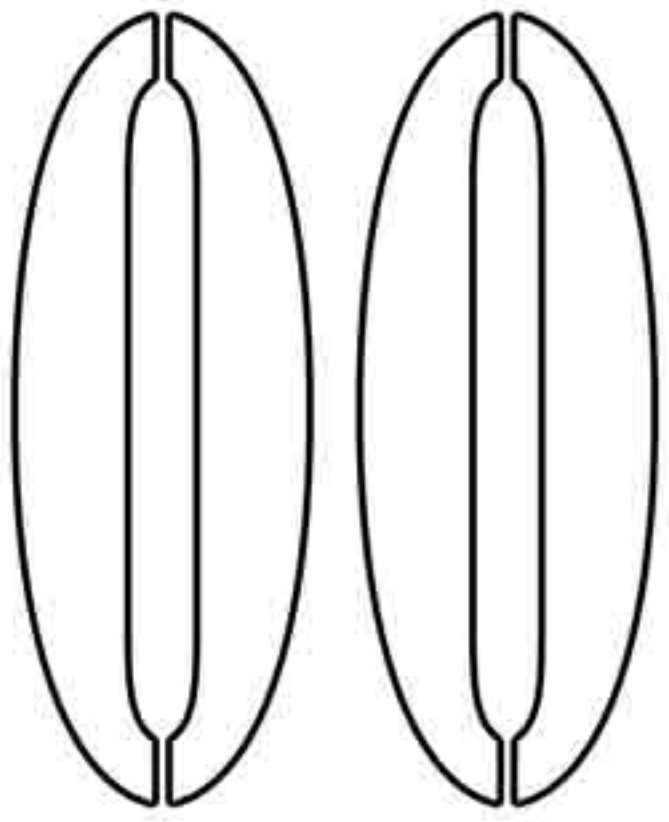


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MAG LAB | 2011 - Responsive Architecture Workshop



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Beyond Space	Solo	Eco-Dinamic Vehicle	
K&K	Beyond	T-River	

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01

INTRO

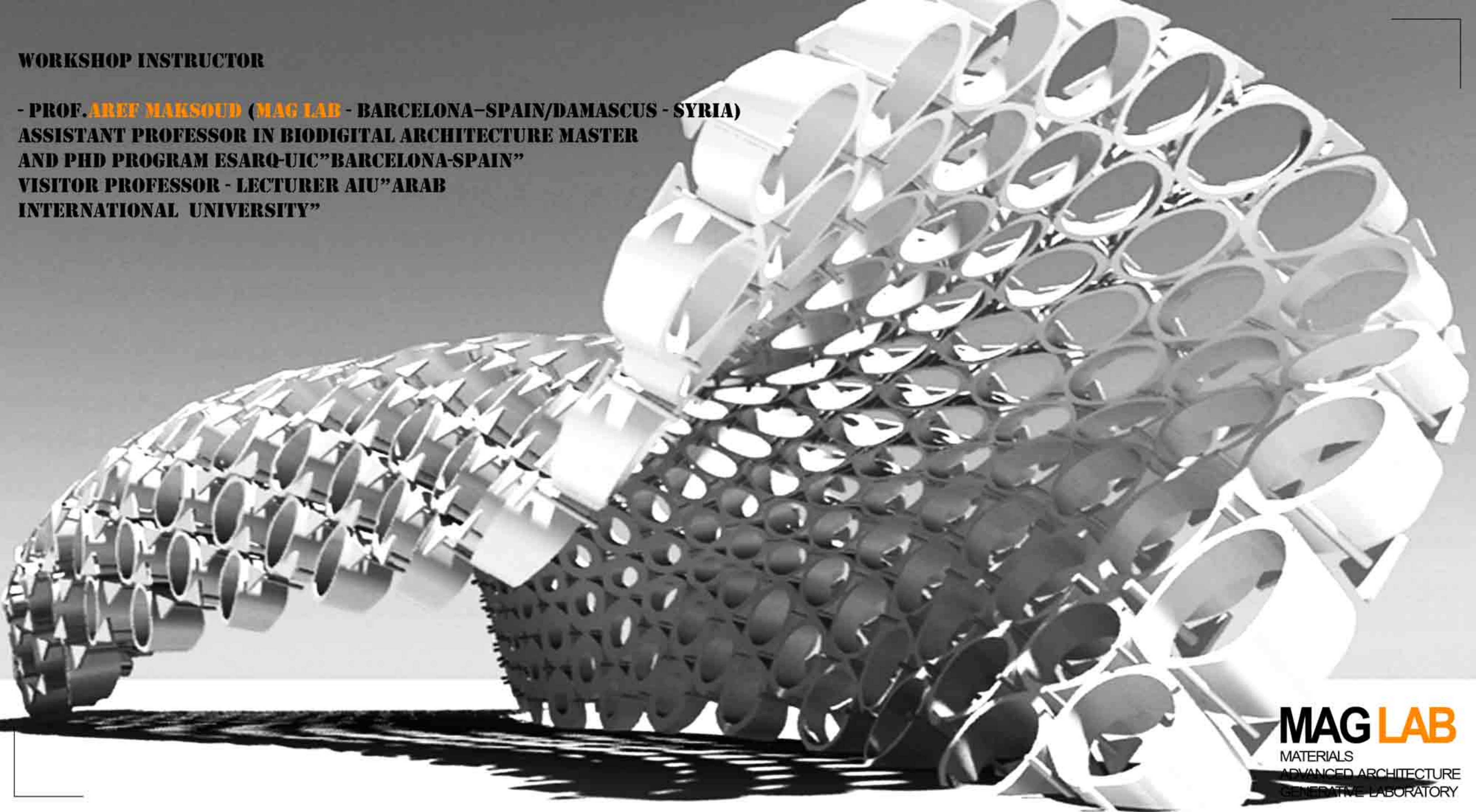
RESPONSIVE ARCHITECTURE WORKSHOP

ALGORITHMIC MODELING
3DSTUDIO MAX SCRIPTING TO GENERATE DESIGN SOLUTIONS
FEBRUARY 10-14.02.2011- DAMASCUS, SYRIA

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MATERIALS
ADVANCED ARCHITECTURE
GENERATIVE LABORATORY

WORKSHOP INSTRUCTOR

- PROF. AREF MAKSOUH (MAG LAB - BARCELONA-SPAIN/DAMASCUS - SYRIA)
ASSISTANT PROFESSOR IN BIODIGITAL ARCHITECTURE MASTER
AND PHD PROGRAM ESARQ-UIC"BARCELONA-SPAIN"
VISITOR PROFESSOR - LECTURER AIU"ARAB
INTERNATIONAL UNIVERSITY"



DUE TO THE SUCCESS OF THE FIRST WORKSHOPS BY MAG LAB IN DAMASCUS, SYRIA, SPAIN 2008-2009, ITALY 2010, SYRIA 2009-2010 AND MULTIPLE PRECEDING EVENTS.

MAG LAB, SYRIA – SPAIN – ITALY ANNOUNCED THE FIRST EDITION OF THE 3DSTUDIO MAX SCRIPTING WORKSHOPS

“RESPONSIVE ARCHITECTURE – ALGORITHMIC MODELING” WHICH TOOK PLACE IN DAMASCUS – SYRIA ON FEBRUARY 10TH TO 14TH AND 16TH TO 20TH 2011. A WORKSHOP WHERE PARTICIPANTS INTRODUCED TO STRATEGIES FOR THE INTEGRATION OF DIGITAL TOOLS NOT MERELY AS A MEANS OF PRODUCTION BUT AS AN IMPETUS OF DESIGN.

THESE EVENTS FOLLOWED THE HIGHLY SUCCESSFUL PREVIOUS WORKSHOPS, SPAIN 2008-2009, ITALY 2010, SYRIA 2009-2010-2011 AND MULTIPLE PRECEDING EVENTS.

THE WORKSHOP PROVIDED A UNIQUE OPPORTUNITY TO WORK WITH THE MOST ESTABLISHED EXPERT SOFTWARE IN THE WORLD ON DIGITAL PARAMETRIC DESIGN.

02

SYNOPSIS |

The workshop focused its interest on parametric design, techniques and theory along with the study of practical precedents.

Participants were introduced to strategies for the integration of digital tools not merely as a means of production but as an impetus of design.

Exploring the exciting world of Digital Design, The workshop introduced participants to Parametric Design strategies, highlighting issues of design, use of technology and methodology from concept forms & shapes, through to complex engineering analysis.

Innovative tools for geometric modeling and scripting including minimal surfaces, mesh relaxing, tessellation and parametric steel frame modeling were also featured.



03

TASK

THE TASK OF THE STUDIO WERE TO DEVELOP THE DESIGN OF PAVILION AND START WORKING IN INTERIOR SPACES AND DETAILS, GETTING ADVANTAGE FROM NEW PARAMETRICAL SOFTWARE (3DSMAX SCRIPTS) REPRESENTING THE MATERIALS OF THE PROJECT INCLUDING PLANS, SECTIONS, RENDERINGS, AND ANIMATION.

04

WORKSHOP ROLLOUT |

Day 1

Introductory class : Lecture "Evolutionary Computation".
Digital tool Class 1 : The Foundation
Parametric Modeling
Parametric Surface Tools.
Mapping geometry on a surface
controlled way to manipulating geometries
Morphing sys

Day 2

Research - Moodboards,
Lecture: Responsive Architecture
Materials "Design And Technology"
Student research/presentation
Digital tool Class 2
Parametric - responsive design
Responsive Planar
Wire Parameters
Pattern With Wire Parameters

Day 3 - Day4

Concept development.
Digital tool Class 3
Modeling with Script
Advanced surfacing techniques.
Wired Sliders
Work in final project
Individual Revision.
Digital tool Class 4 Let's Script
Controlled surface panels - paneling tools

Day 5

Lecture: 'Morphing' and Scripting Beta,
explaining next workshops and events.
Real time presentation and introduction
of next parametric software workshops
Digital pinup of the panels
Good bye dinner



WORKSHOP ROLLOUT |

Participants used the software 3dsMAX as parametric modeling software.

Scripting tools opened up the possibility to construct highly parametrical complex models.

To generate this complexity we used live linkages to several programs listed below:

- Autodesk – AutoCAD
- Rhino

In these 5 intense days, the participants learnt the workflow of scripting and parametric design throughout 3DSMAX.

Upon completion of this workshop, the participants understood: How and where to enter commands – MAX Script editor – MAX script listener

Creating objects – modifying – transforming – variable and data types – Array, Max script controlling structure – rollout floater basic frame work.

Mass changing properties, Wired sliders – wire parameter, constraints, unwrapping geometry.



05

COVERED TOPICS

Theories

- Introduction to Scriptings technologies "Evolutionary Computation".
- Responsive Architecture Definition - Materials "Design And Technology"
- Research/presentation
- Iteration/ generations: Definition of algorithm; computation.
Topologies, Geometry , Beauty and Performance

Digital tools Classes

- Introduction to parametric design / 3dStudio Max Scripting.
- Advanced surfacing techniques.
- Controlled surface panels - paneling tools.
- Surface tessellation (adaptive strategies).
- Mapping geometry on a surface.

