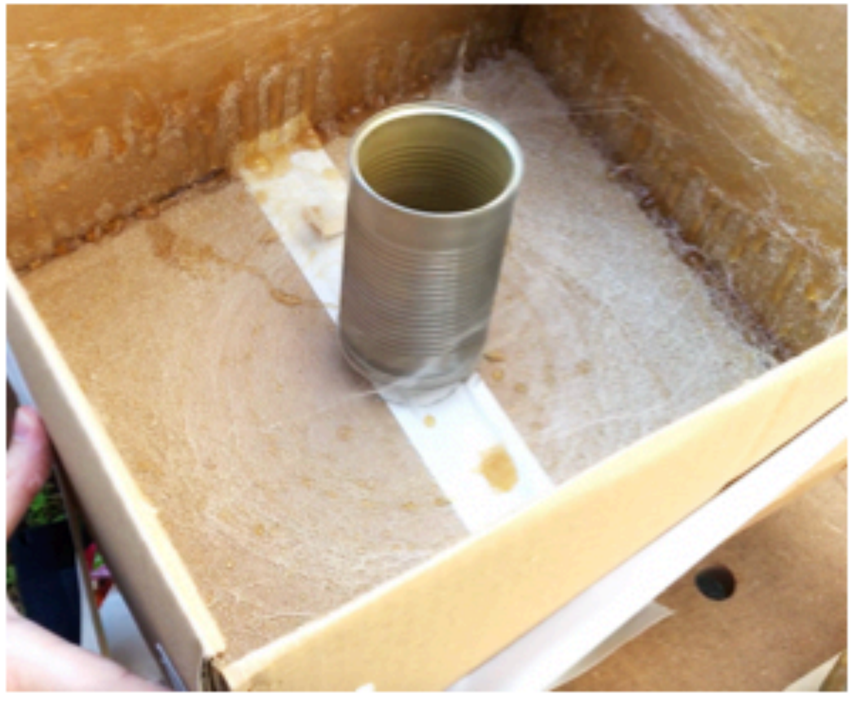




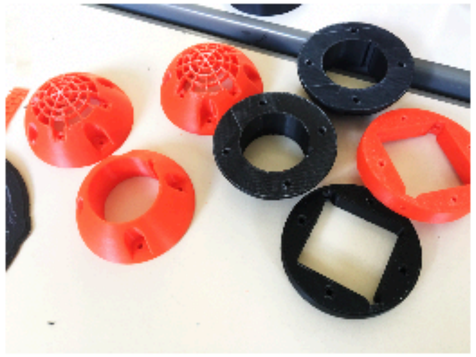


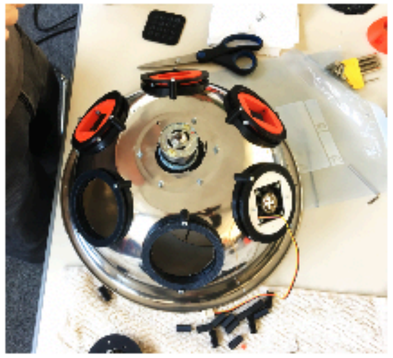


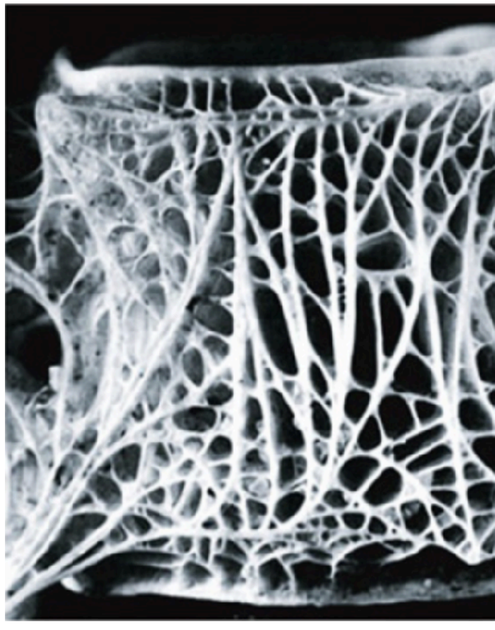


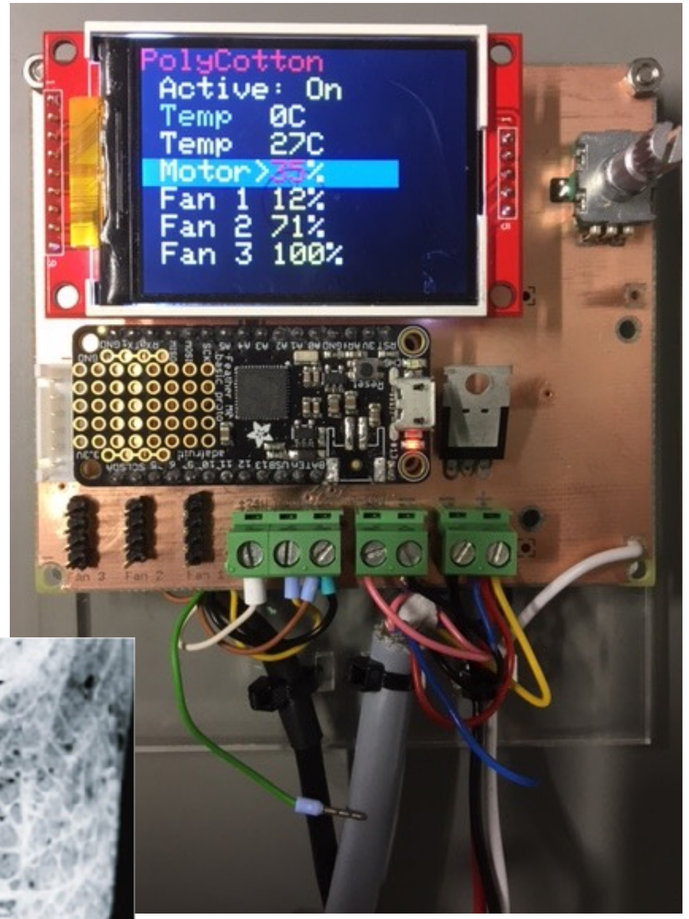








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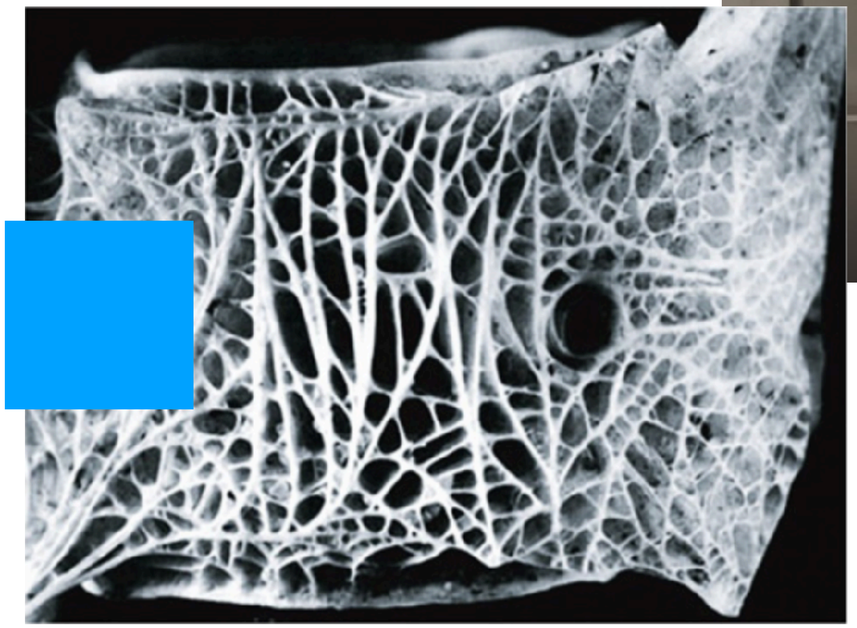
Temp 27C
Motor>25%
Fan 1 12%
Fan 2 71%
Fan 3 100%



ReSan - 3d printed sanitation from recycable plastic waste for developing countries (social business model) - Forschungsprojekt

h_da HOCHSCHULE DARMSTADT UNIVERSITY OF APPLIED SCIENCES
fbmk FACHBEREICH MASCHINENBAU UND KUNSTSTOFFTECHNIK

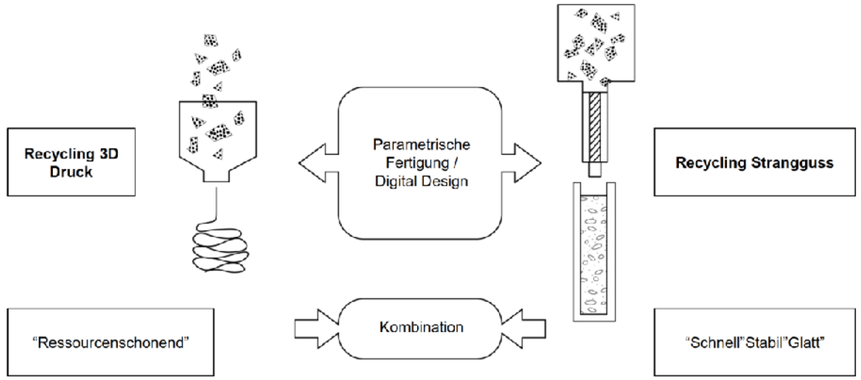
IDF Institut für Designforschung Hochschule Darmstadt

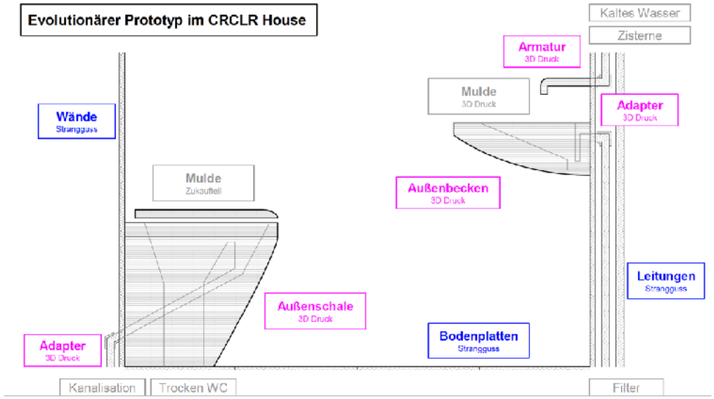
HTWG

Hochschule Konstanz
Technik, Wirtschaft und Gestaltung

MONTAN UNIVERSITÄT WWW.UNILEOBEN.AC.AT

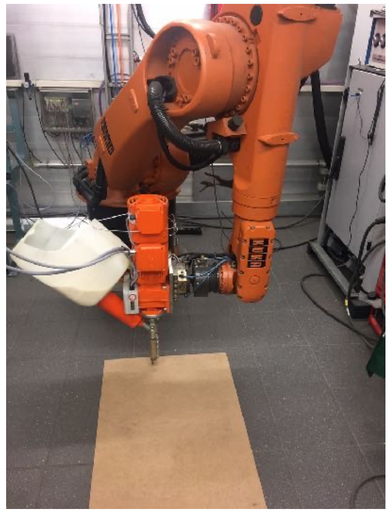
KUNSTSTOFF TECHNIK LEOBEN
CHEMIE DER KUNSTSTOFFE

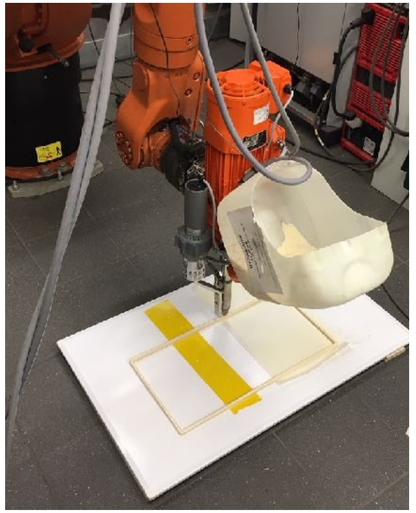


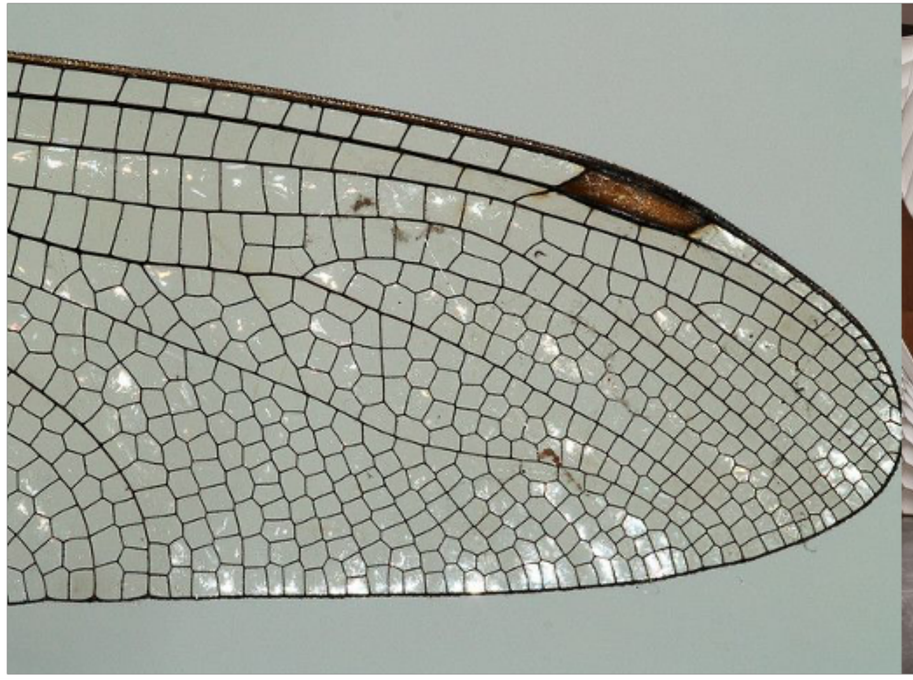


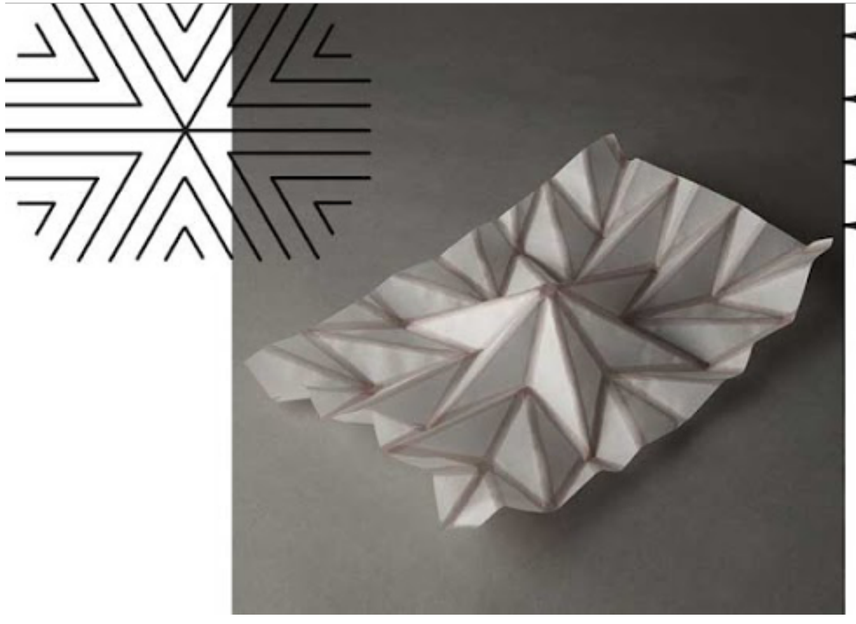
Context in Columbia ...