- Controlled way to manipulating geometries.
- Morphing sys
- Responsive components
- Pattern With Wire Parameters

06

PROJECTS

Bulb

Rema Kasem
Mohy el Din Abd el Ghani
Lina Karad

Beyond Space

Laila Saadi
Nour Harastani

K&K

Caline Samaan
Kareem Khayat

Pavilionar team

Nour Eddin Alsabbagh
Marwan Refaie

Beyond

Majd Murad
Abdulghani Warde
Rama Shehade

MathETex

Dalia Moghrabi
Waleed Habalti
Bassel al Haffar

Eco-Dinamic

Yasser Al Yassin
Adnan Almaleh

T-River

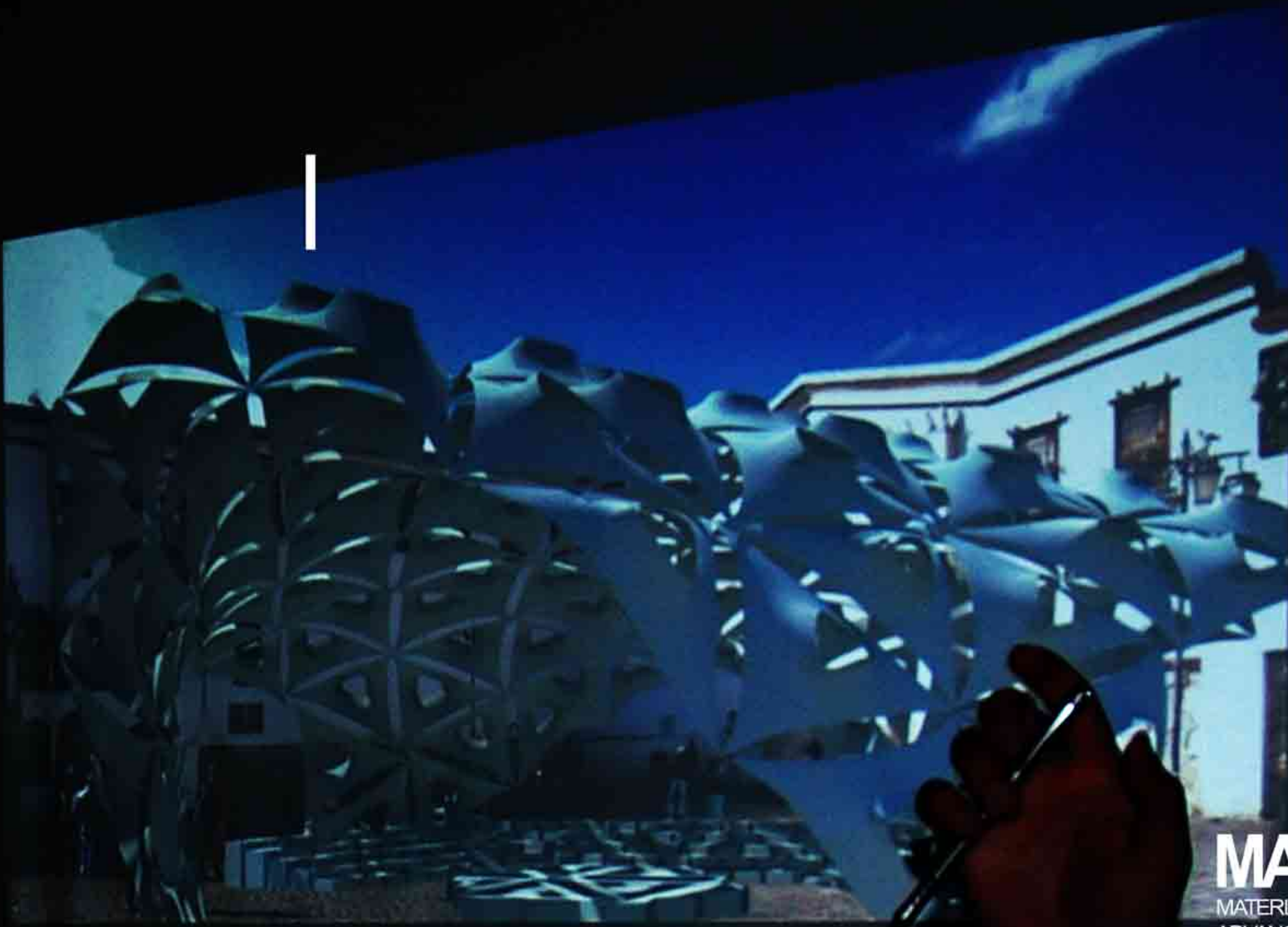
Noelle Oska
Abdul Rahman Rifaie
MHD Radwan Malkani

On-Group

Omar al Rayes
Noor al Kannani

Solo

Samir Kilani

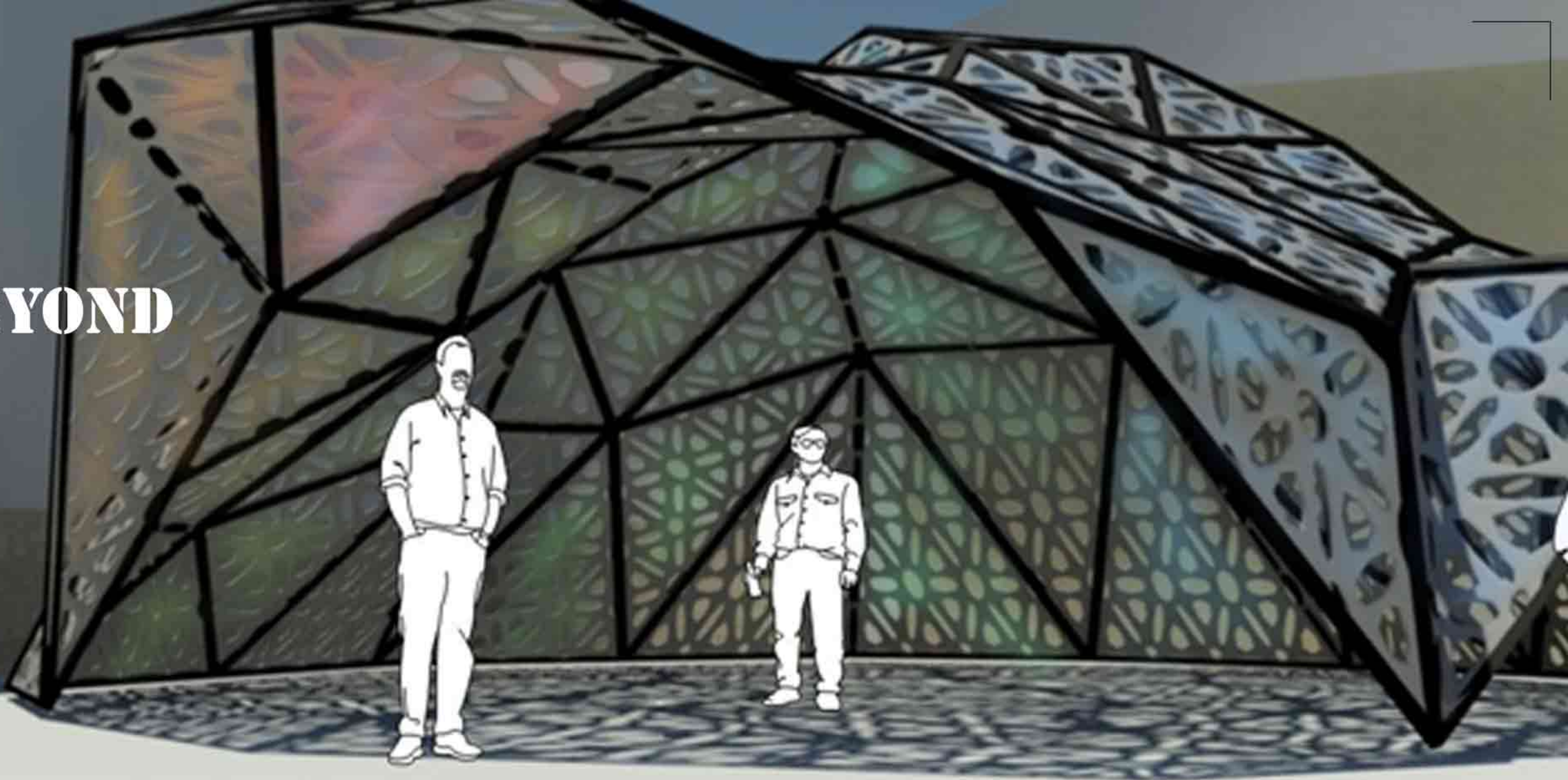


BEYOND

Majd Murad
Abdulghani Warde
Rama Shehade



BEYOND



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BEYOND



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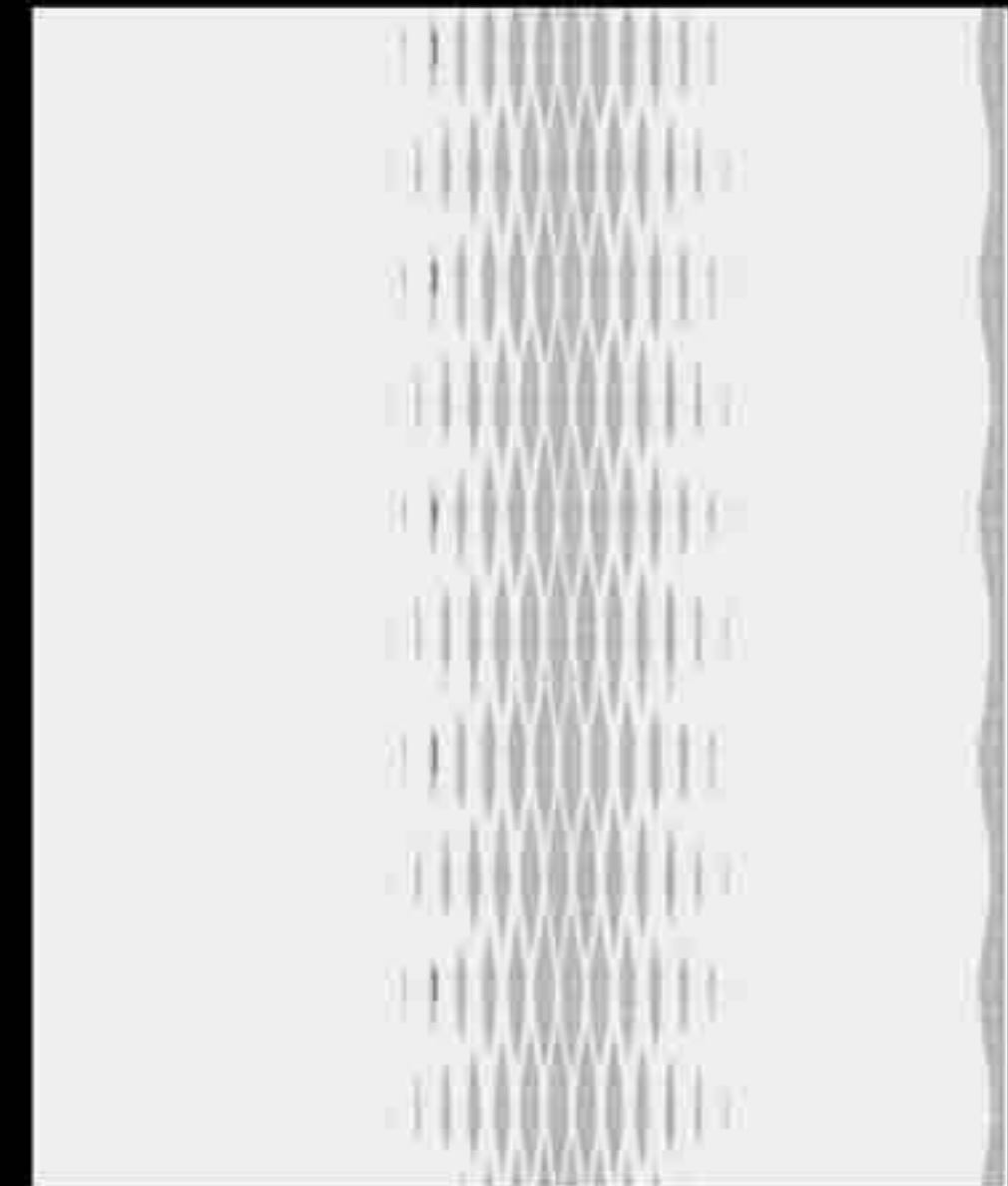
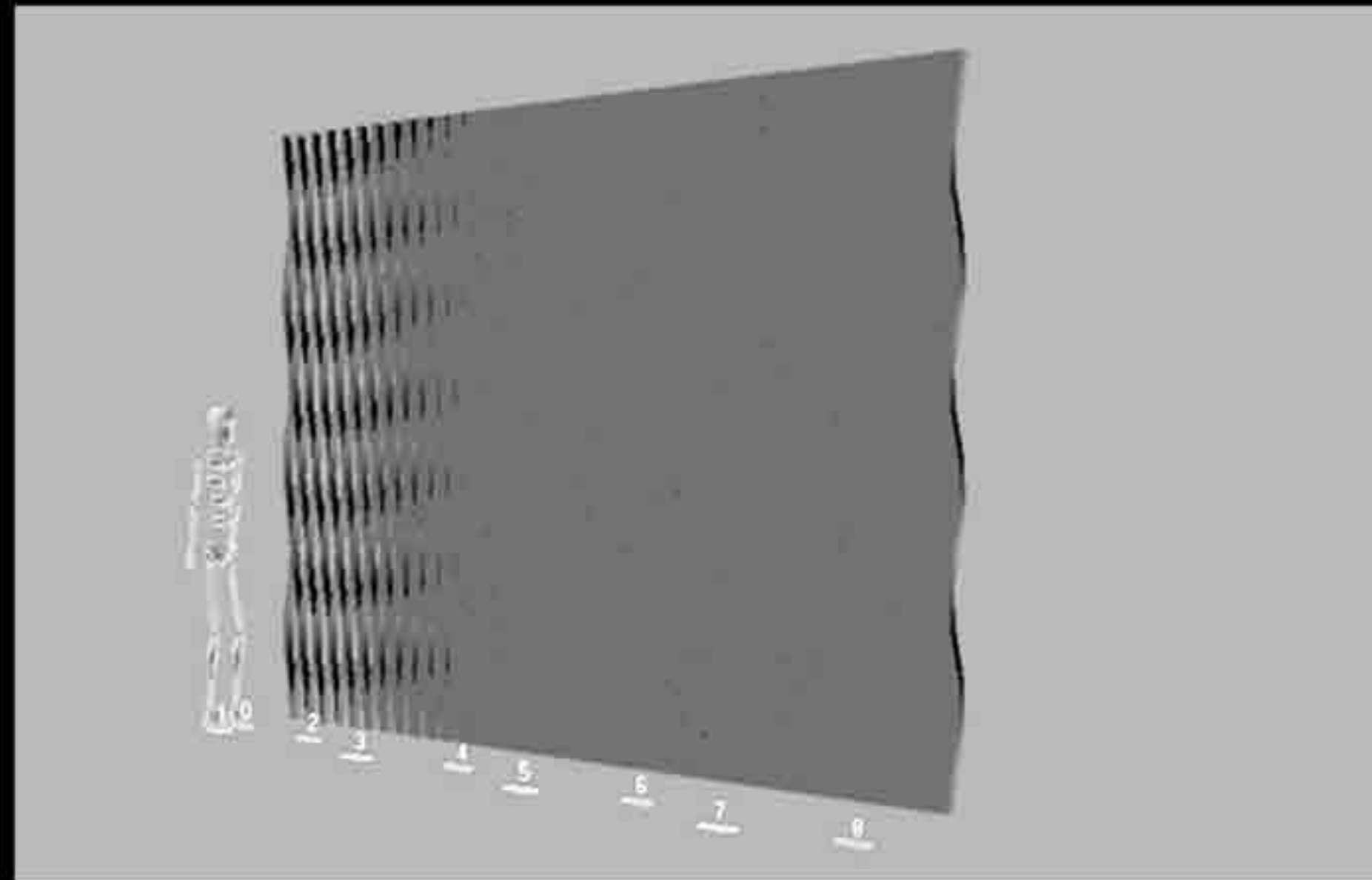
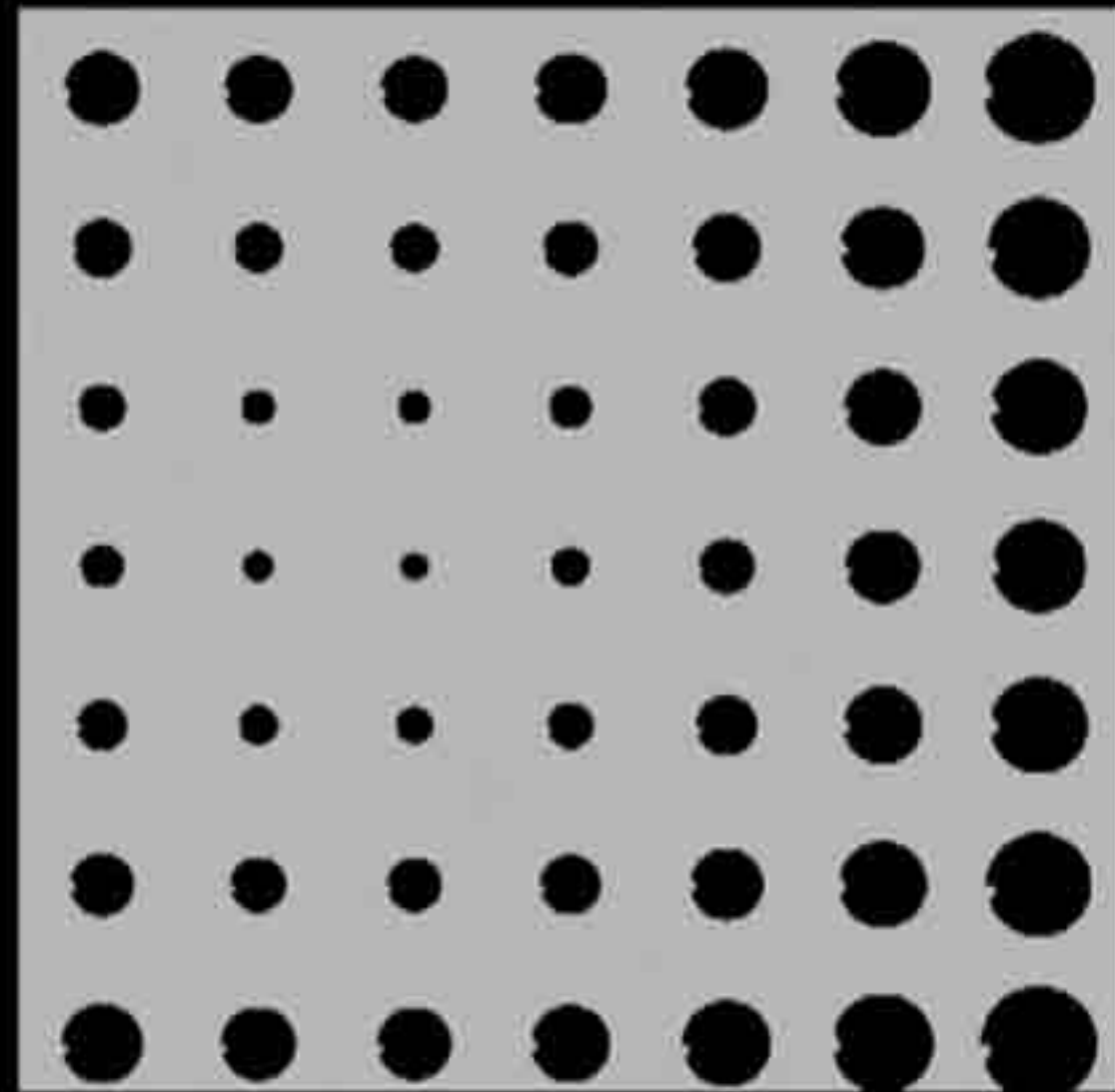
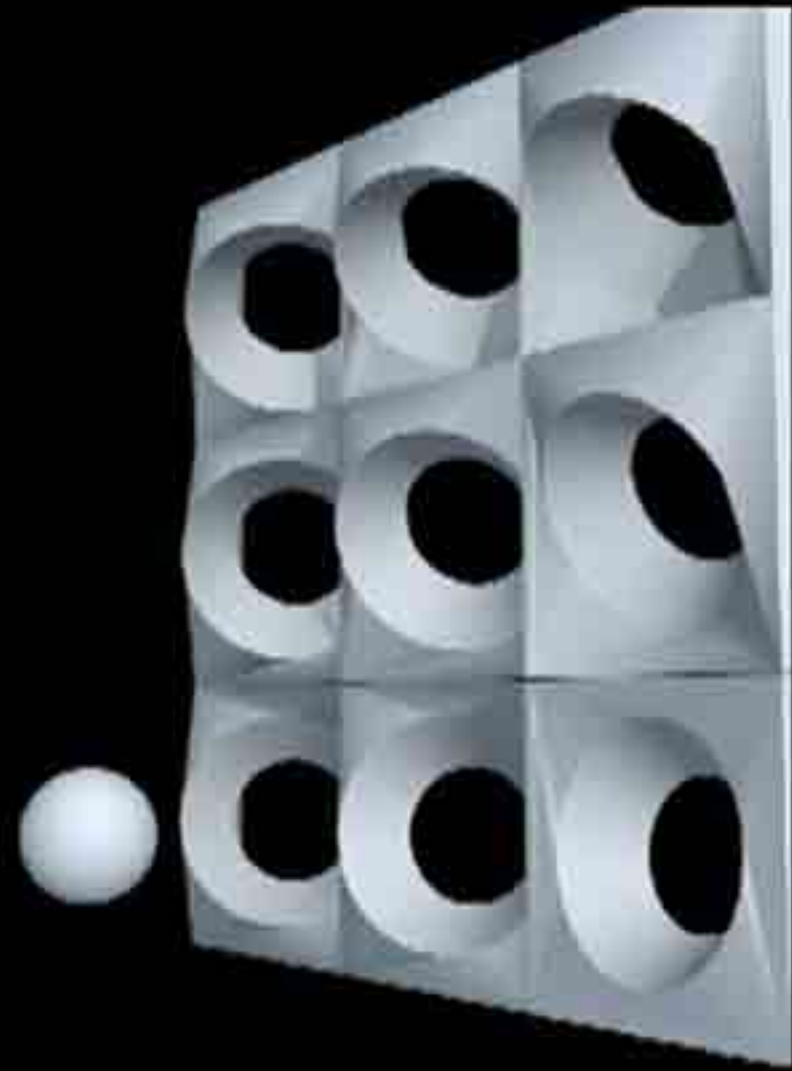
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PAVILIONAR TEAM