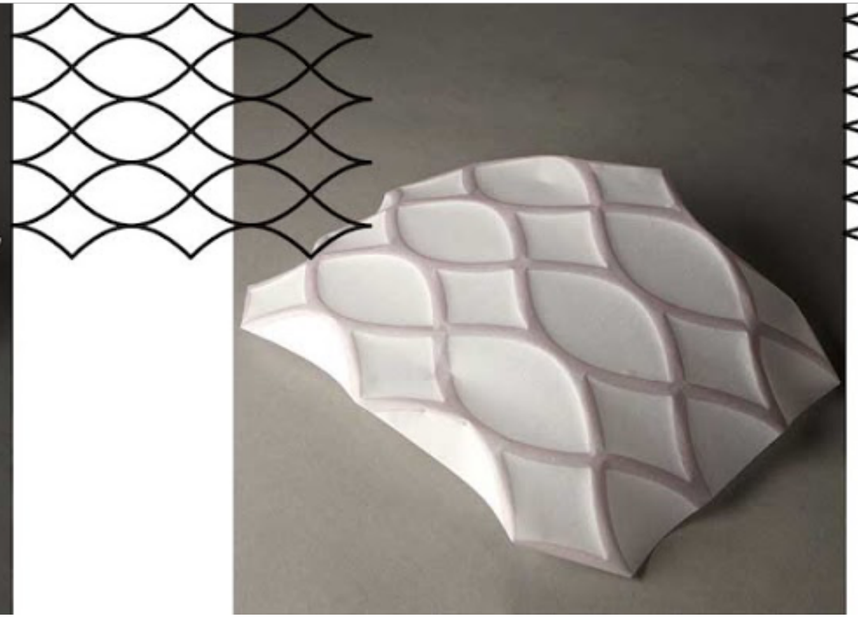
HTWG Konstanz Robotics 3d printing ...

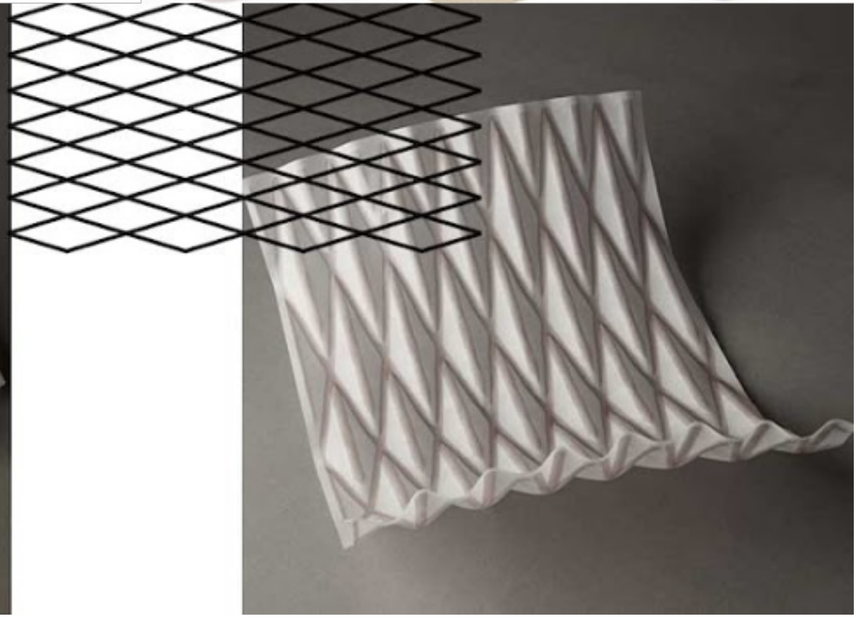








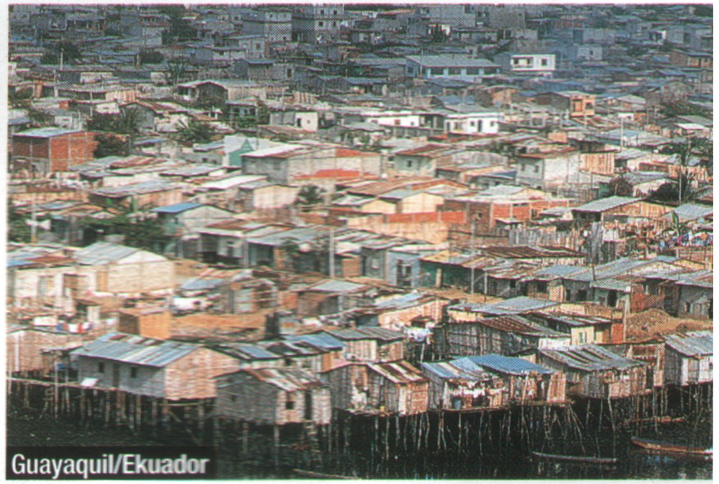




Port Richey/Florida

Phoenix/Arizona

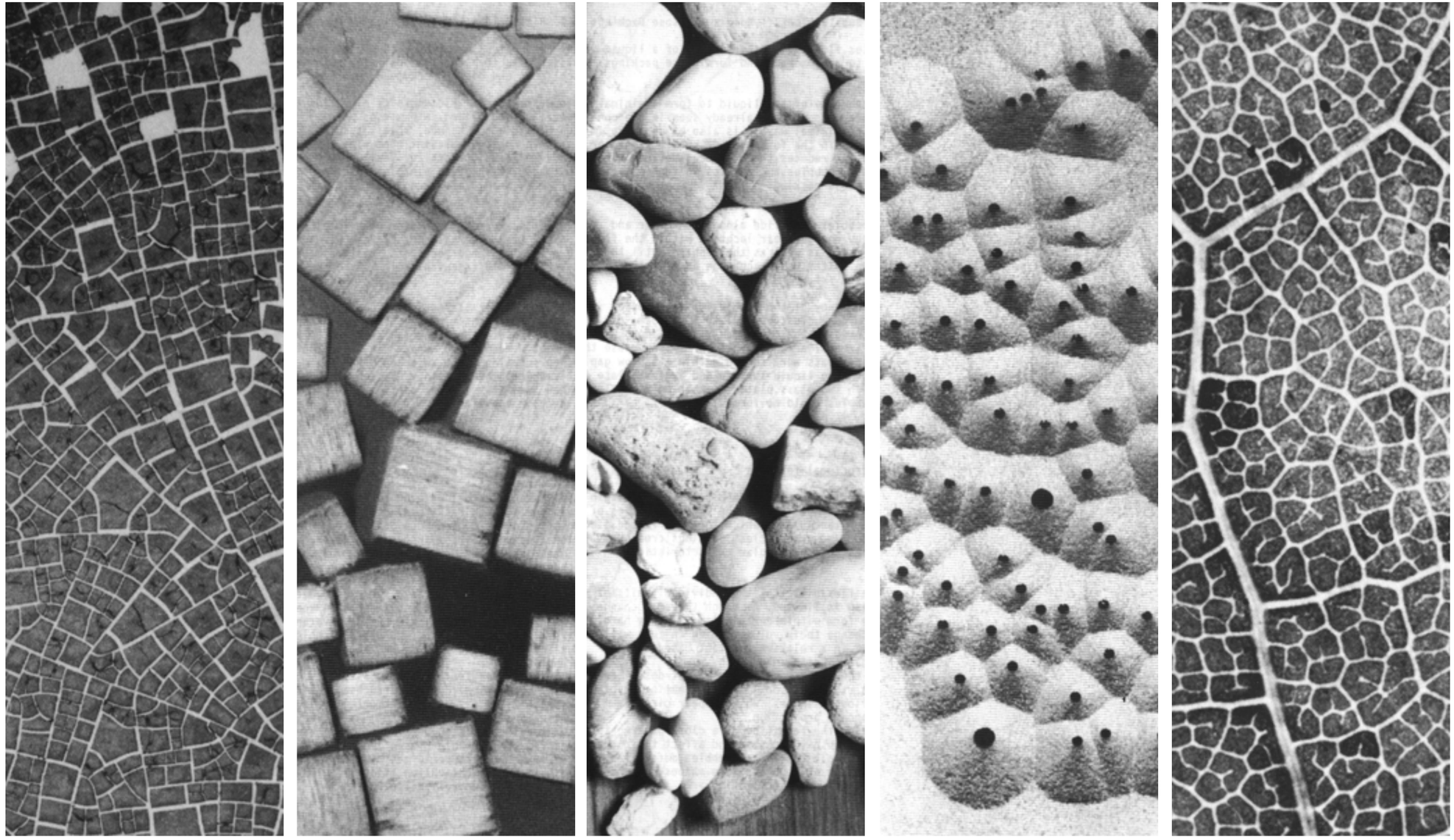
Atlas-Gebirge/Marokko

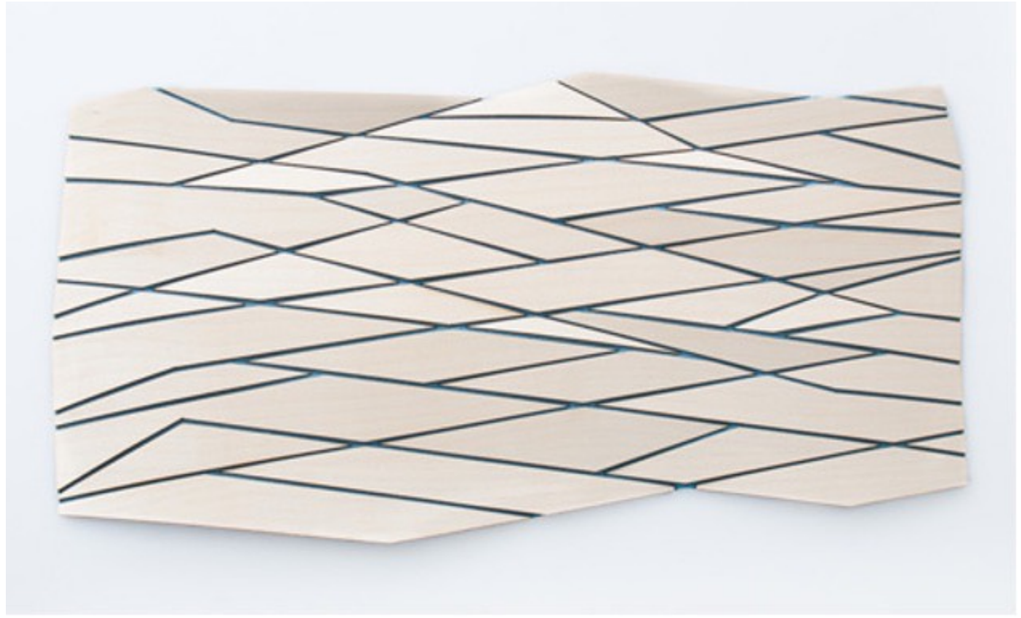


Guayaquil/Ekuador

San Fernando Valley/Kalifornien

Sun City/Arizona





Diego Vencato

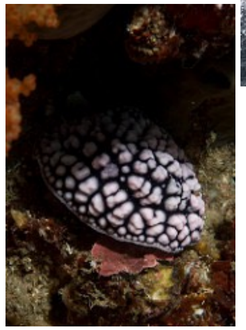
Laura Krumina


Diego Vencato


Diego Vencato


Studio Mikabarr


Elisa Strozyk



https://www.dezeen.com/2013/10/20/mycelium-chair-by-eric-klarenbeek-is-3d-printed-with-living-fungus/

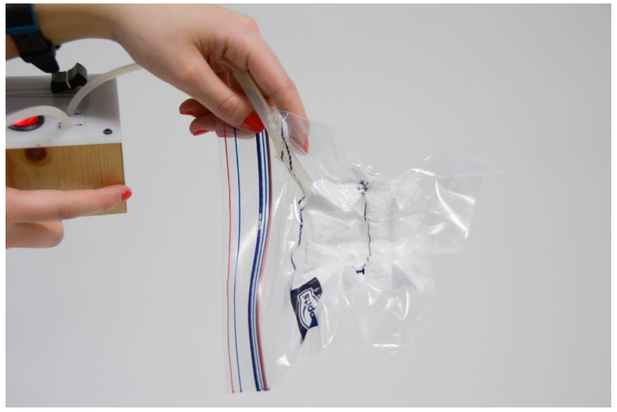


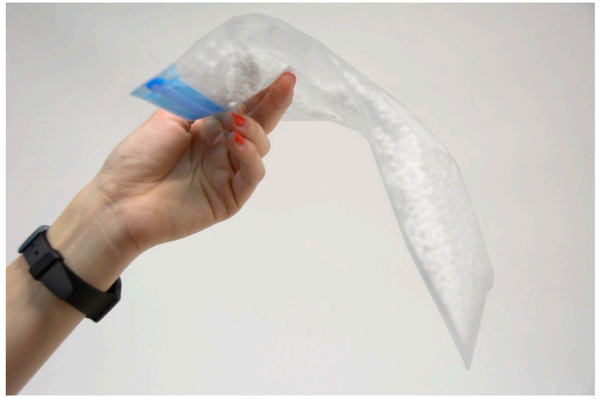


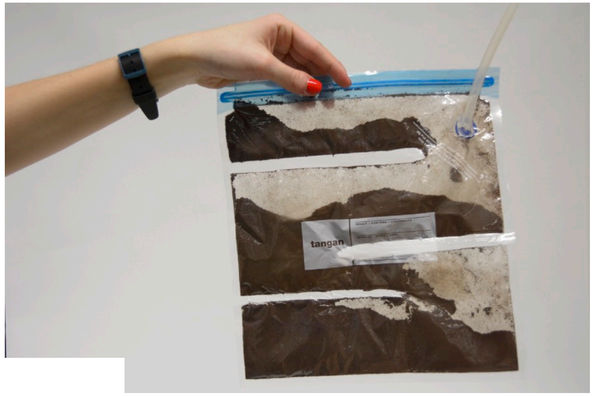






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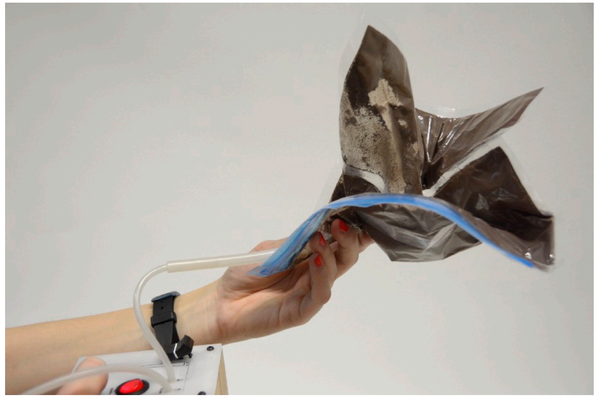
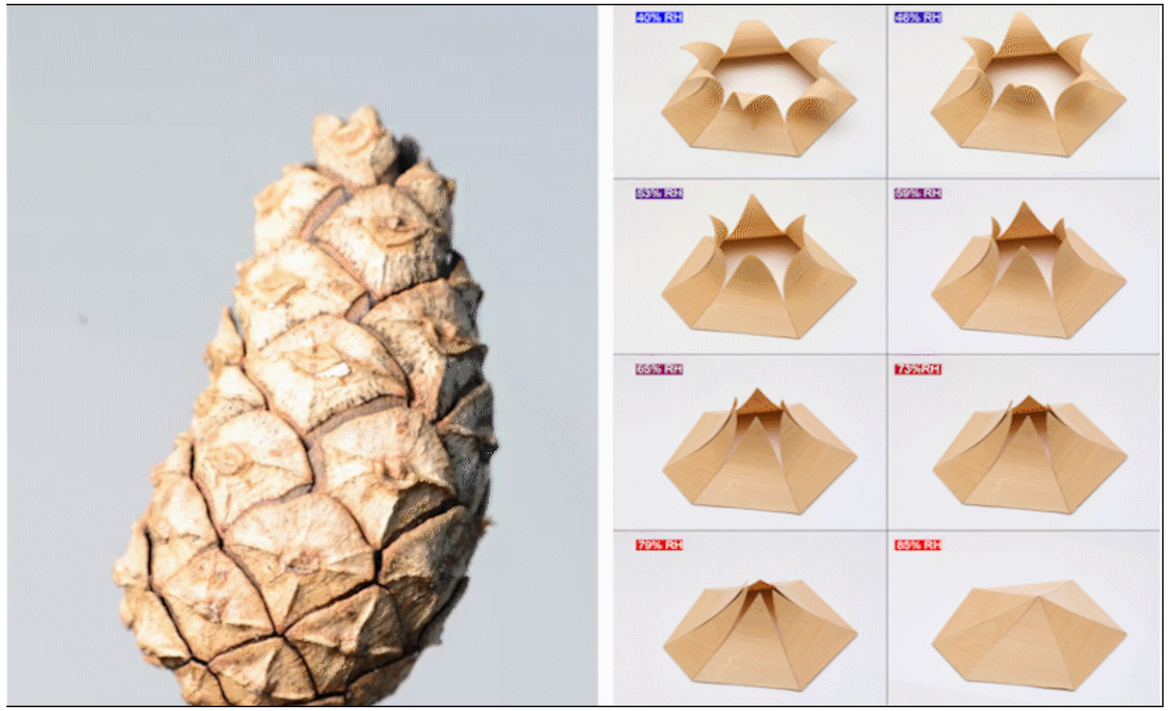


Form und Funktion - Historischer Zwiespalt

Seit der Renaissance hat die zunehmende Trennung und Priorisierung von Entwurfsgestaltung über der Herstellung/Materialisierung zu einer Aufspaltung von symbiotischen Gestaltungsprozessen geführt. Verschiedene Bewegungen zeigen diesen Zwiespalt von From und Funktion auf:

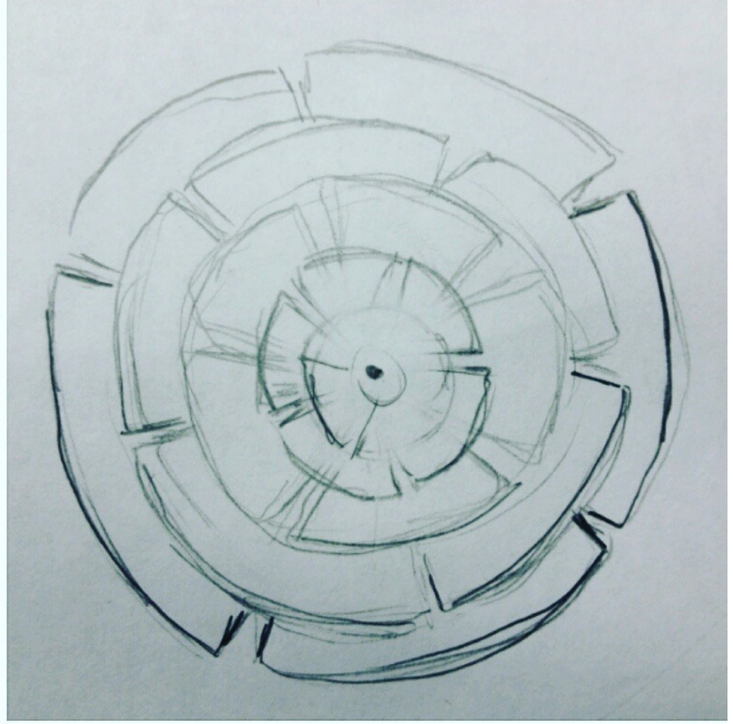
- **Louis Sullivan** (1896) der das Credo **“form follows function”** geprägt hat, schloss sich später *Arts and Craft* Bewegung an.
- **Adolf Loos** (1910) der das Buch **“Ornament und Verbrechen”** schrieb, war ein Verfechter des Jugendstils und hielt die Verschmelzung von Kunsthandwerk und Gebrauchsgegenstand für unangemessen. Er schloss sich dem deutschen Werkbund an, der für Funktionalismus (Funktion aus Gebrauch heraus) stand.
- ***Staatliches Bauhaus Weimar*** (Gründung 1919) interpretierte das Credo **“form follows function”** als „Verzicht auf jegliches Ornament“ - folgte aber eher ästhetischen Aspekten als purer Funktion.
- **Hochschule für Gestaltung Ulm *Ulmer Schule***, (gegründet von M. Bill, O. Aicher, I. Scholl, 1953) führte Gestaltungsprinzipien der Bauhaus Bewegung weiter. Das Buch “**die gute Form**” repräsentierte den Ansatz von maximaler Wirkung und Verwendung minimaler Materie.

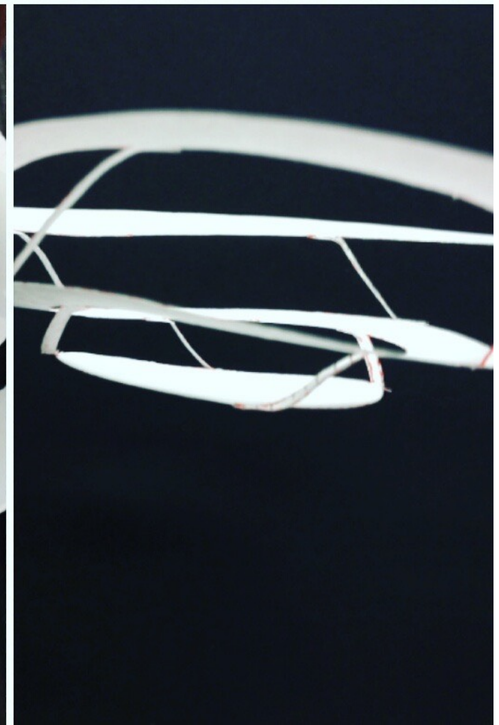
Bionik



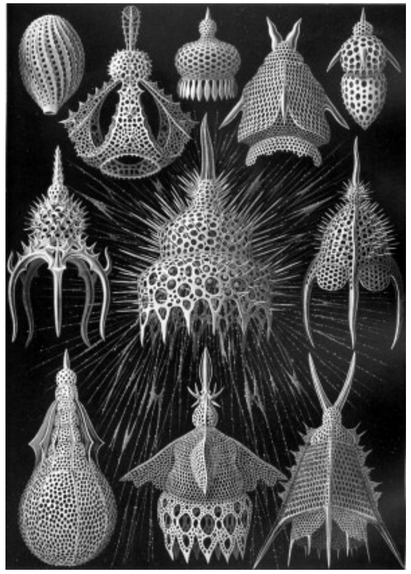
HygroSkin – Meteorosensitive PavilionInstitute for Computational Design, University of Stuttgart

HygroSkin – Meteorosensitive PavilionInstitute for Computational Design, University of Stuttgart