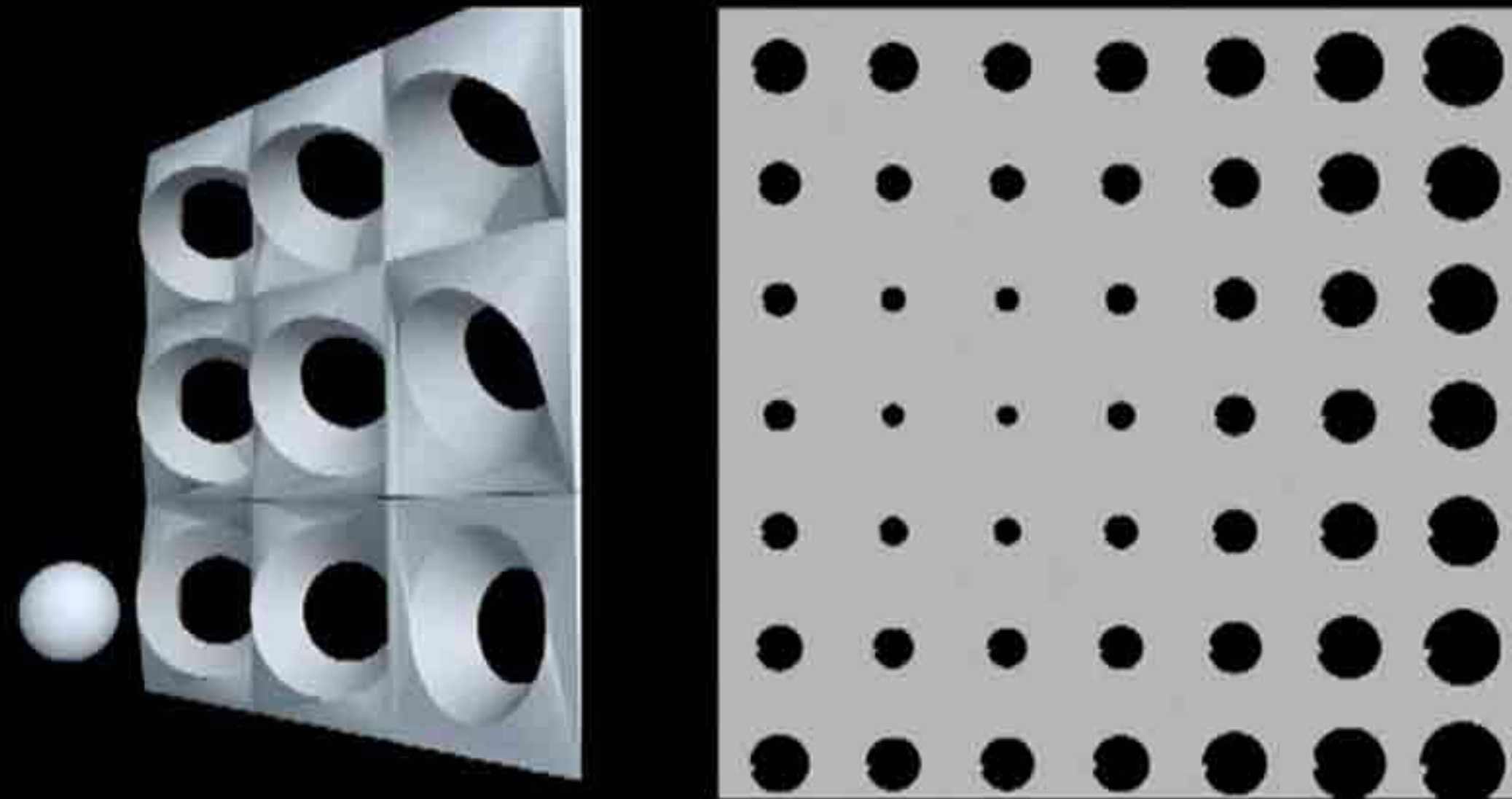
Nour Eddin Alsabbagh
Marwan Refaie



PAVILIONAR TEAM



PAVILIONAR TEAM



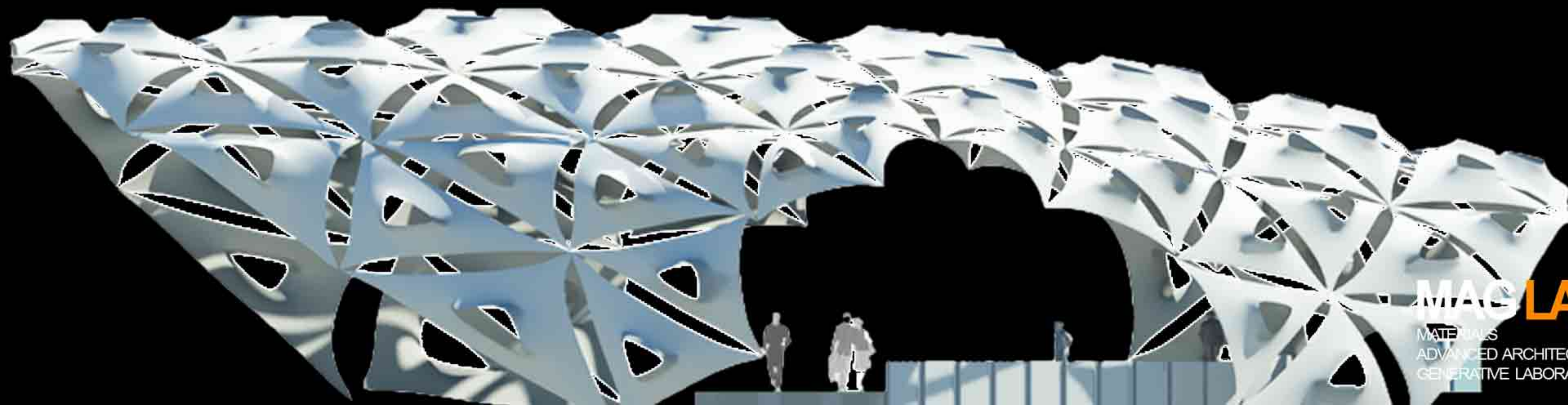
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MATHETEX