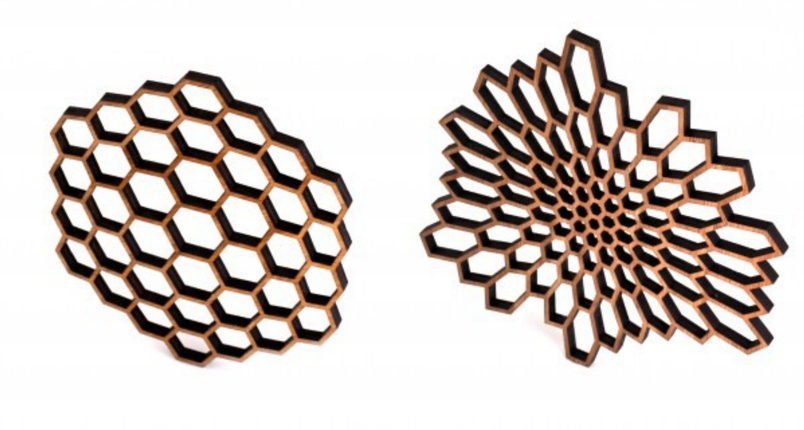


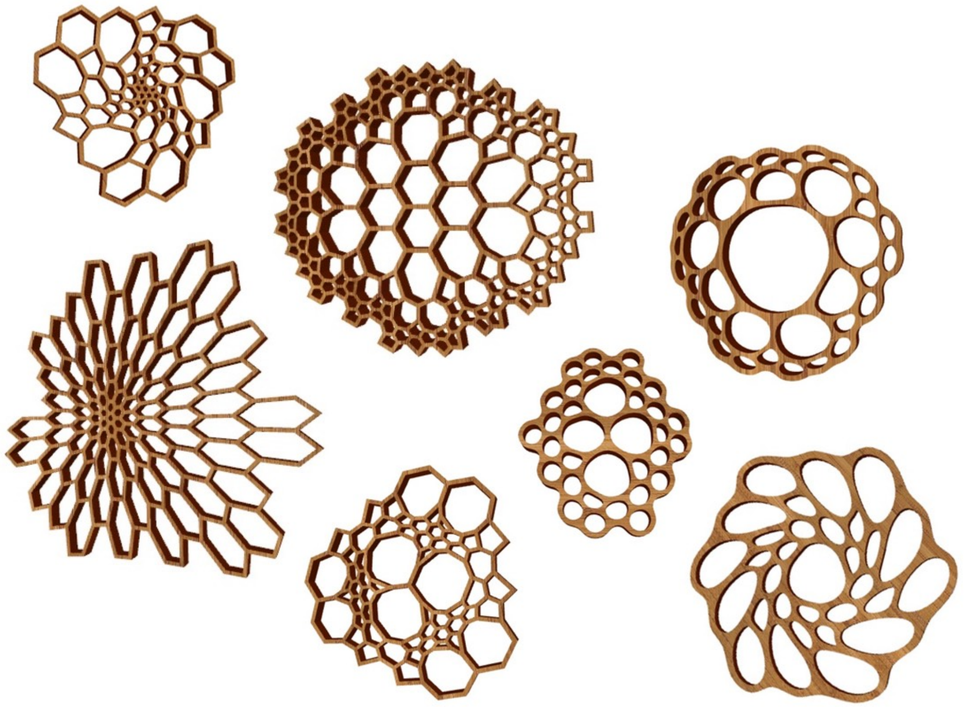


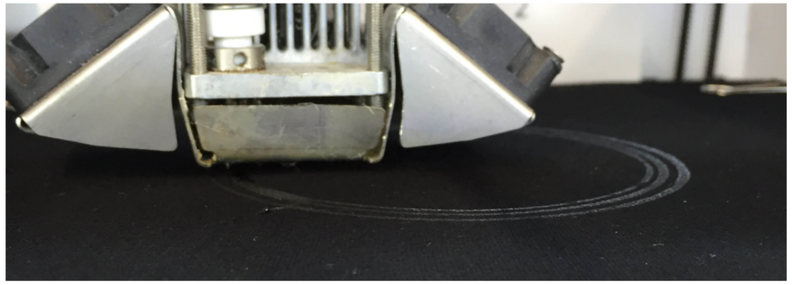
Radiolaria

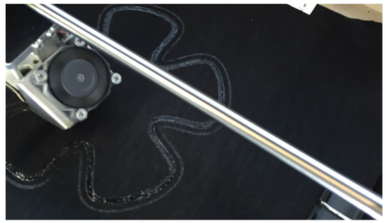


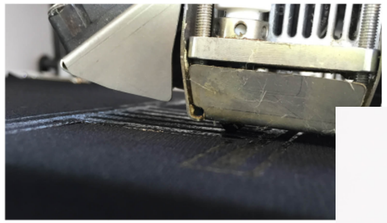
Ernst Haeckl, 1904

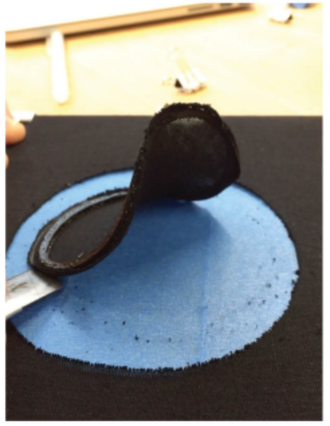


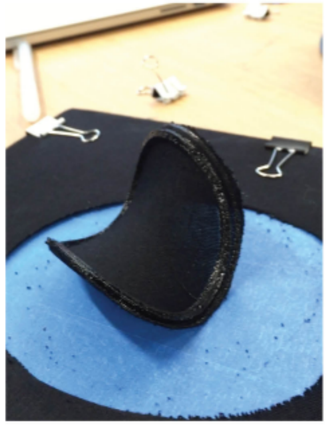


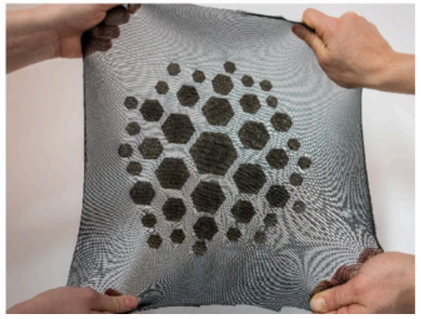


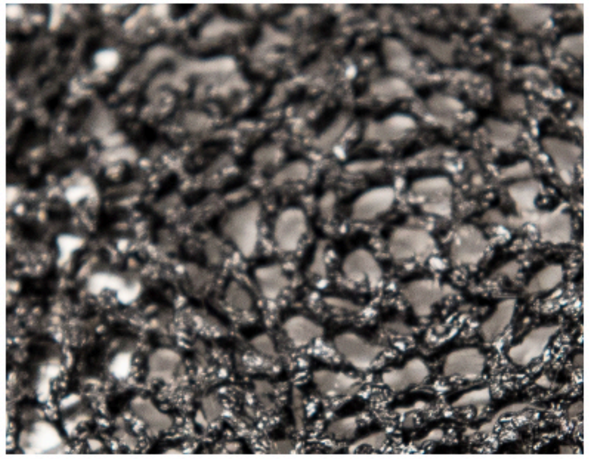
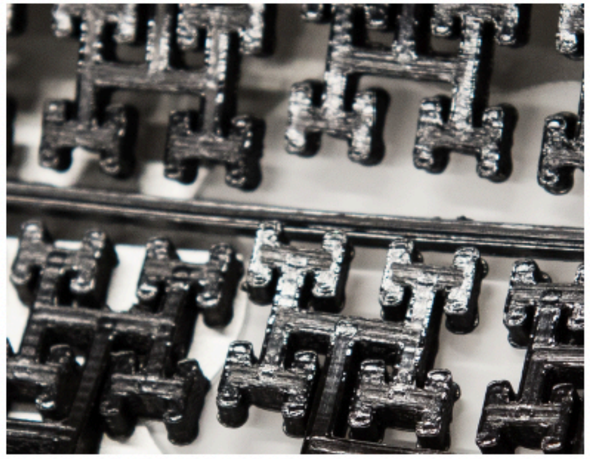
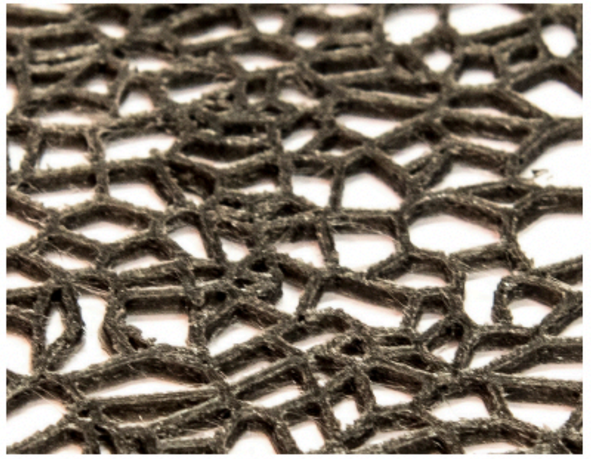
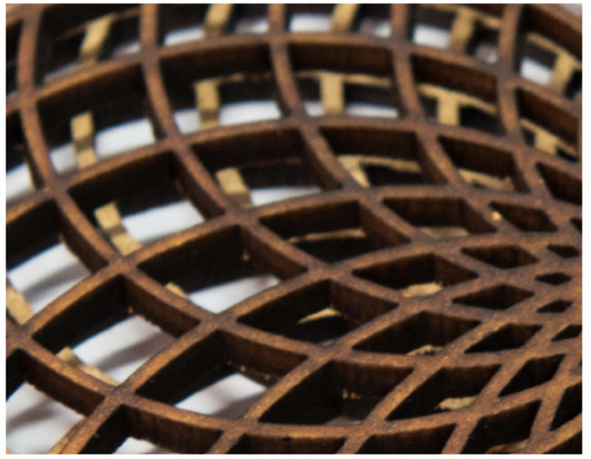
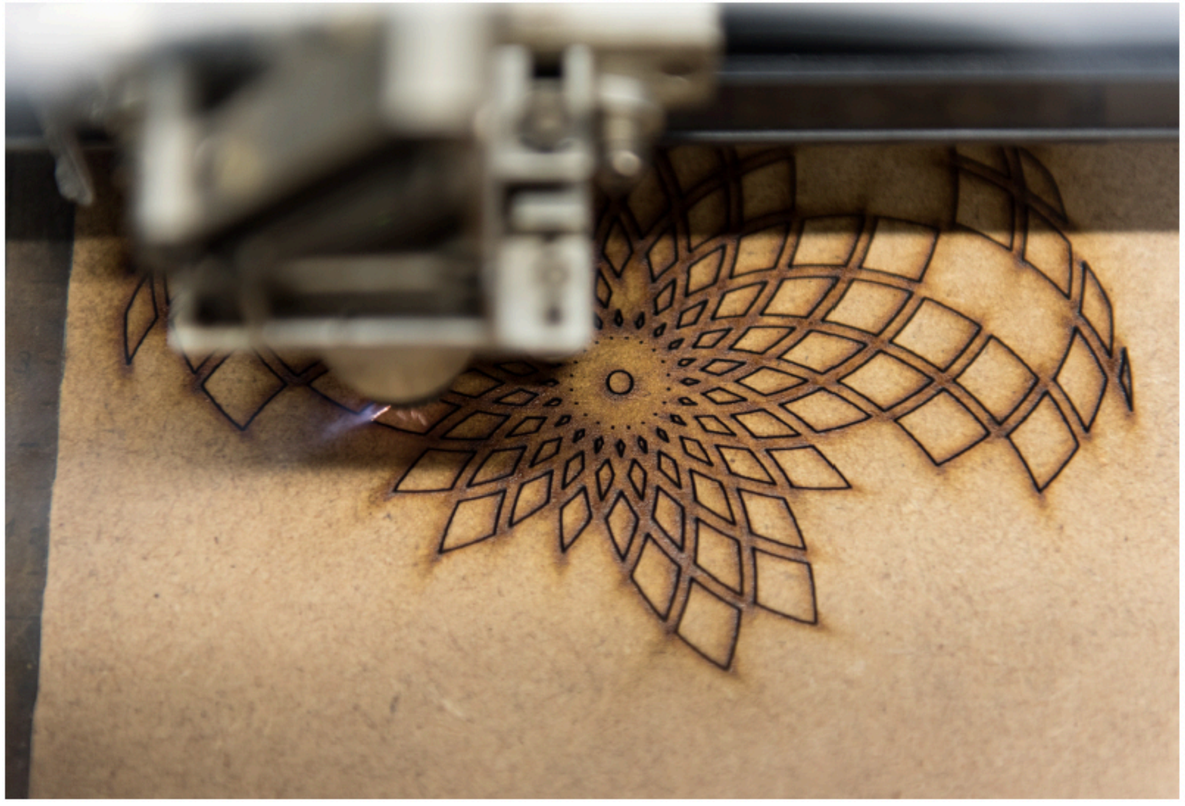
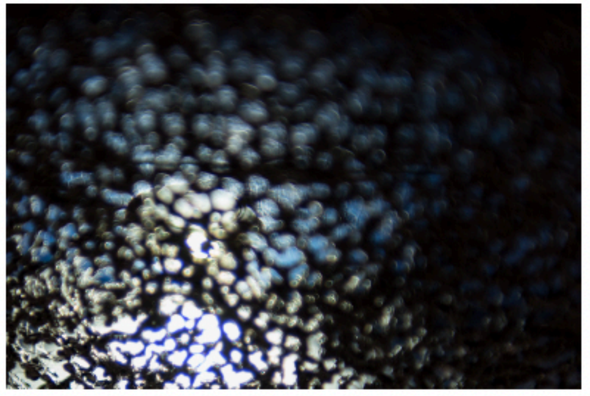


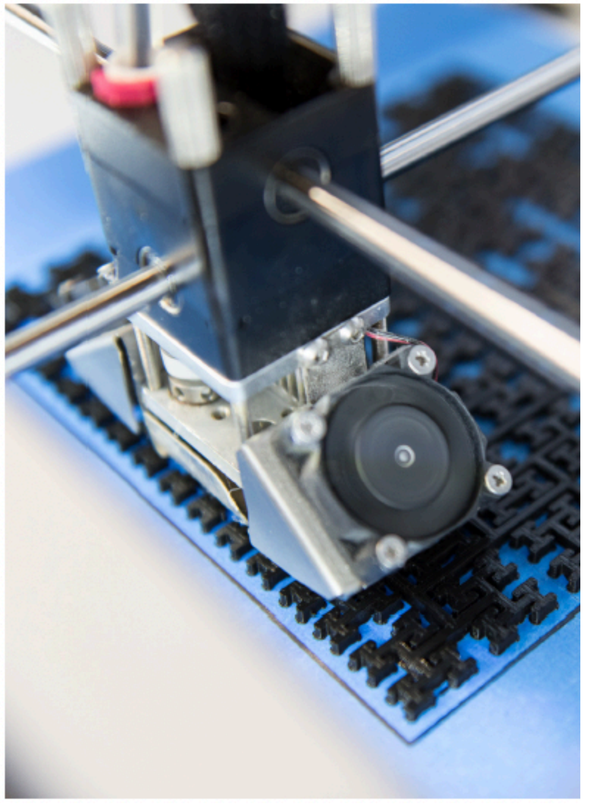


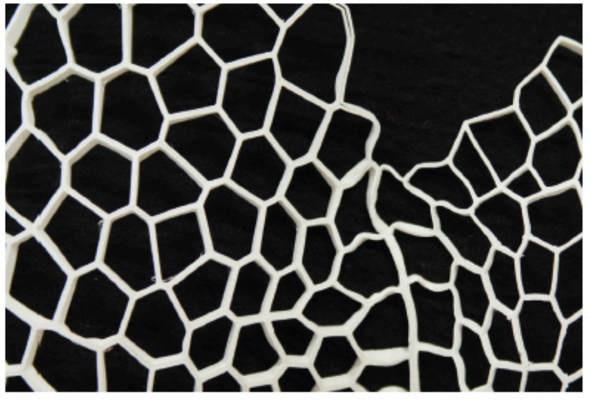


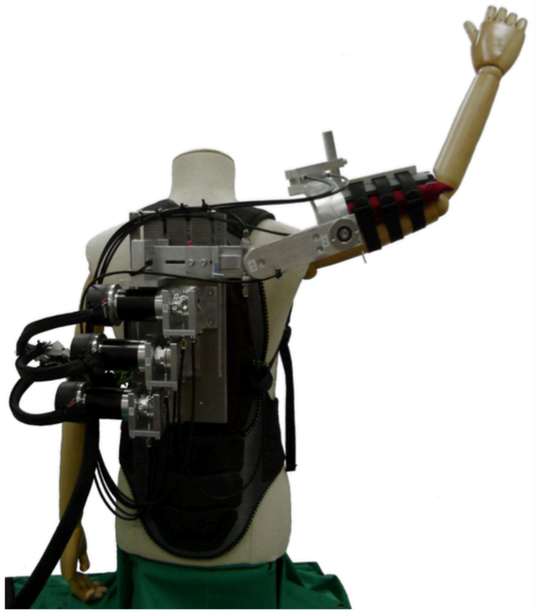




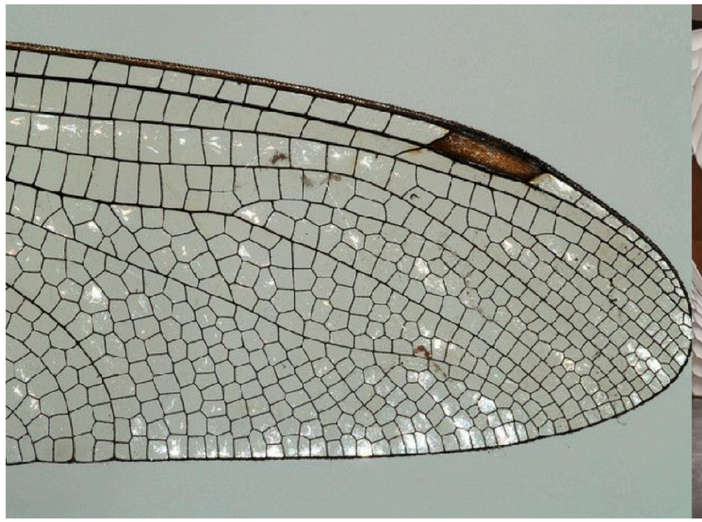


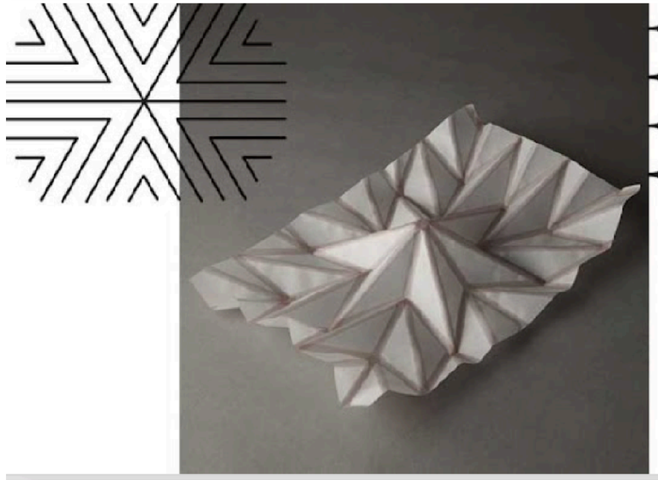


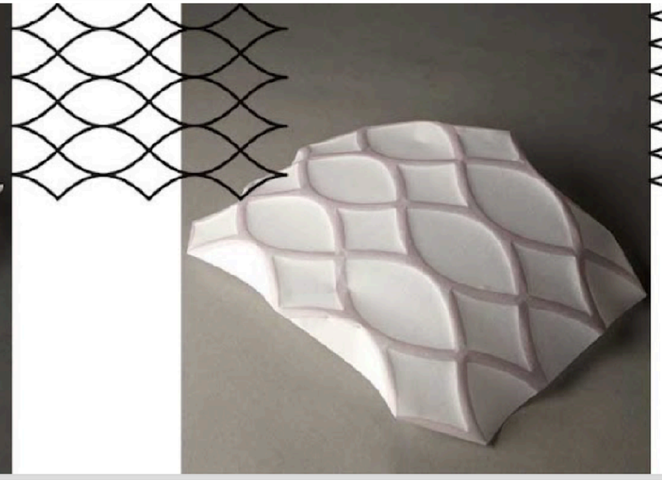


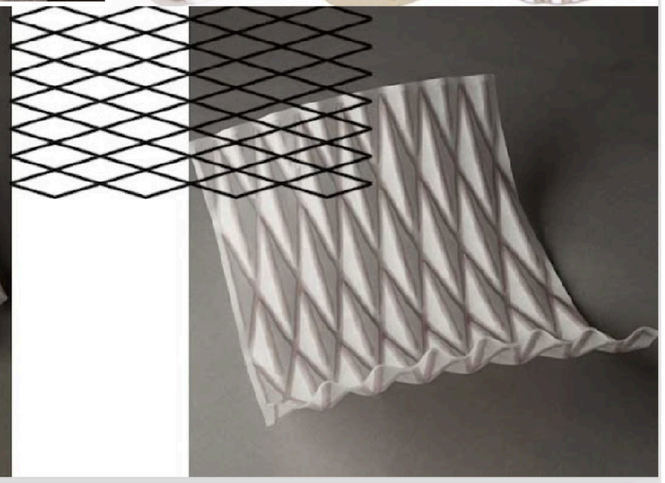
Projekt: Soft Actuators for shoulder rehabilitation

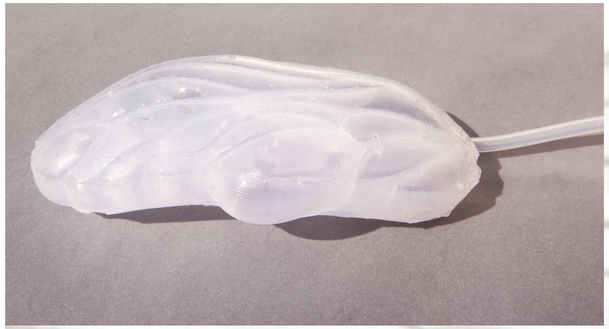
Beauftragte Projektstudie der ZHAW Winterthur
Institut für Mechanische Systeme (IMES)
L. Franzke, C. Winkler, V. Ziegler

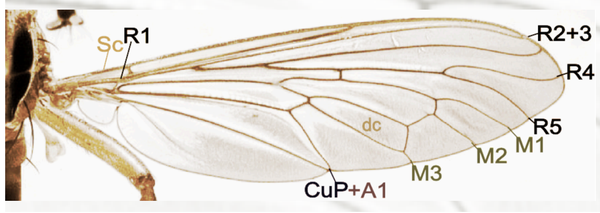


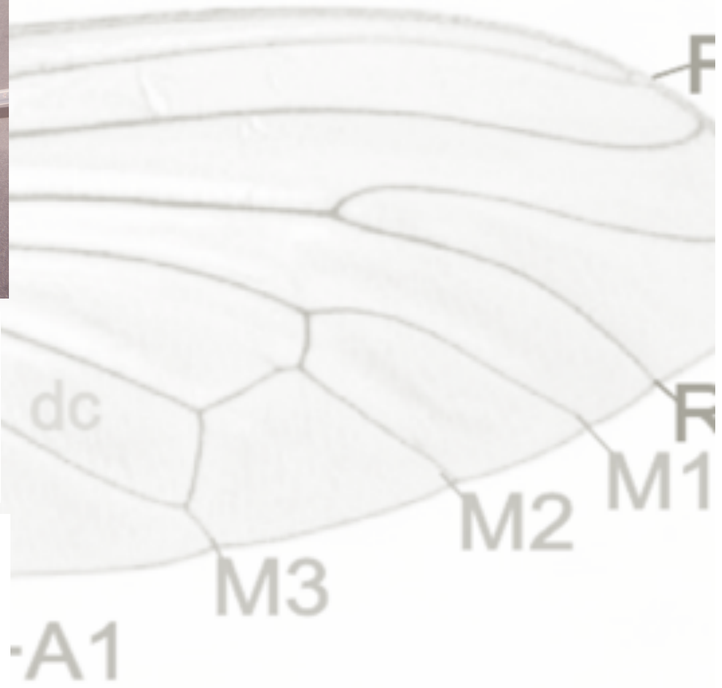


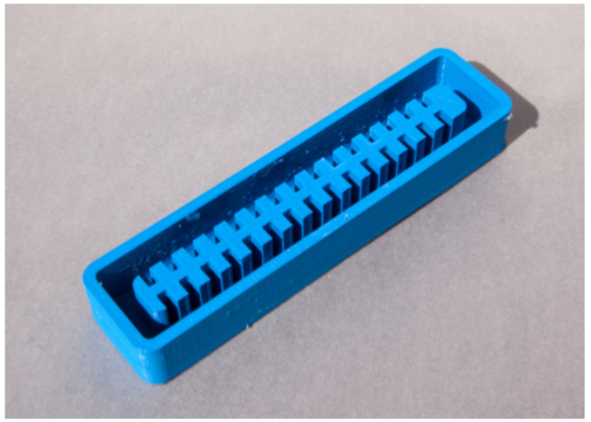


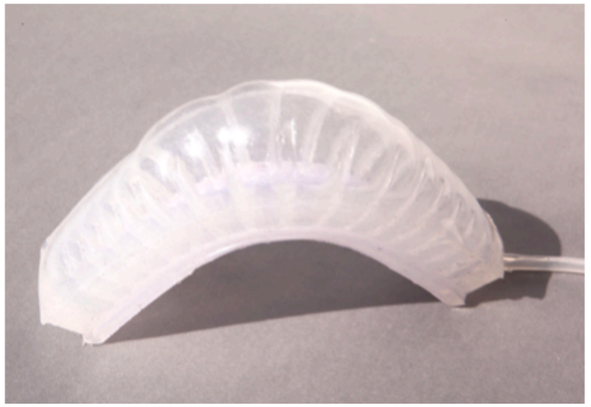




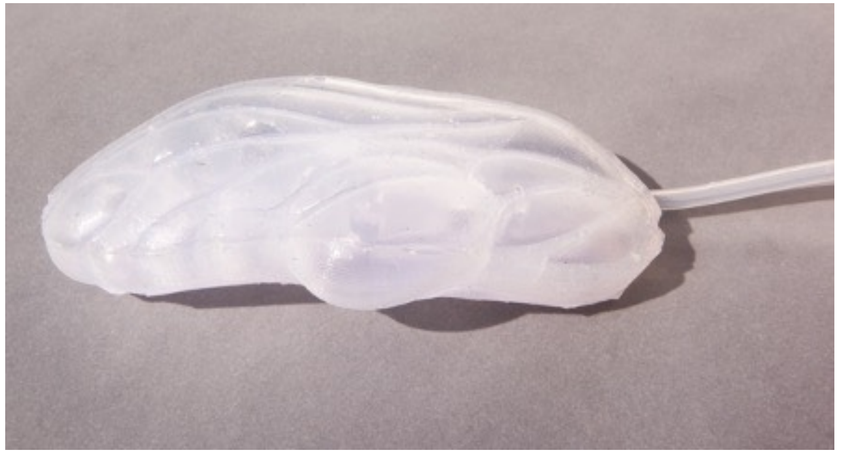


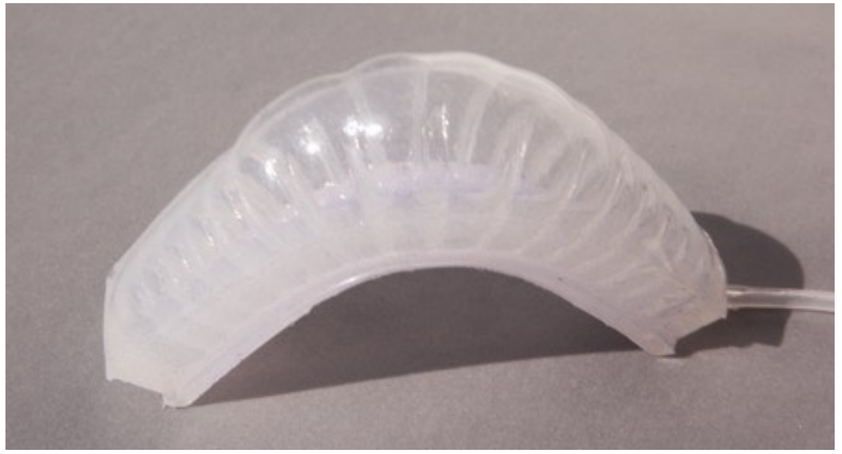


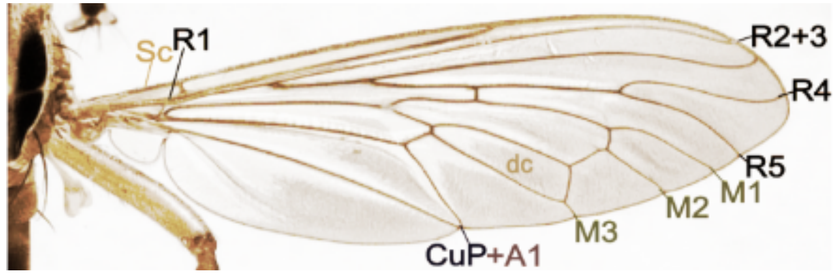




First Prototypes of **SOFT ROBOTIC EXOSKELETON** experiments for the upper arm and shoulder movement in context with ZHdK - Interaction Design and ZHAW Winterthur - Mechanical Department



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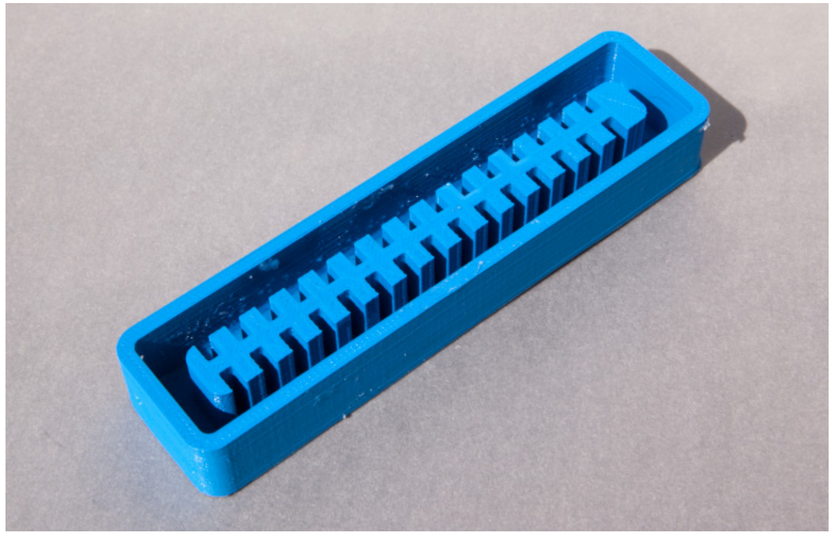
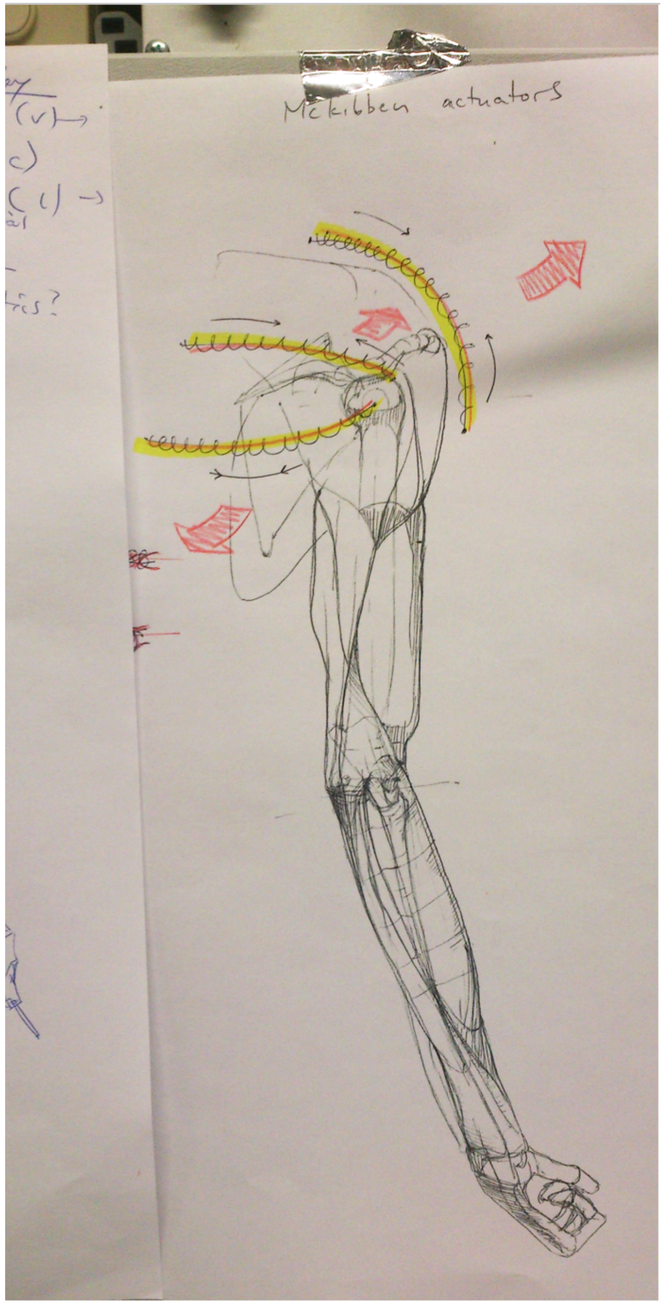
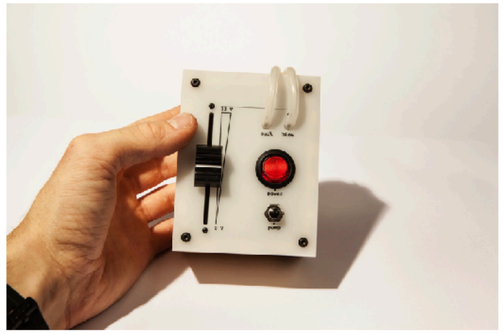
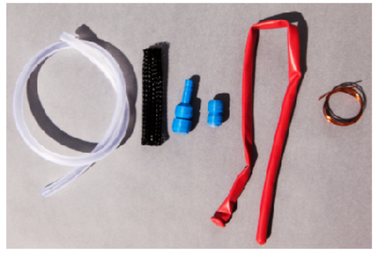
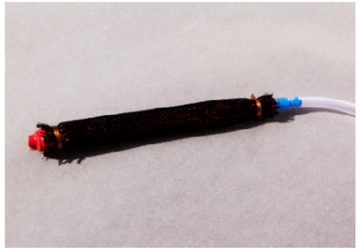
R1
R2+3
R4
dc
R5
M1
M2
M3
CuP+A1