Dalia Moghrabi
Waleed Habalti
Bassel al Haffar

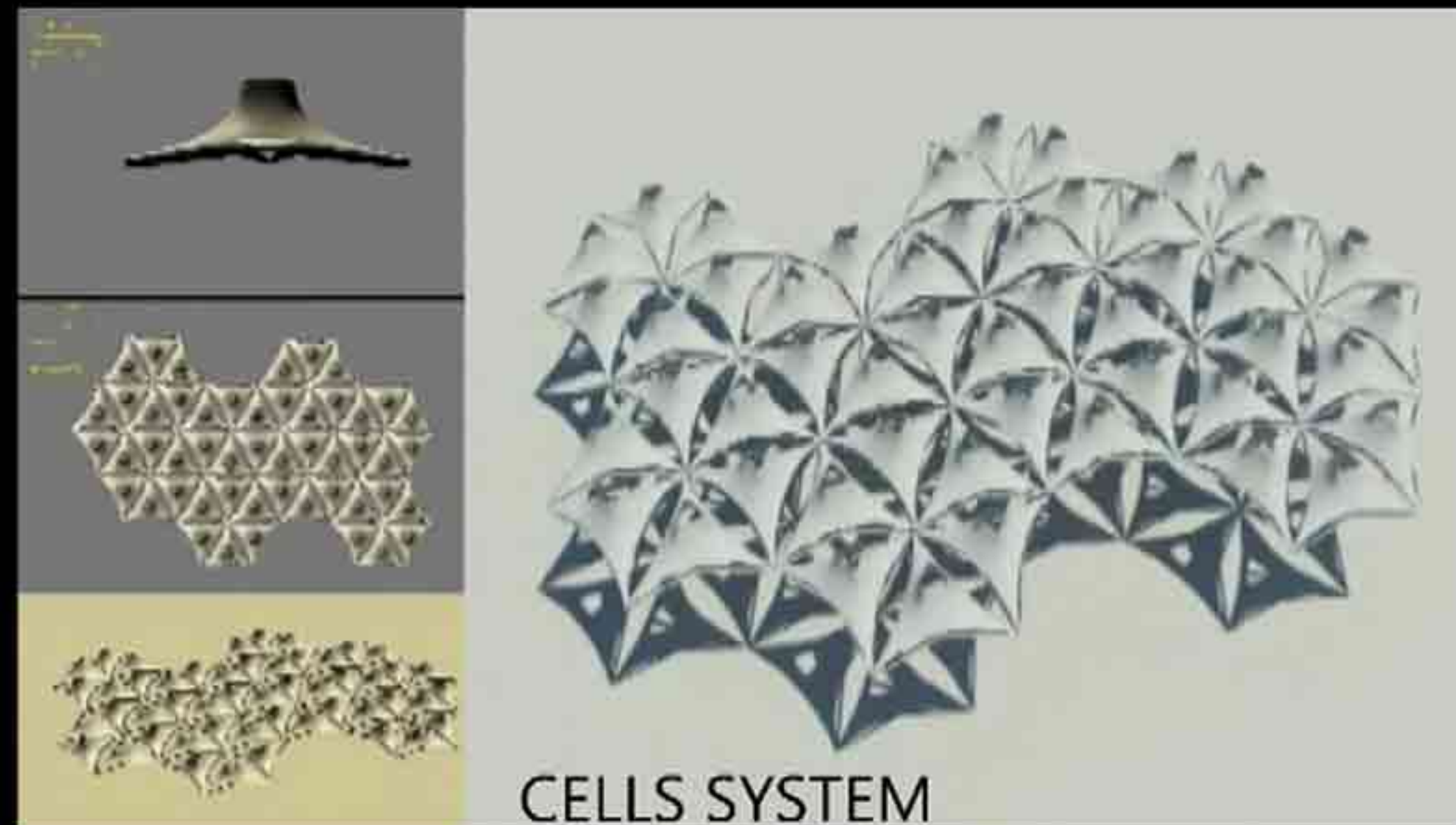


MATHETEX



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MATHETEX



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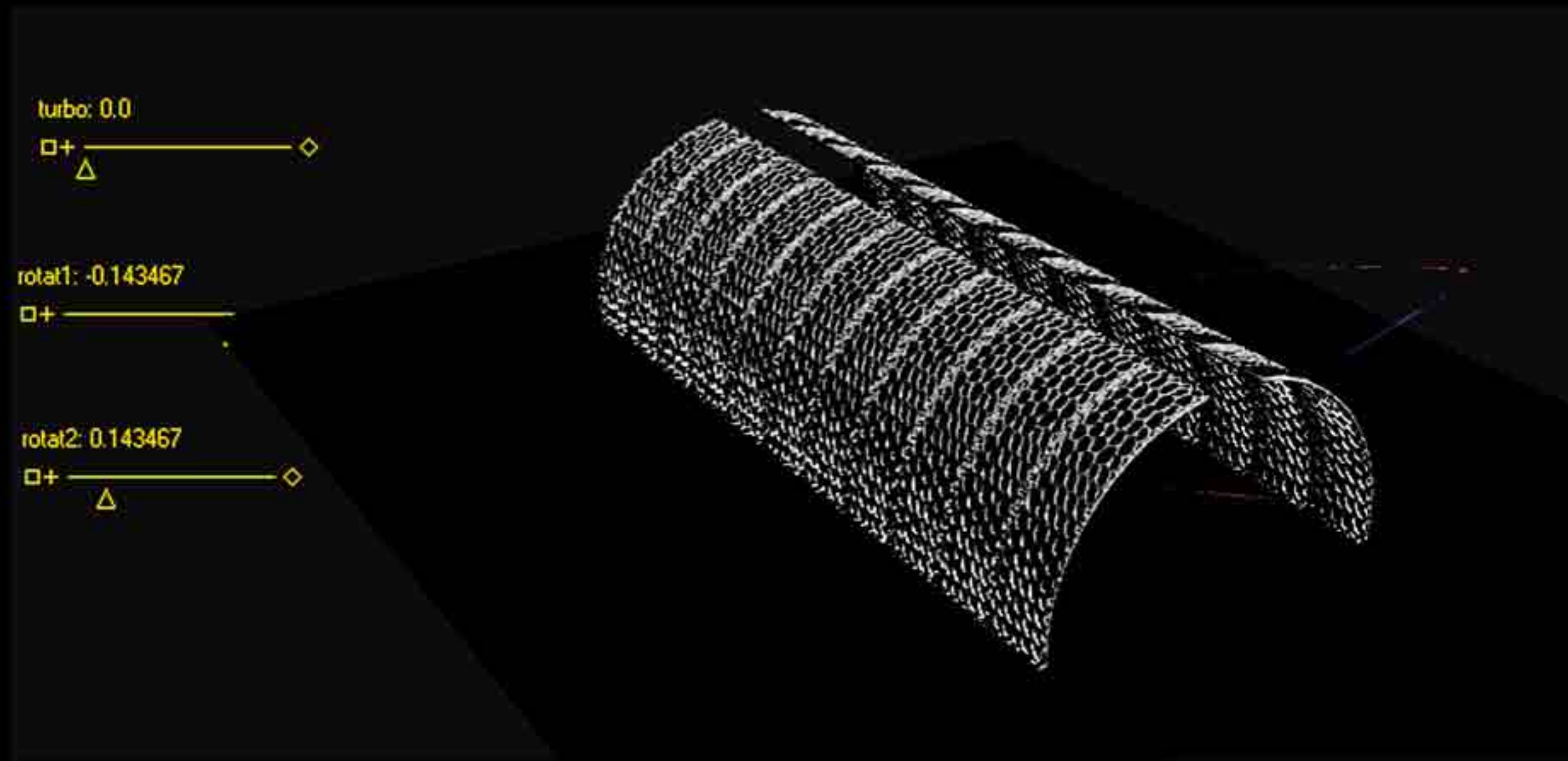
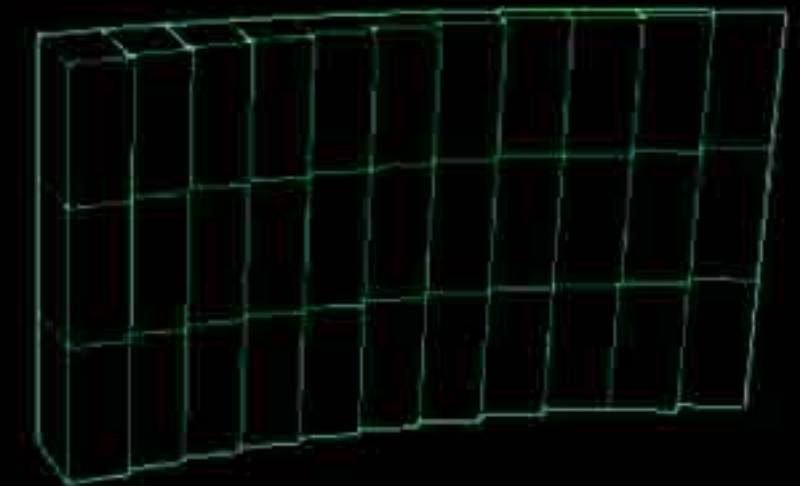
ON-GROUP

Omar al Rayes
Noor al Kannani



ON-GROUP

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box2: 1.0	box12: 0.7	box22: 0.2688
box3: 1.0	box13: 0.6	box23: 0.2688
box4: 0.89	box14: 0.6	box24: 0.2688
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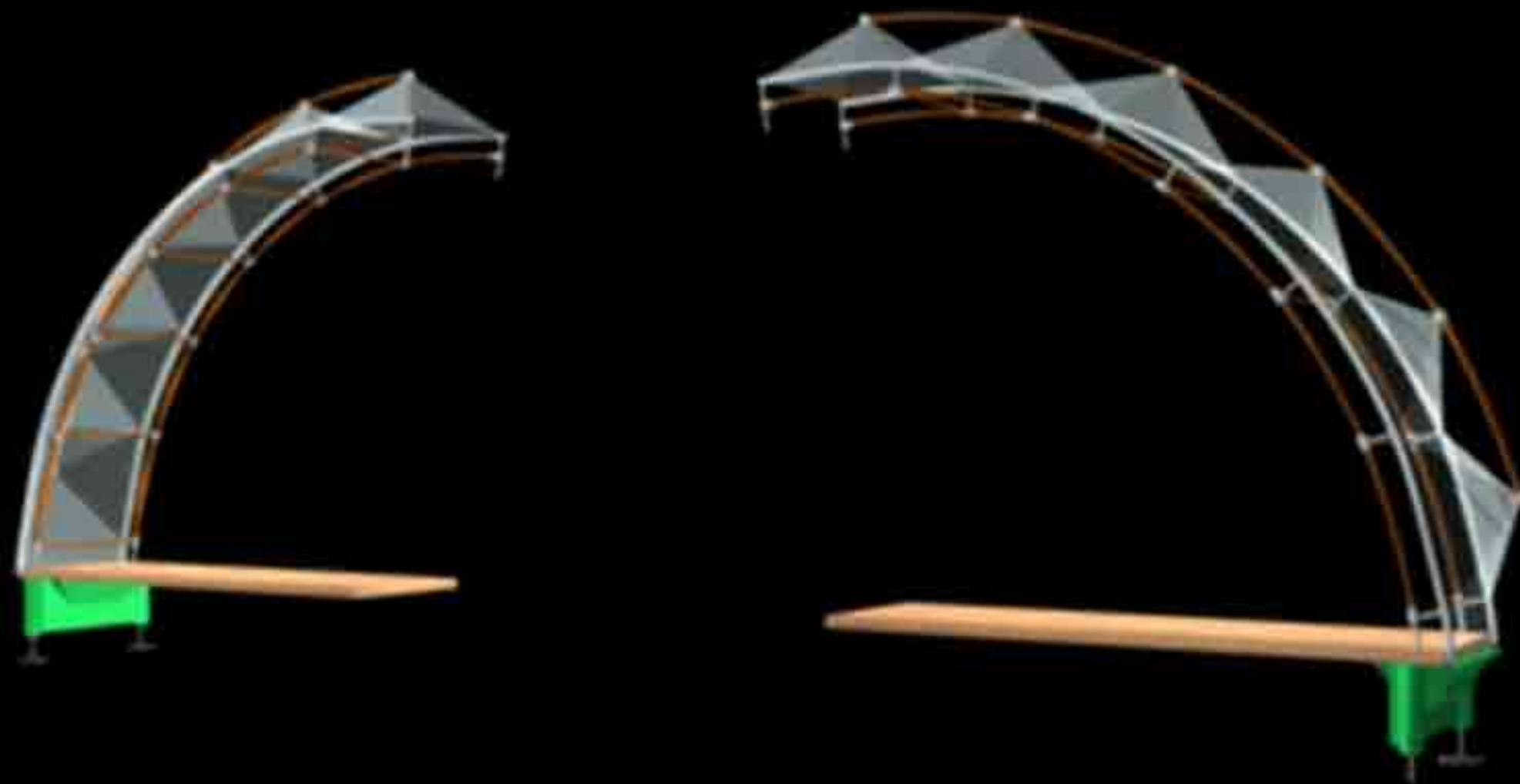


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rotat1: -0.143467
rotat2: 0.143467

wall 2: 4.62963
wall4: 5.0
wall5: 5.0
wall6: 5.0
wall7: 5.0
wall8: 5.0
wall9: 5.0

ex1: 1.0	ex4: 4.0
ex2: 2.0	ex5: 3.0
ex3: 3.0	ex7: 2.0

ON-GROUP



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SOLO

Samir Kilani



SOLO



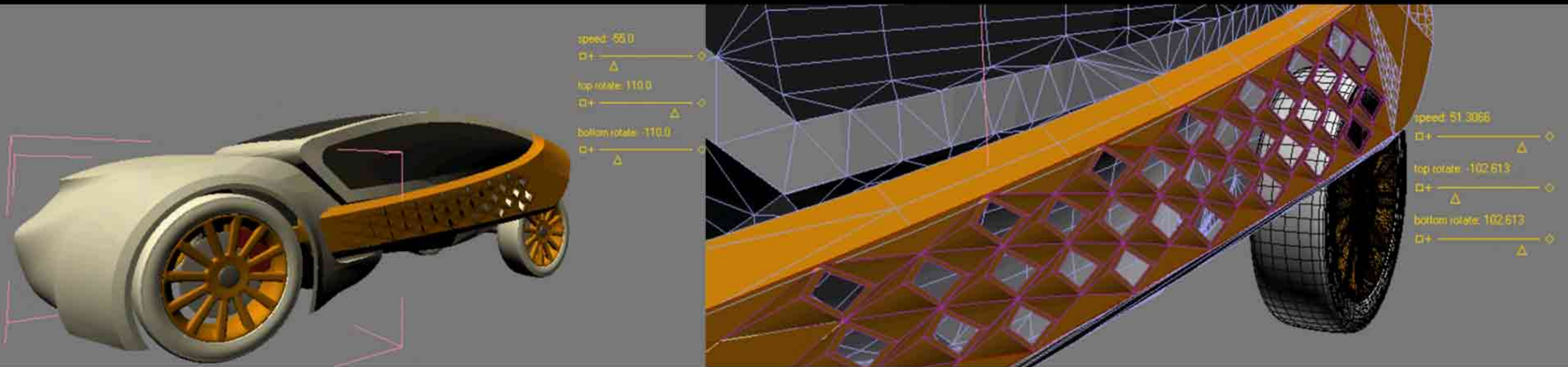
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ECO-DINAMIC

Yasser Al Yassin
Adnan Almaleh



ECO-DINAMIC



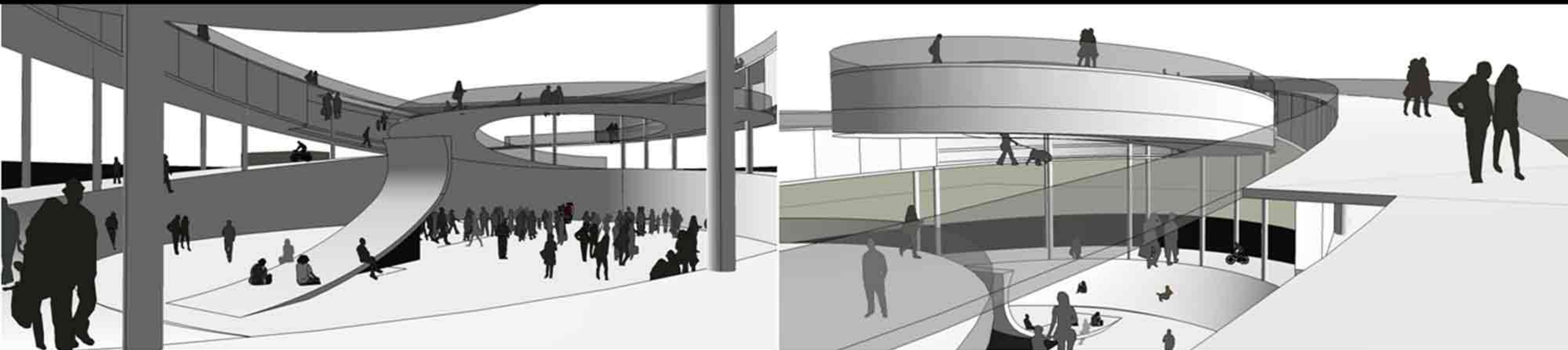
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T-RIVER

Noelle Oska
Abdul Rahman Rifaie
MHD Radwan Malkani



T-RIVER



T-RIVER



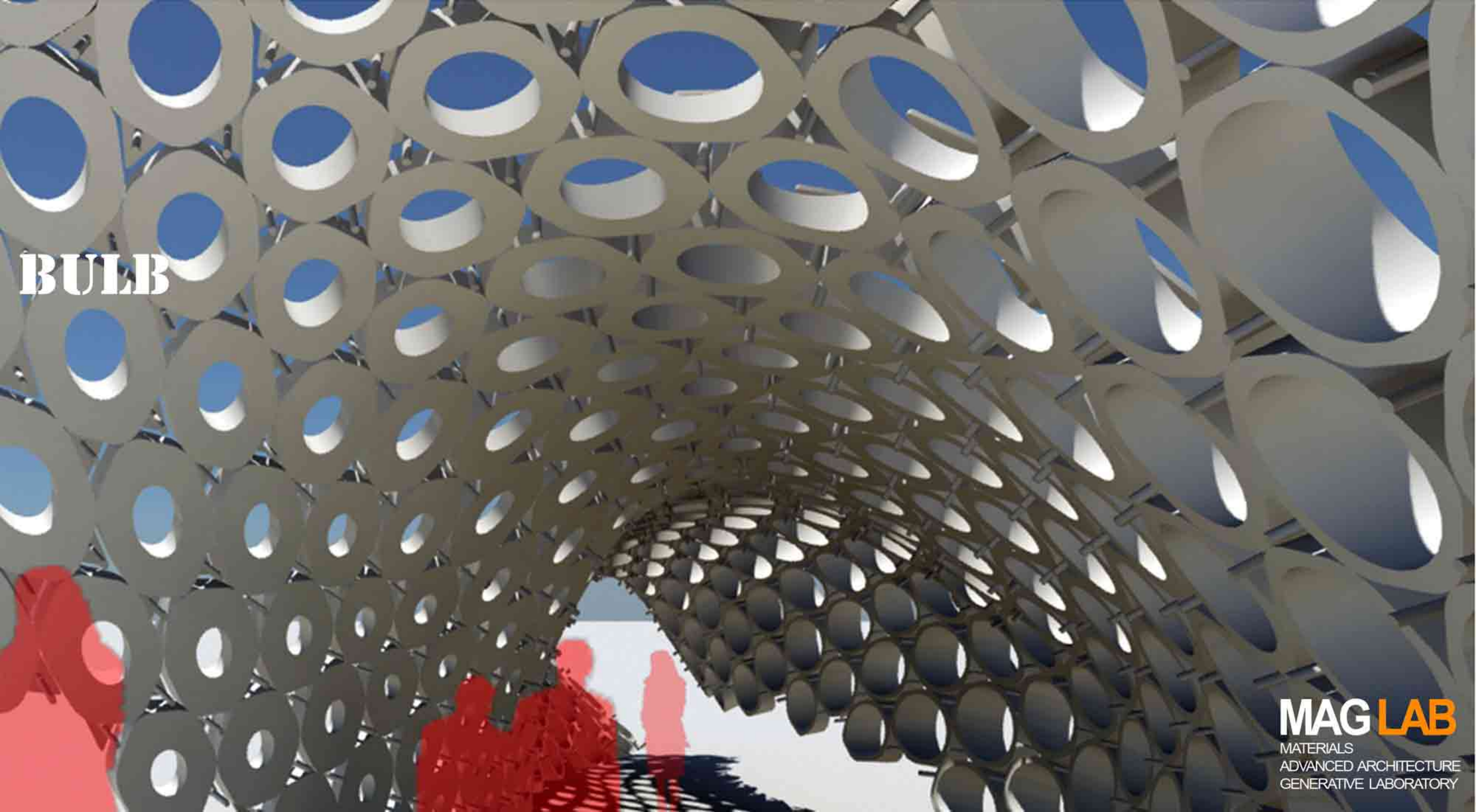
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BULB