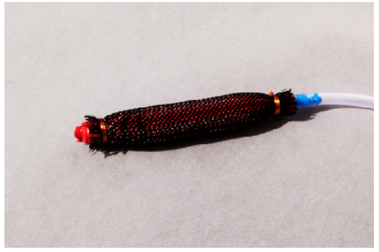


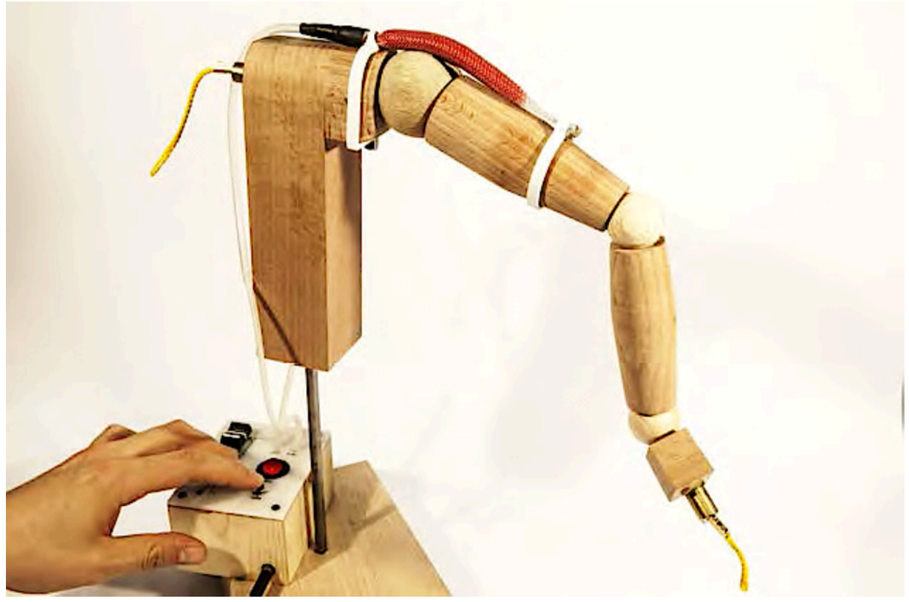

Mckibben actuators

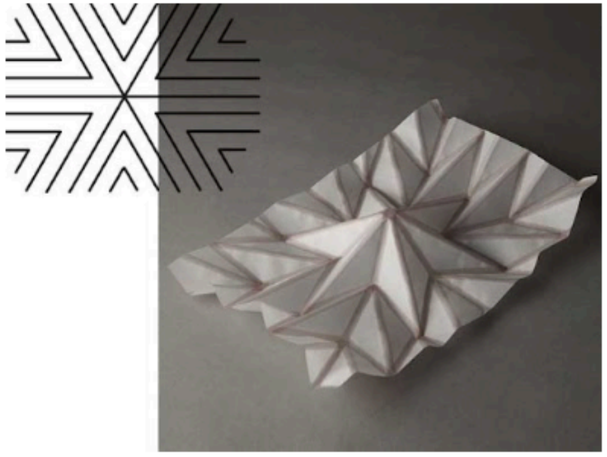


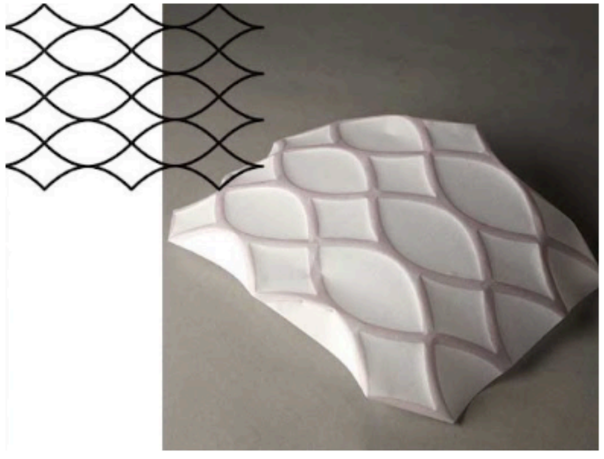


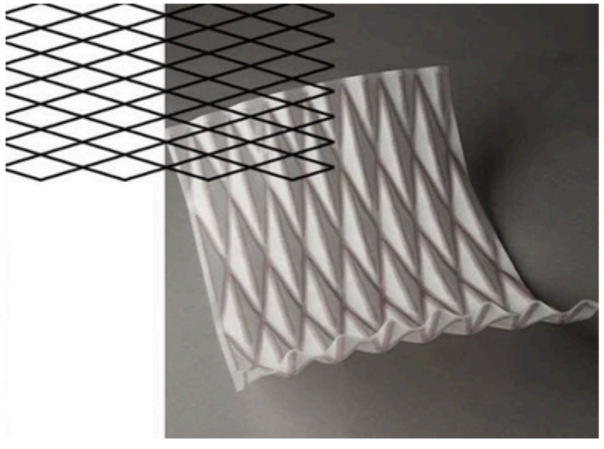


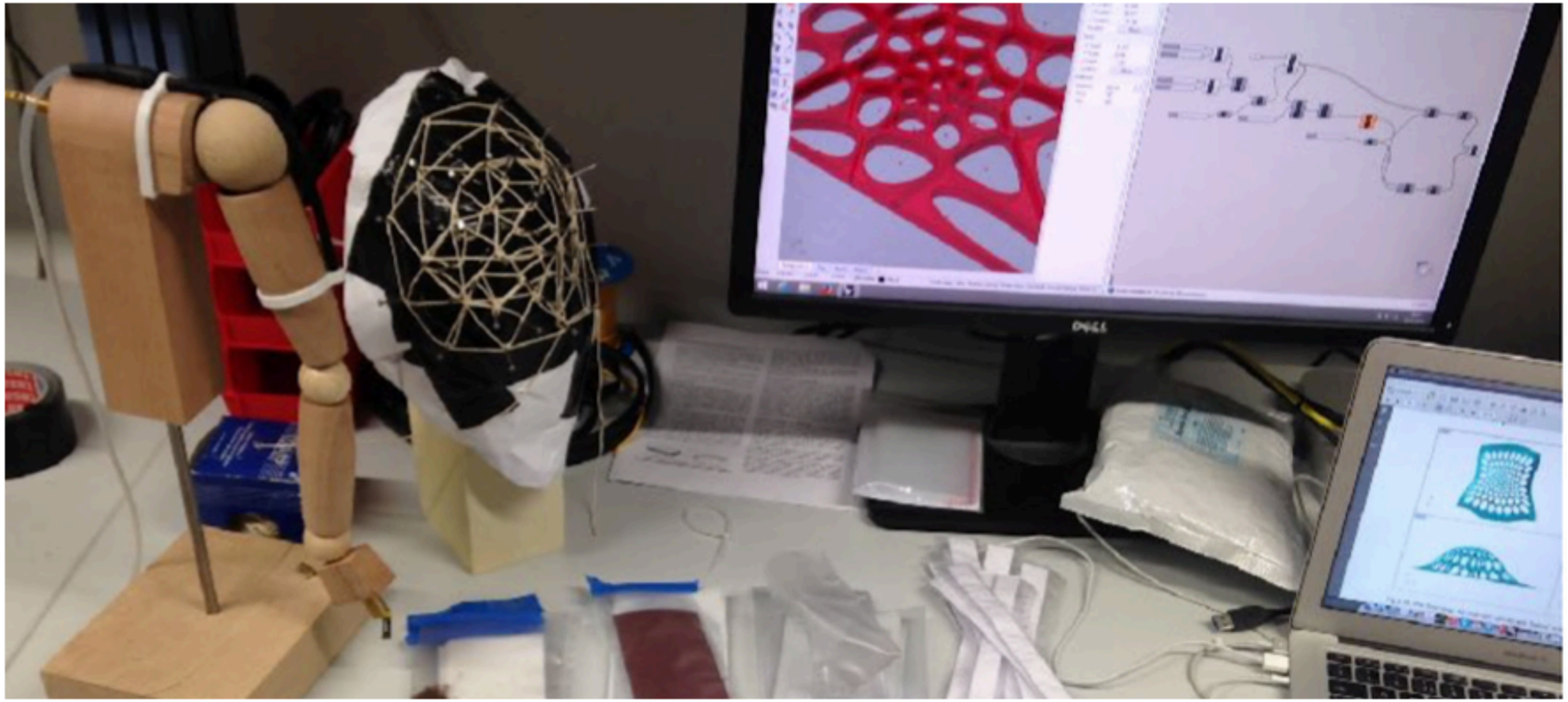


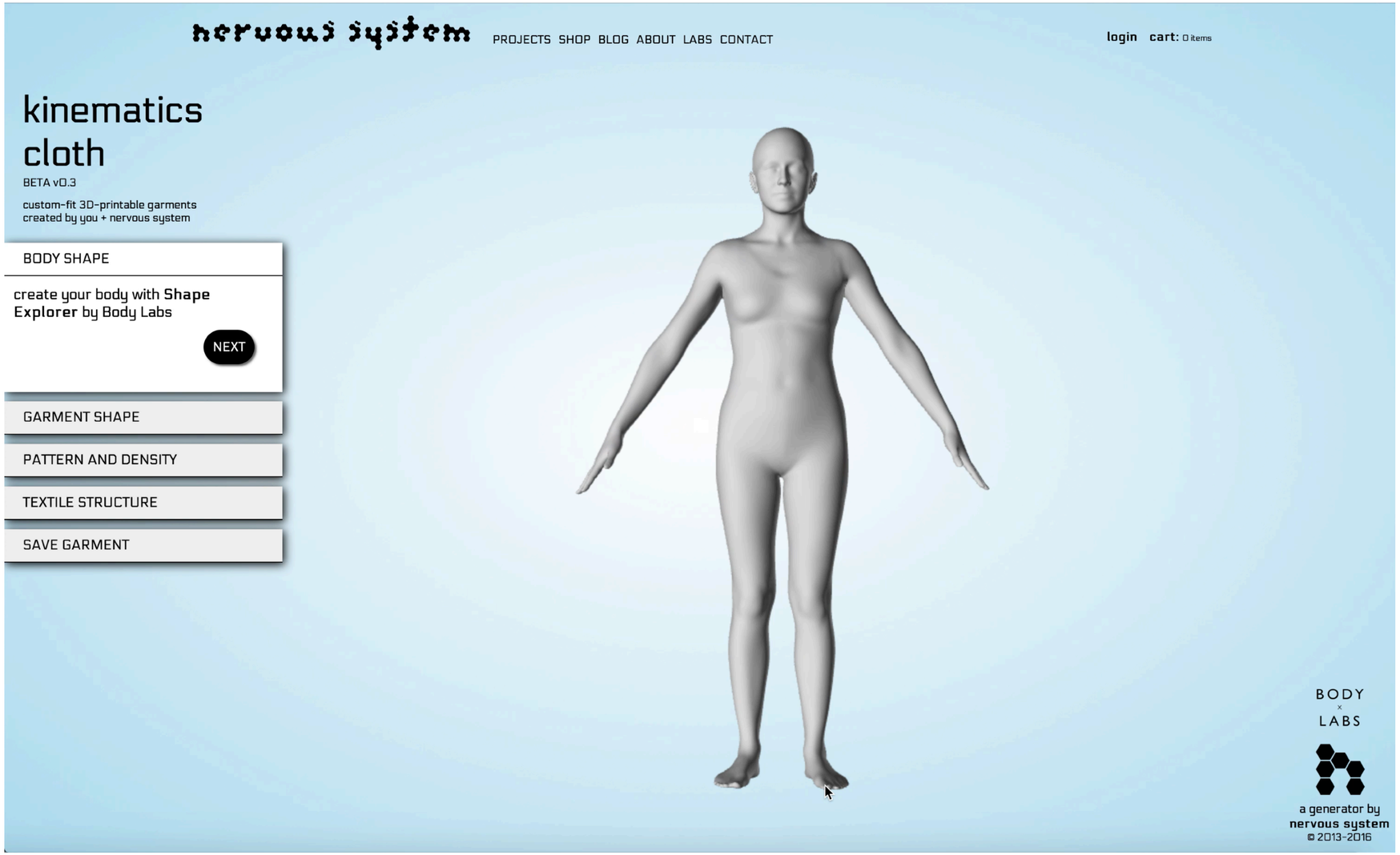












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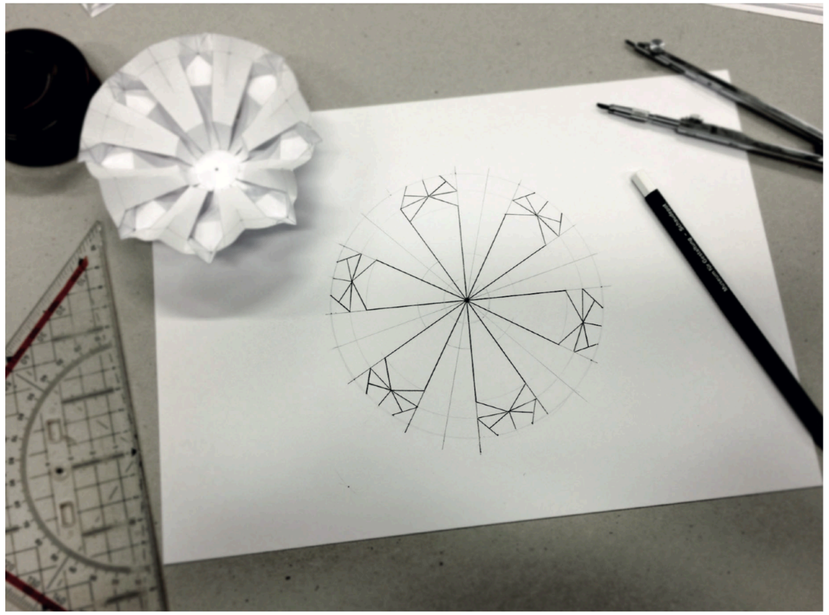
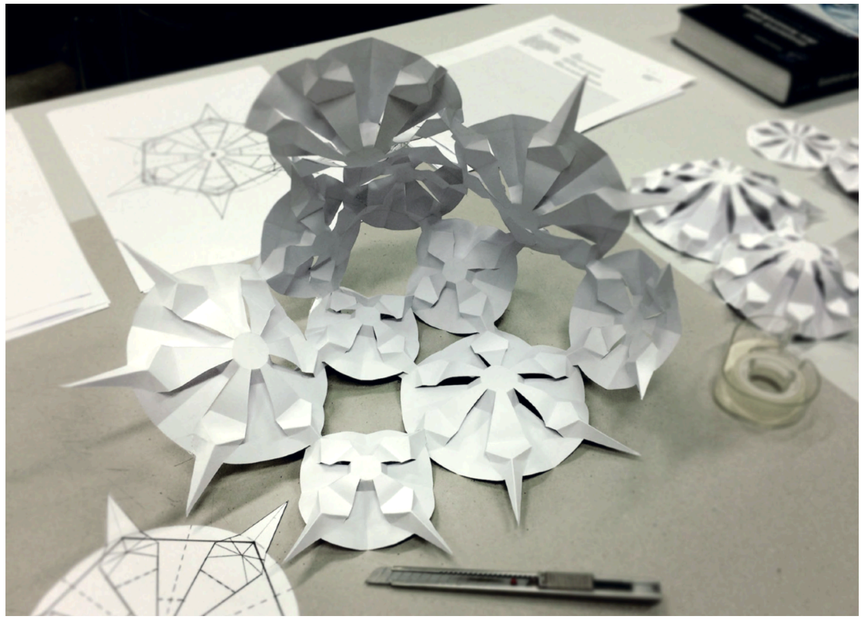
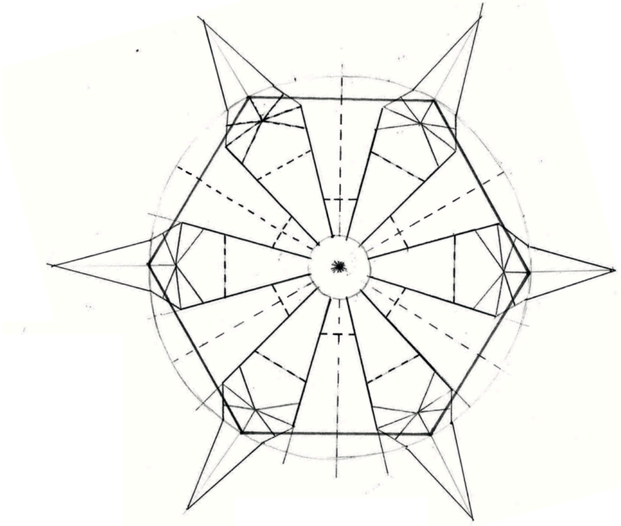
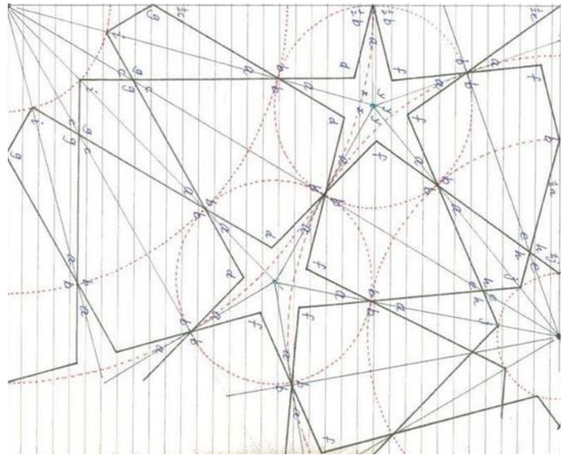