Rema Kasem
Mohy el Din Abd el Ghani
Lina Karad



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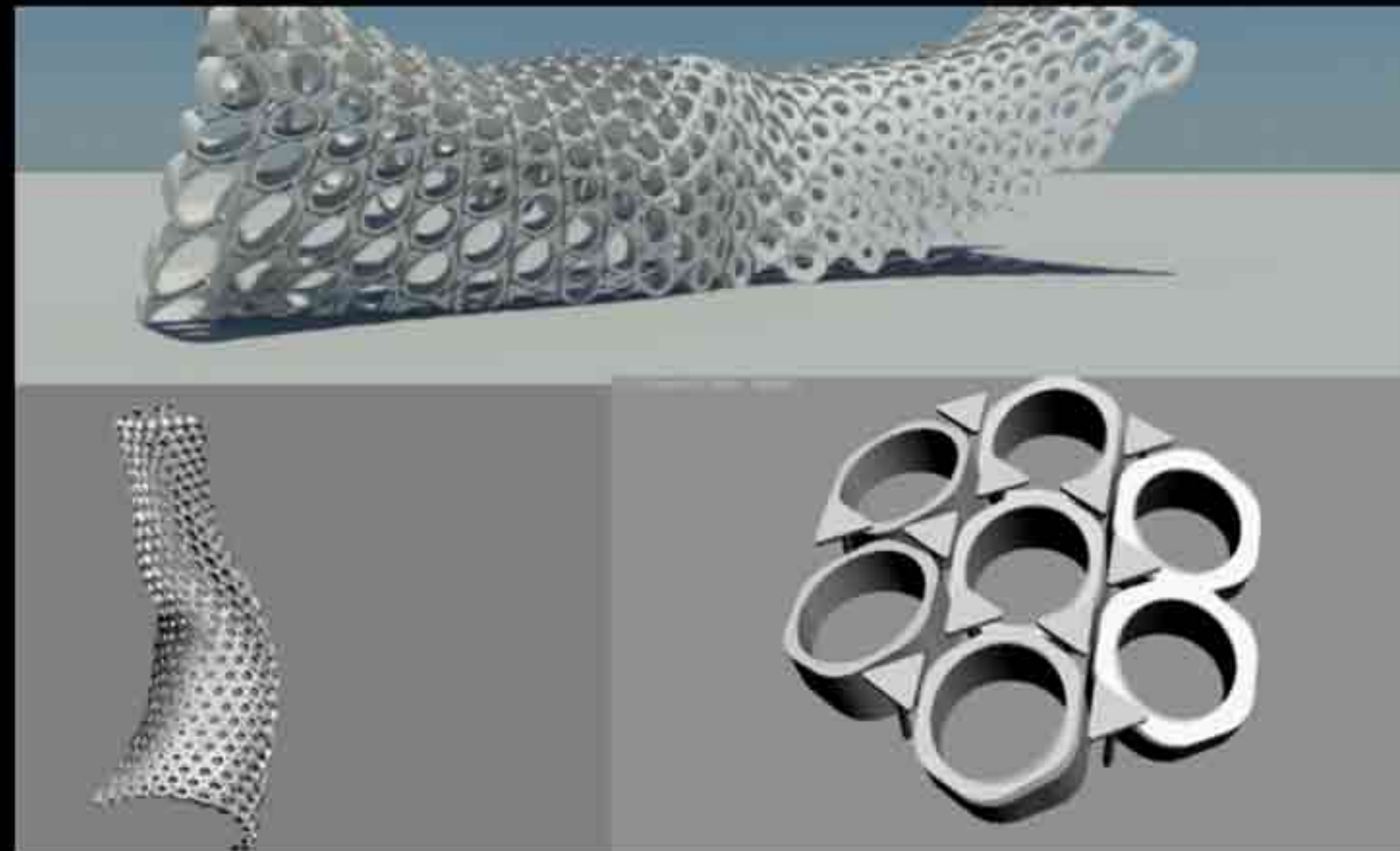
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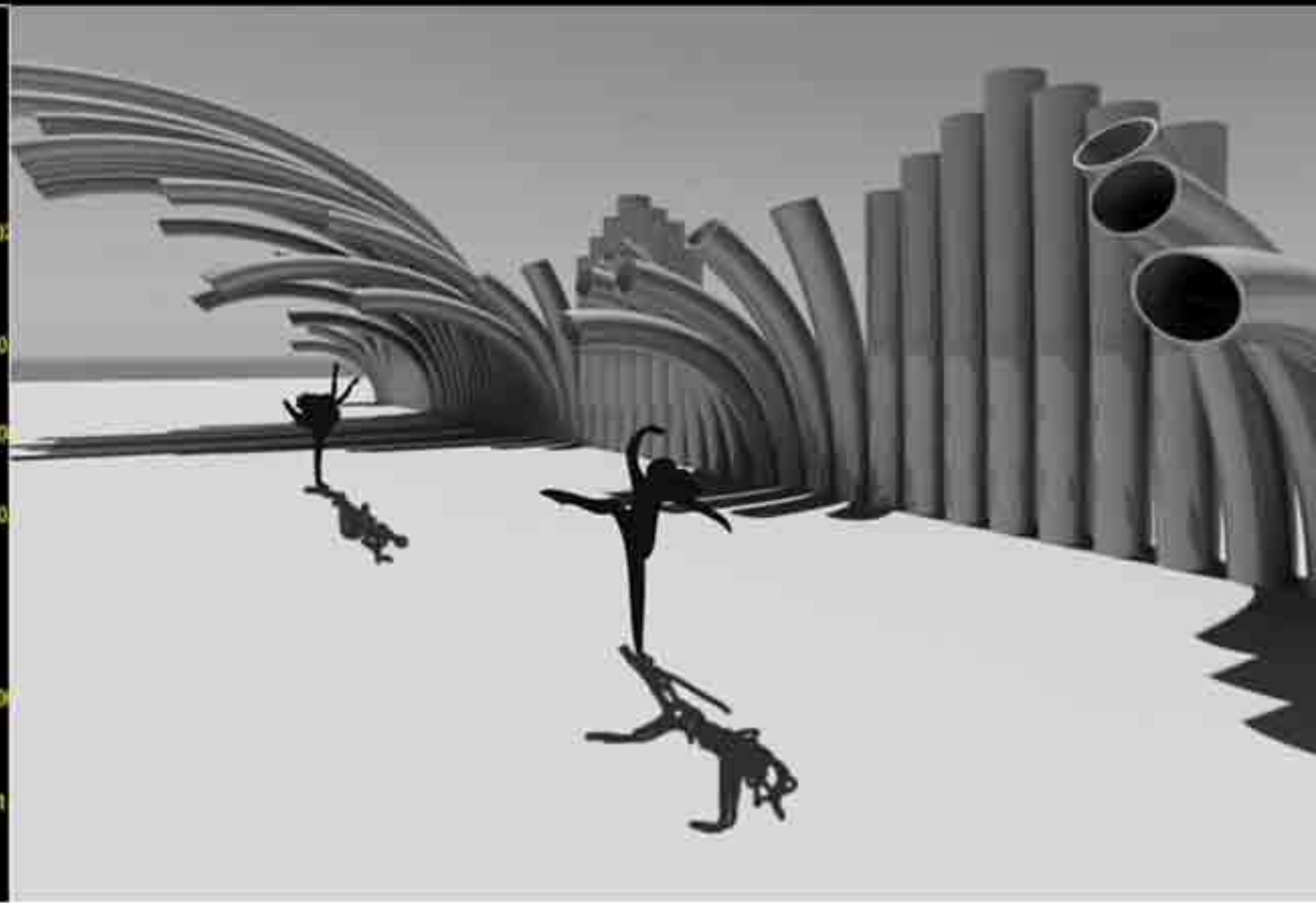
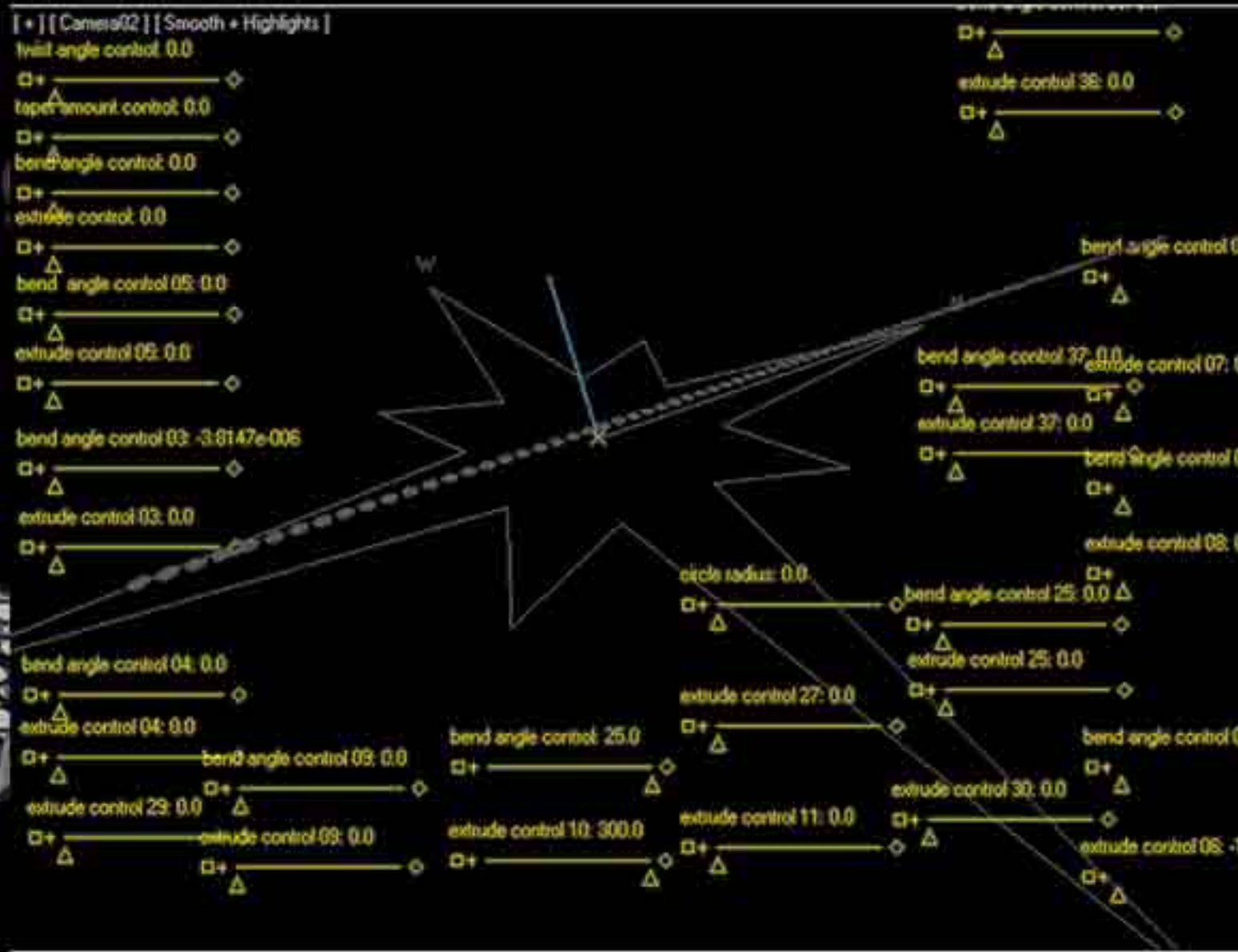
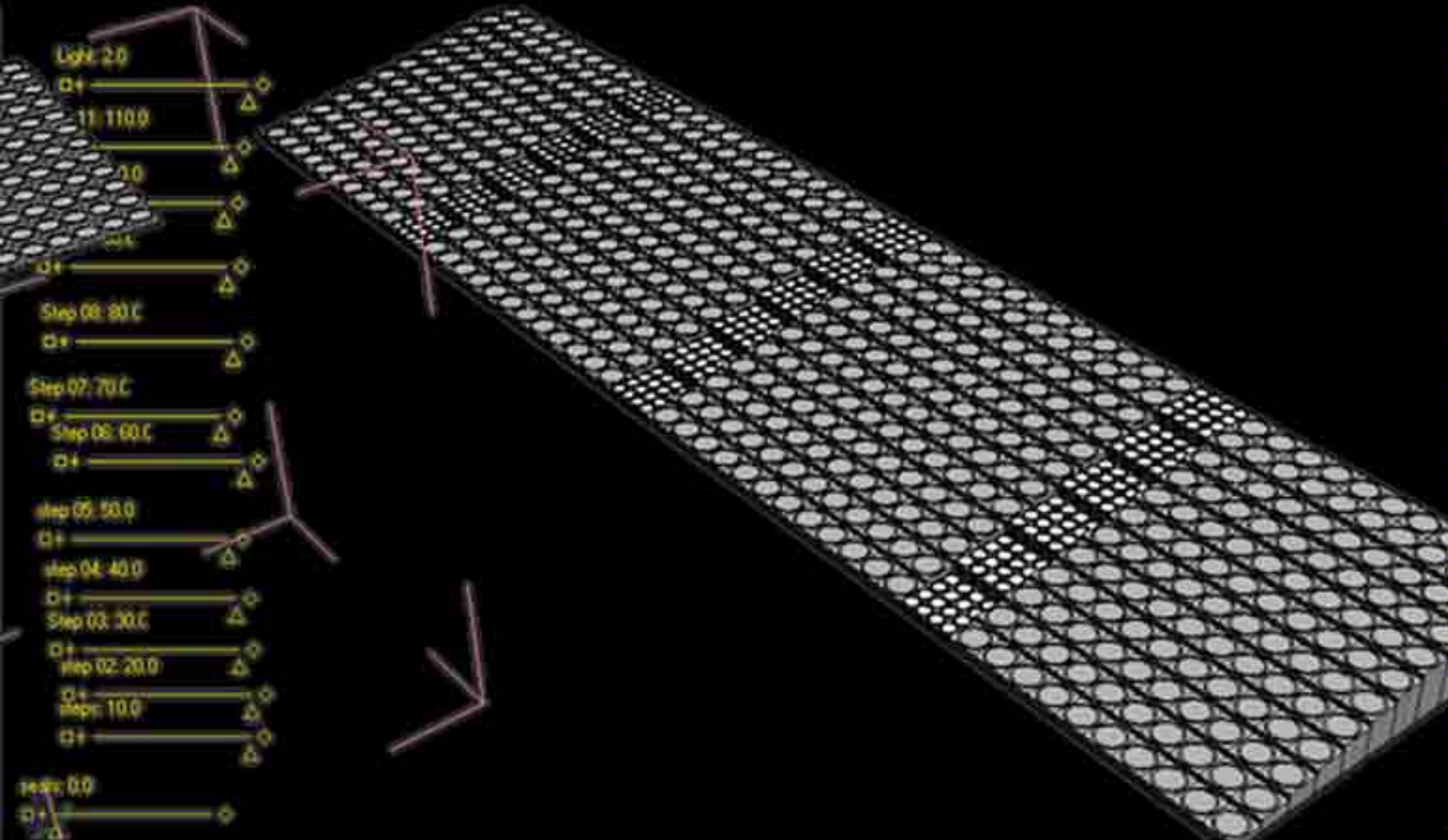
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BEYOND SPACE

Laila Saadi
Nour Harastani



BEYOND SPACE



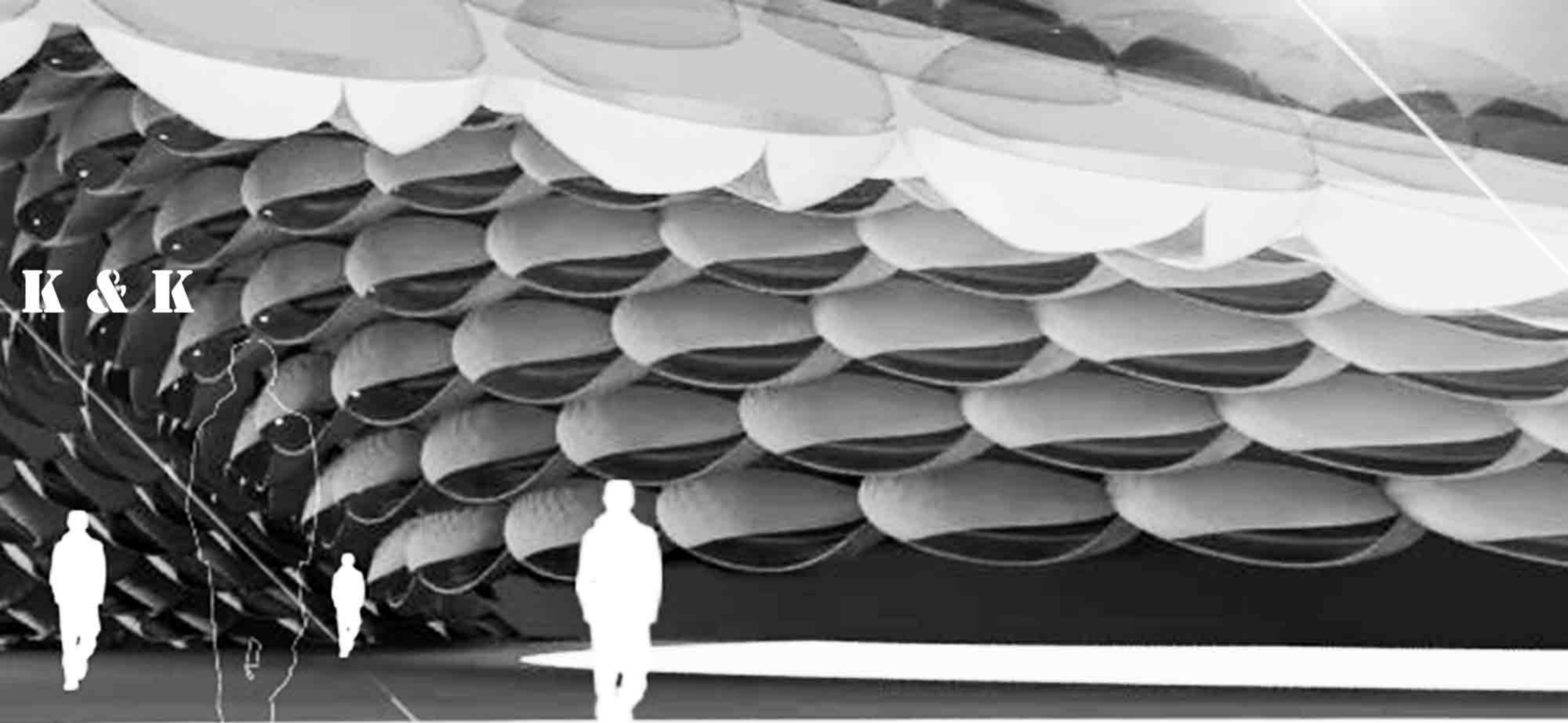
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K & K