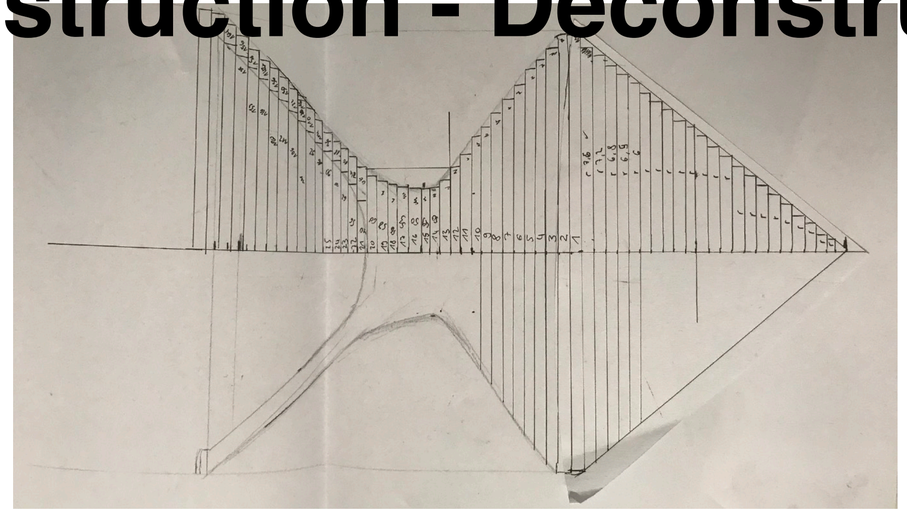






Additive & Subractive Process

Construction - Deconstruction - Reconstruction



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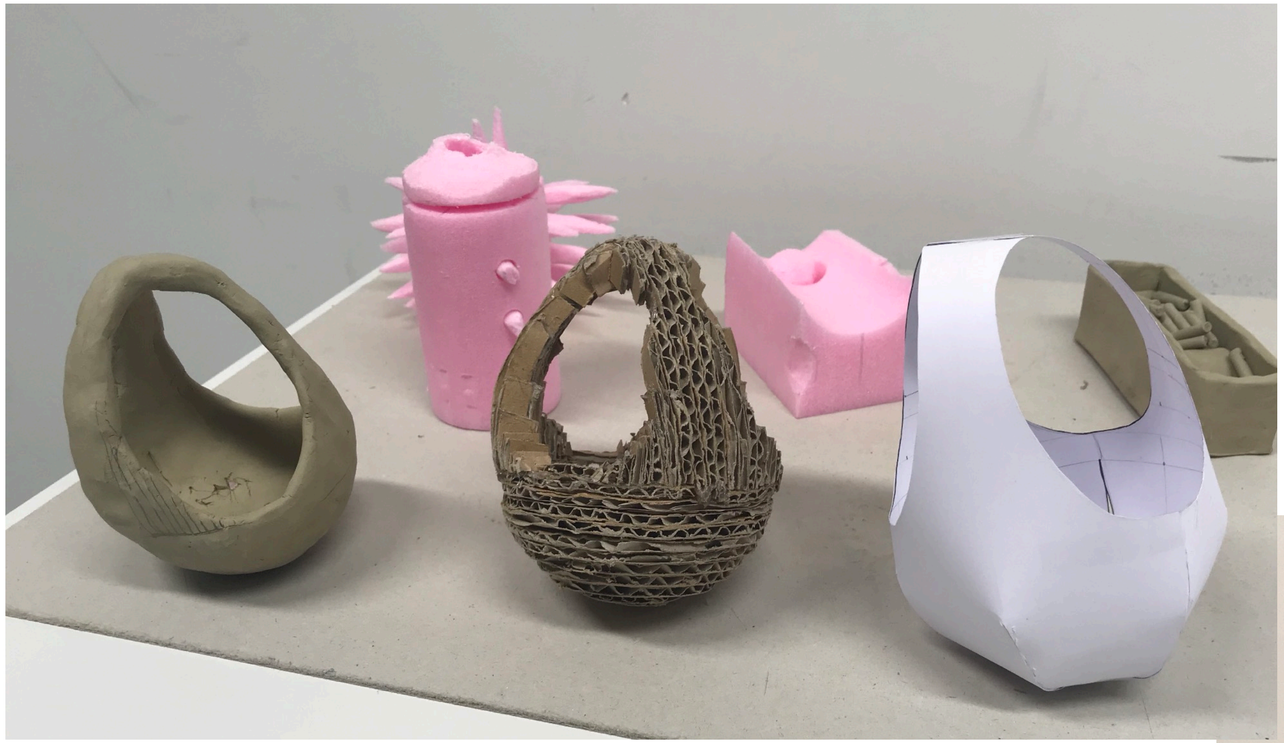

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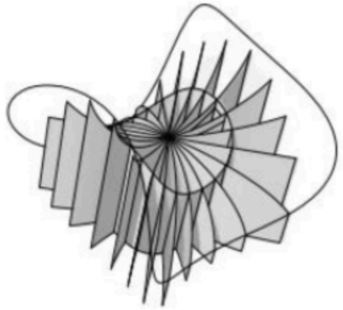
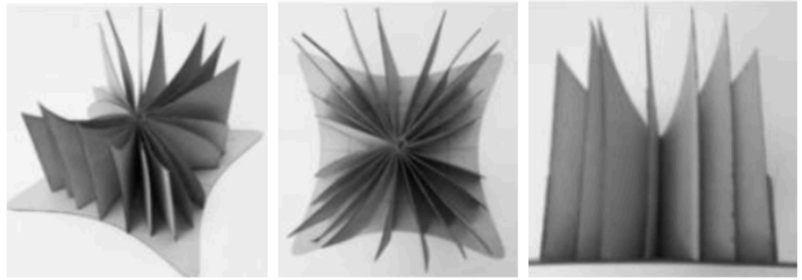
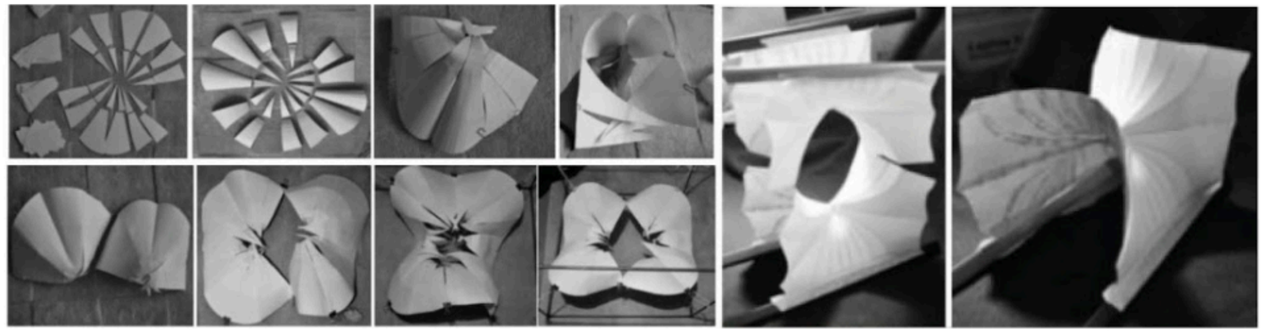
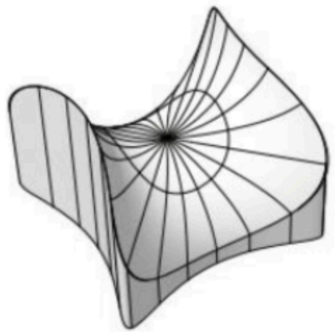
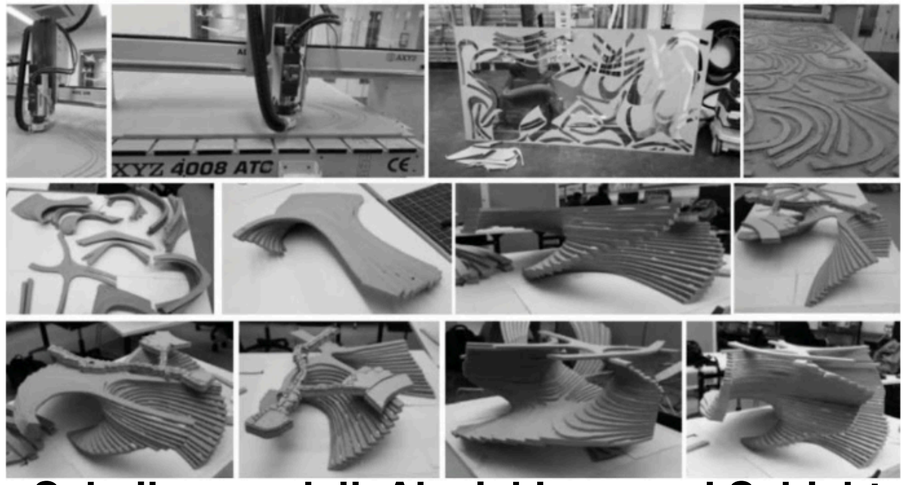
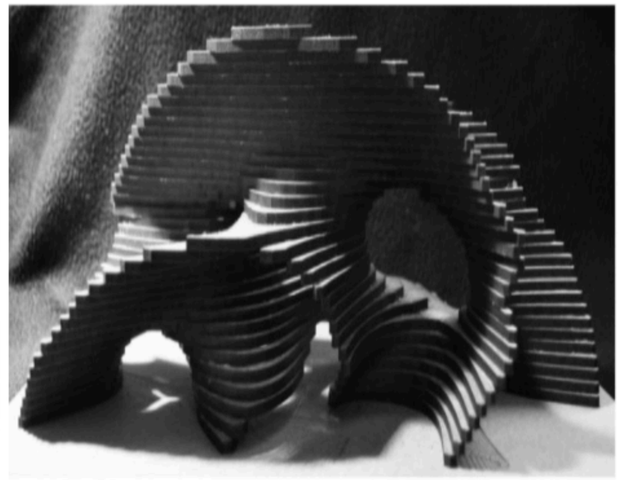