Caline Samaan
Kareem Khayat

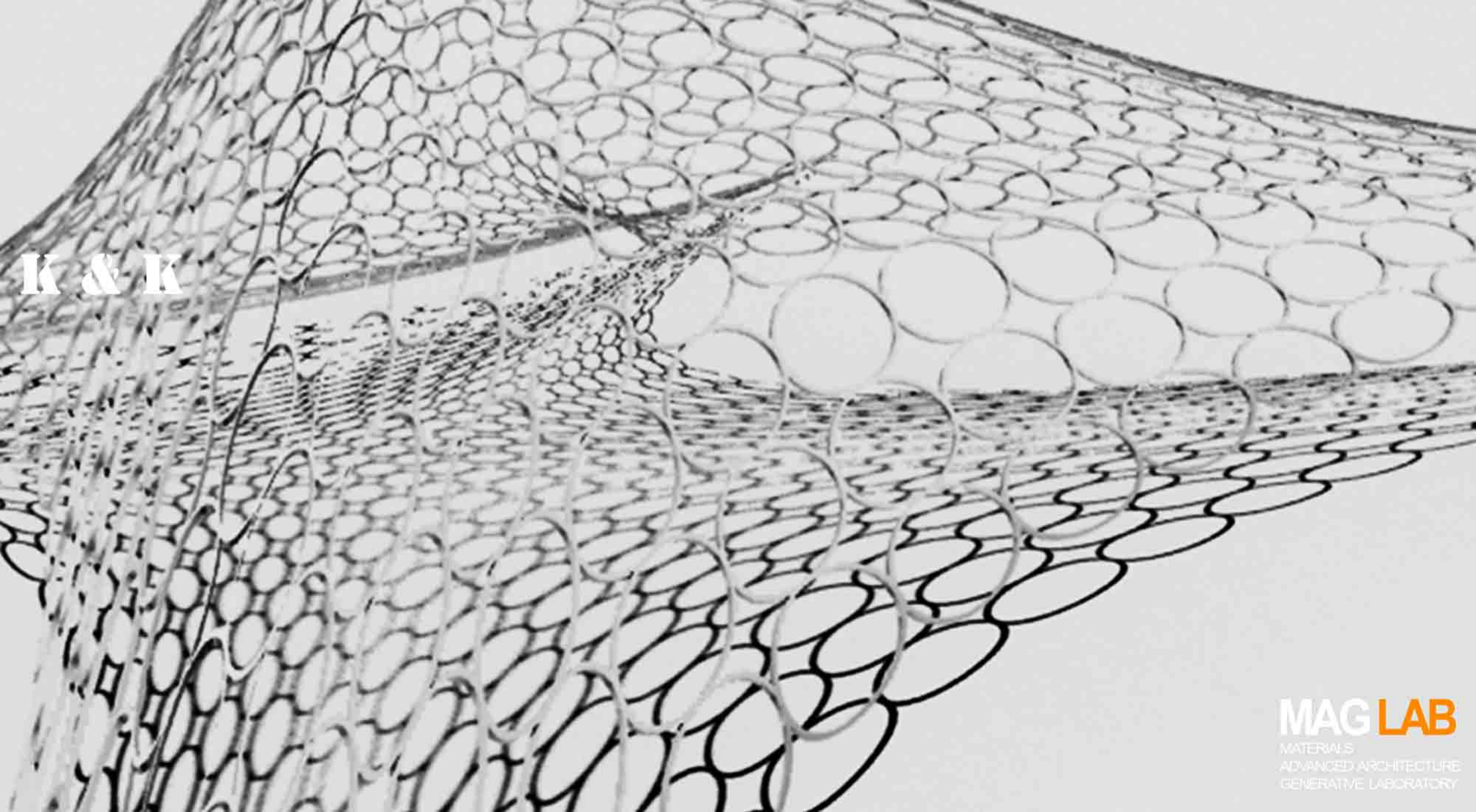


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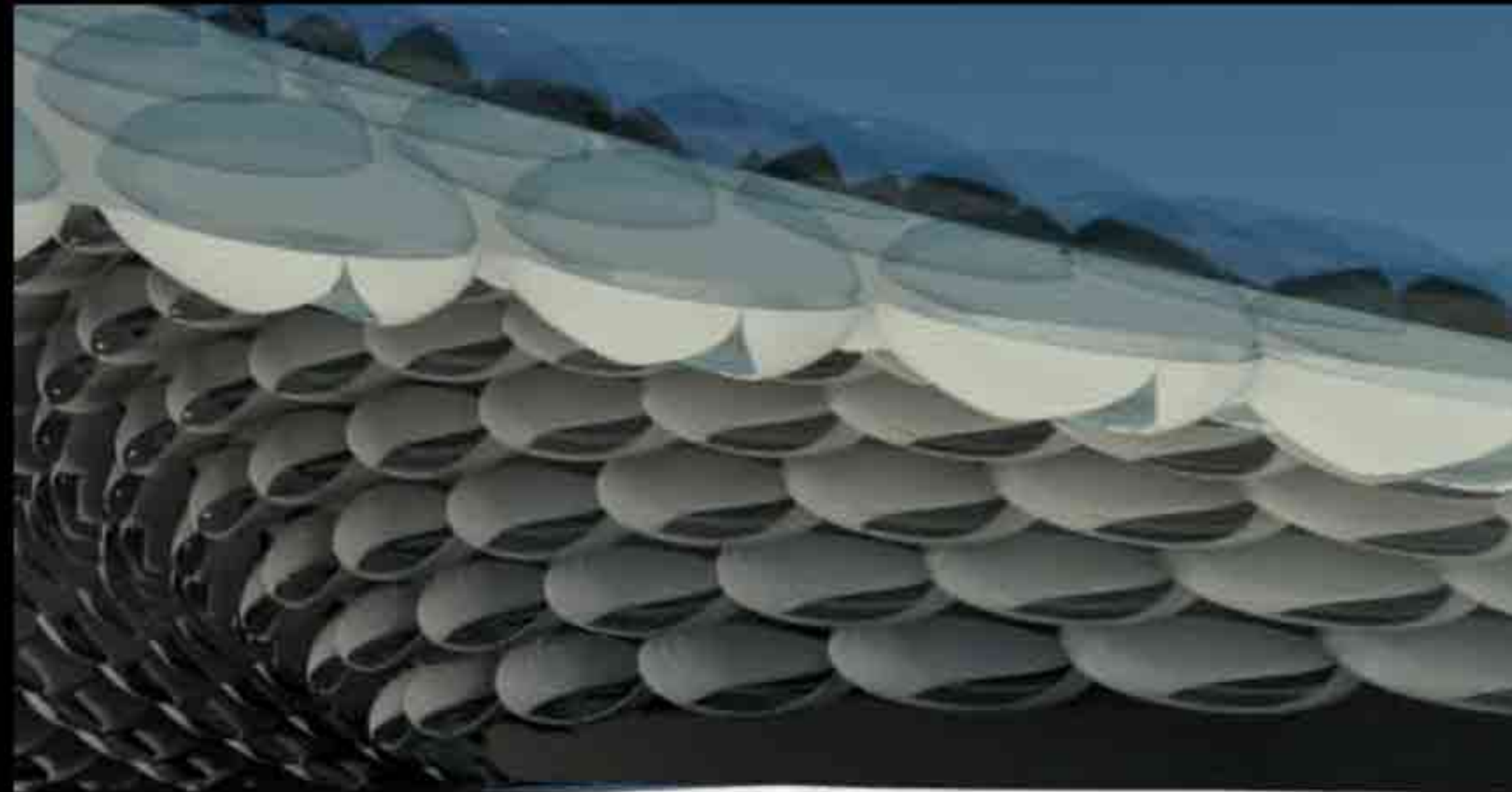
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KAK

K & K



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07

ACKNOWLEDGMENTS

We would like to acknowledge

Prod.Arch.Muhsen Maksoud “Chairman of AIU – Arab International University ”
General Manager of MAG“Maksoud Architectural Group”

For Attending the final presentation as a jury member and for supporting the workshop.



07

ACKNOWLEDGMENTS |

We would like to acknowledge

- Dr.Prof. Mohammad Yasser al Aioubi / Head of industrial design department in AIU"Arab International University"
For Attending the final presentation as a jury member and for supporting the workshop.
- The Participants for thier amazing dedication and great efforts showed throughout the five intensive days of the Responsive architecture workshop



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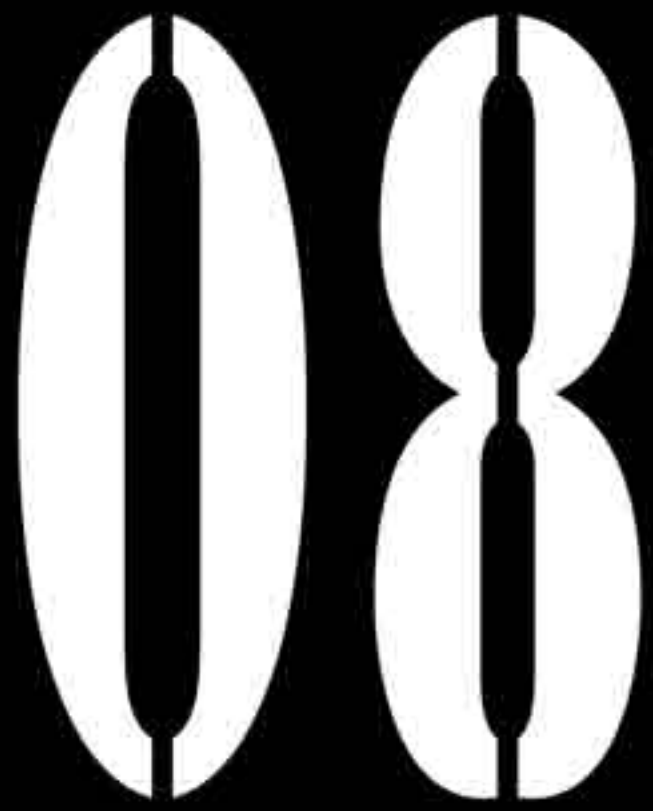
07

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