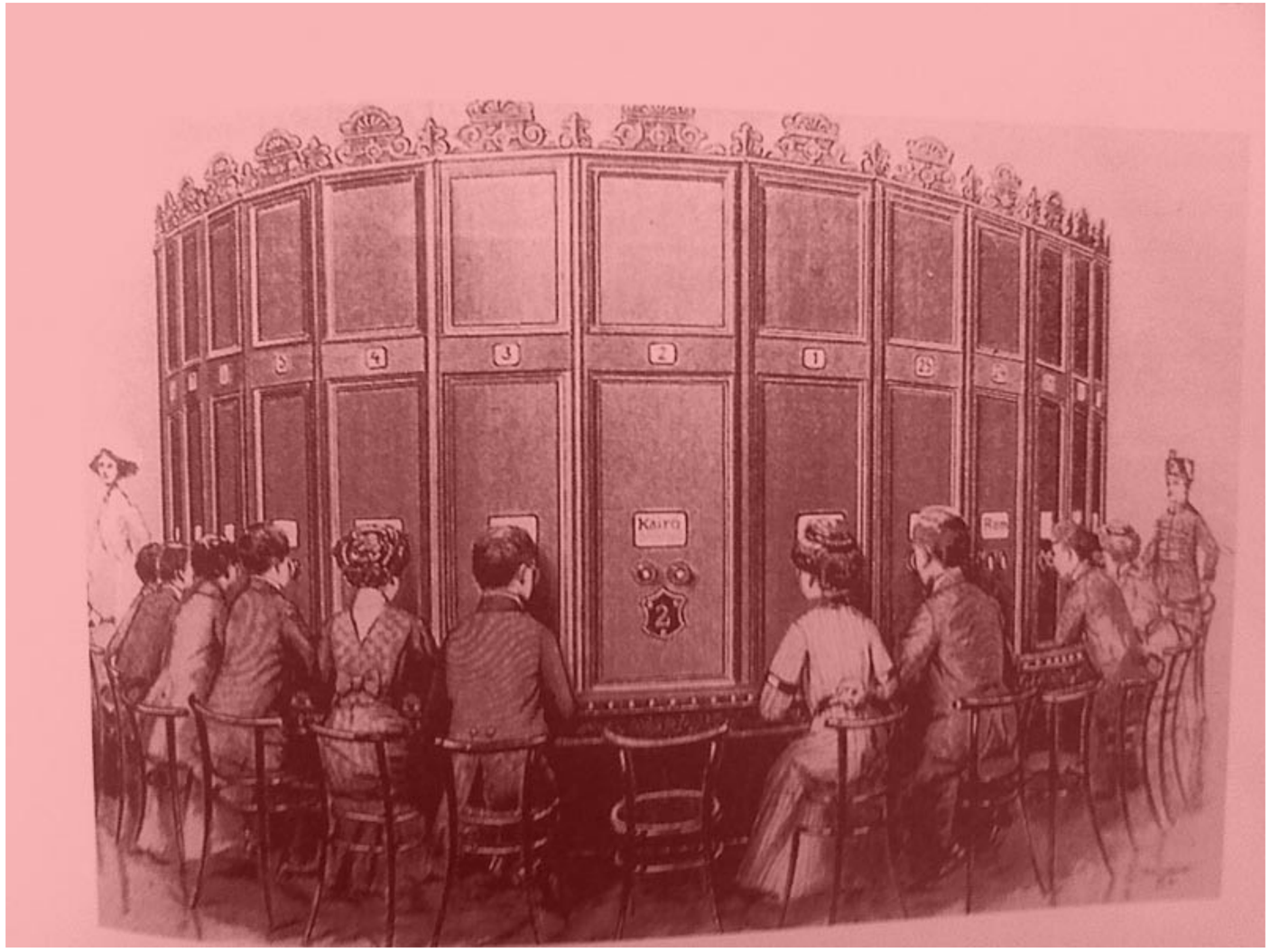




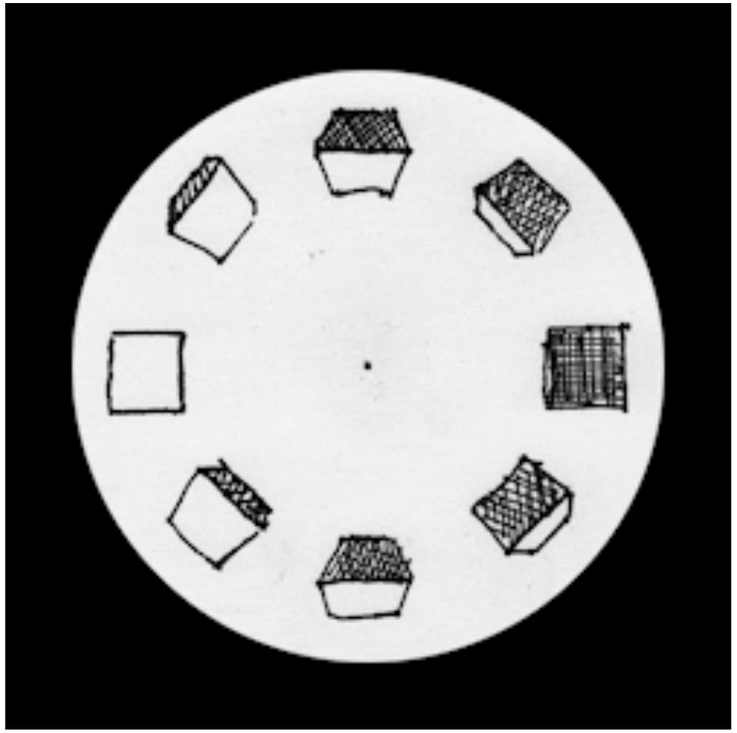


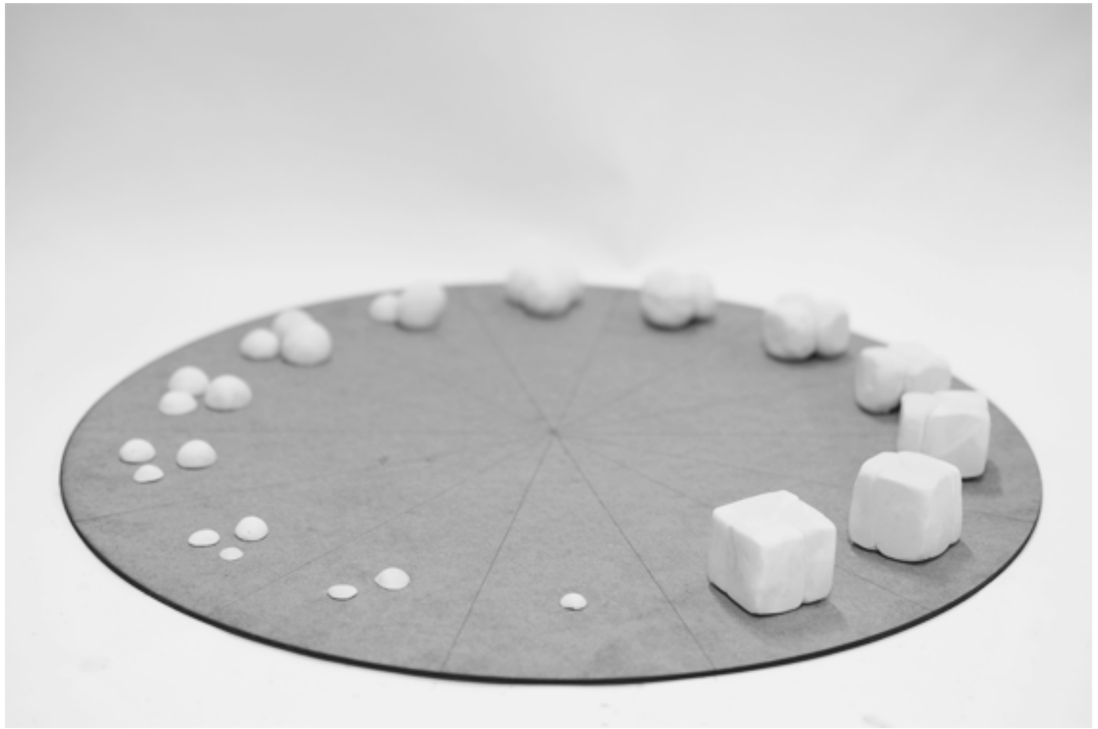
Scheibenmodell, Abwicklung und Schichtmodell

Growth Processes

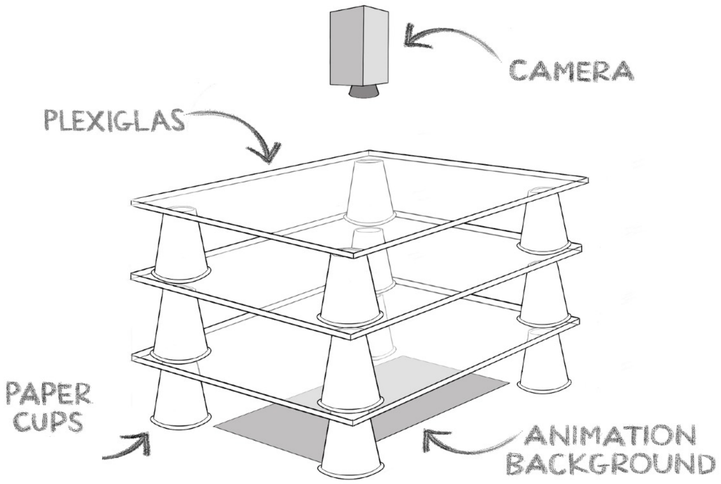


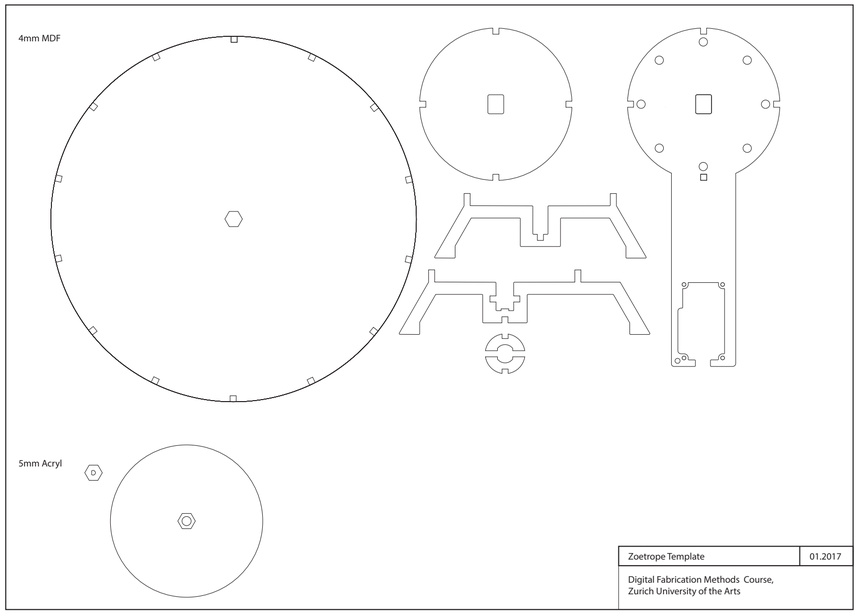
”Imperial panorama” Kaiserpanorma (1883)

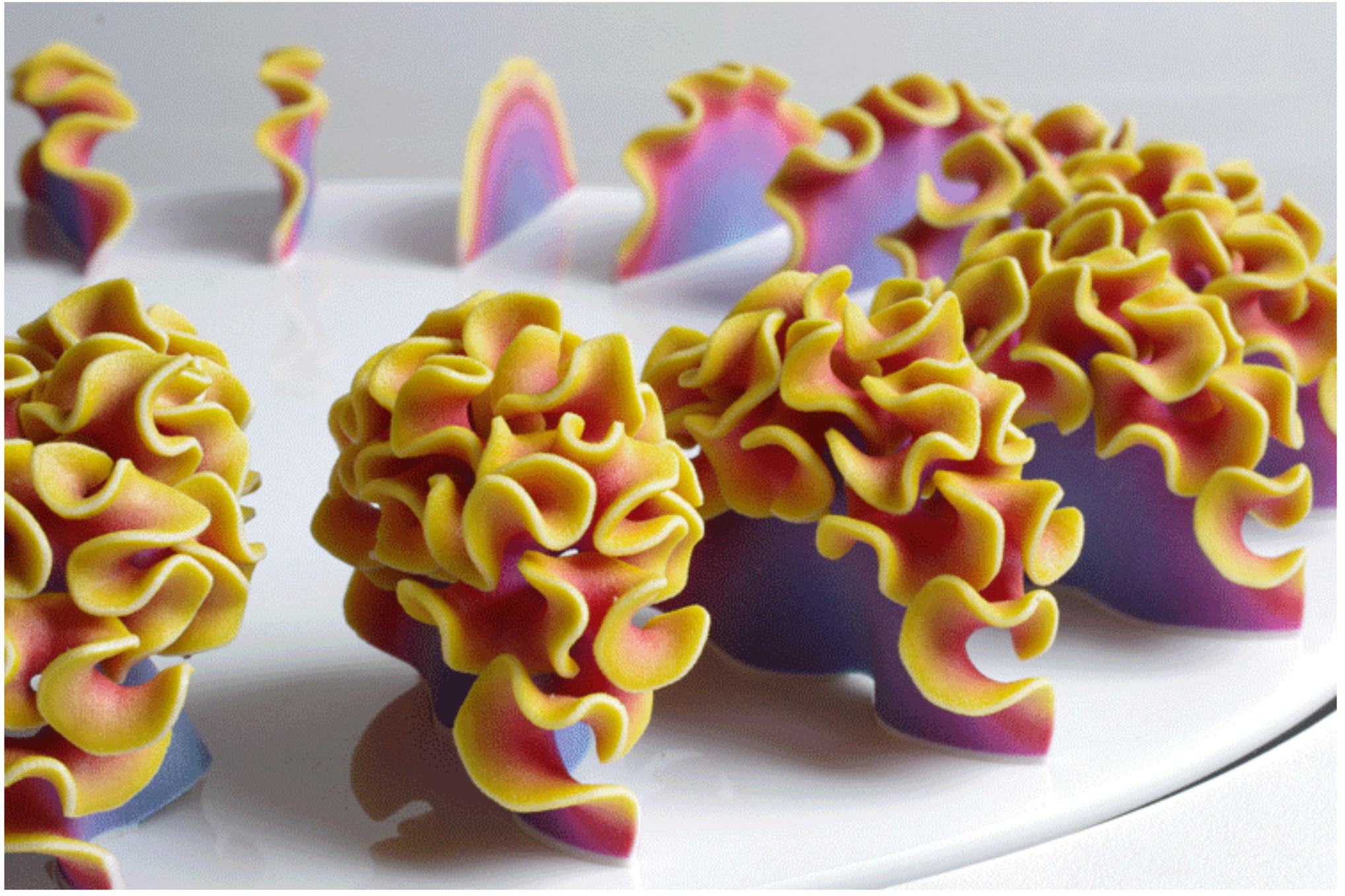


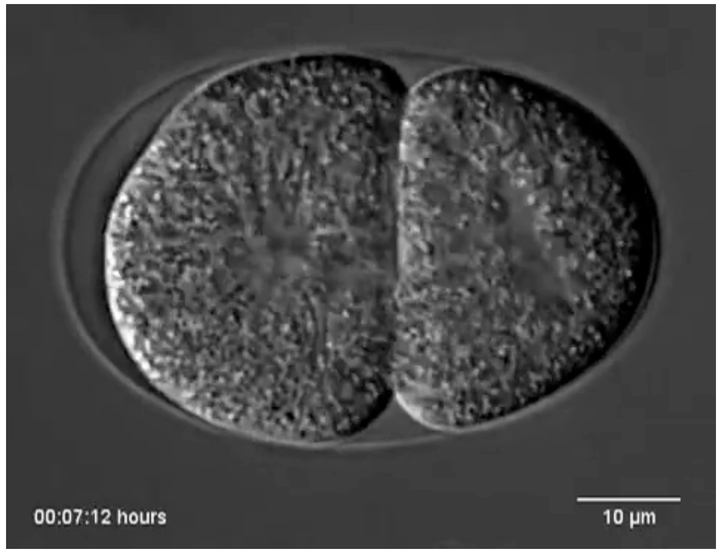


Stereoskopie-Verfahren





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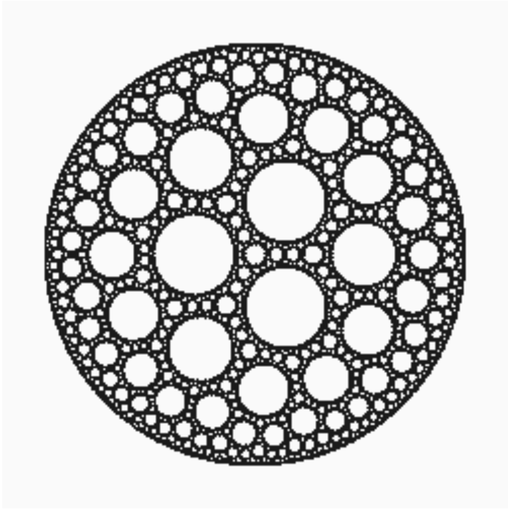
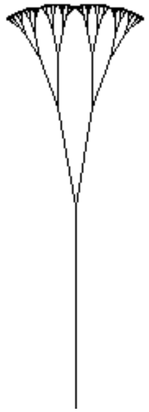
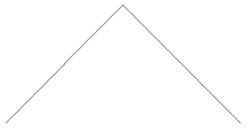
10 µm







Illustrator outlines for Laser Cutting