

## WORK SAMPLES

THESE PAGES CONTAIN A CONDENSED SELECTION OF WORK WHICH RANGES FROM COMPETITIONS, SCULPTURES, RESEARCH AND STUDENT WORK.

ALL OF THESE INSTANCES OF WORK REFLECT A CENTRAL THEME WHICH REVOLVES AROUND THE POSITIONING OF DESIGN THROUGH THE STUDY OF SHAPE/FORM VIA COMPUTATIONAL METHODS AND THE PROMOTION/SHARING OF THIS KNOWLEDGE BASE.



## EXPIRED BEAUTY, A POST-PRIMITIVE HUT

IN LAUGIER'S STORY, A MAN ERECTS A HUT STARTING FROM A SELECTION OF THE FOUR STRONGEST BRANCHES HE CAN FIND. PERHAPS IF RE-WRITTEN TODAY WITH STRENGTH BEING BUT ONE OF A MULTITUDE OF CRITERIA, THE CRITERIA FOR SELECTION WOULD WIDEN, THE QUANTITY WOULD INCREASE, THE EFFECTS WOULD MULTIPLY, AND THE SUBTLE COMPLEXITIES WOULD COLLECTIVELY ENCAPSULATE THE SAVAGE OF TODAY SITUATED BETWEEN DEAFENINGLY RELEVANT HYPERGLOBAL AND HYPERLOCAL CONTEXTS- WHERE EXPIRATION IS THE NEW BEAUTY.

THE PROJECT EXISTS AS A MANUAL FOR BUILDING AND ESTABLISHING PROTOCOLS FOR CONSTRUCTION WITH LEFTOVERS OF OUR CULTURE. THE DIGESTION OF CLEAN WOOD FROM ITS STATE AS A PALETTE INTO RAW TIMBER MEMBERS WILL IMPLY A PROCESS OF SORTING BY WOOD TYPE, LENGTH, TREATMENT ETC.. UTILIZING ANALOG MECHANISMS, DIGITAL INSTRUMENTS AND INDUSTRY METADATA A PROCESS OF ASSIGNING VALUE AND BUILDING WILL DEVELOP QUALITIES WHICH PERFORM ACROSS REGIMES OF ECONOMY, EFFICIENCY, ACOUSTICS, CONDUCTIVITY, BREATHABILITY AND PROGRAMMATIC SUGGESTION AS BUILDING MATERIAL PERFORMANCE AND PROGRAMMATIC SPACES ARE ARGUABLY STILL THOUGHT OF UNDER THE SAME TERMS AS THE ONE'S PUT FORTH BY OUR PREDECESSORS.

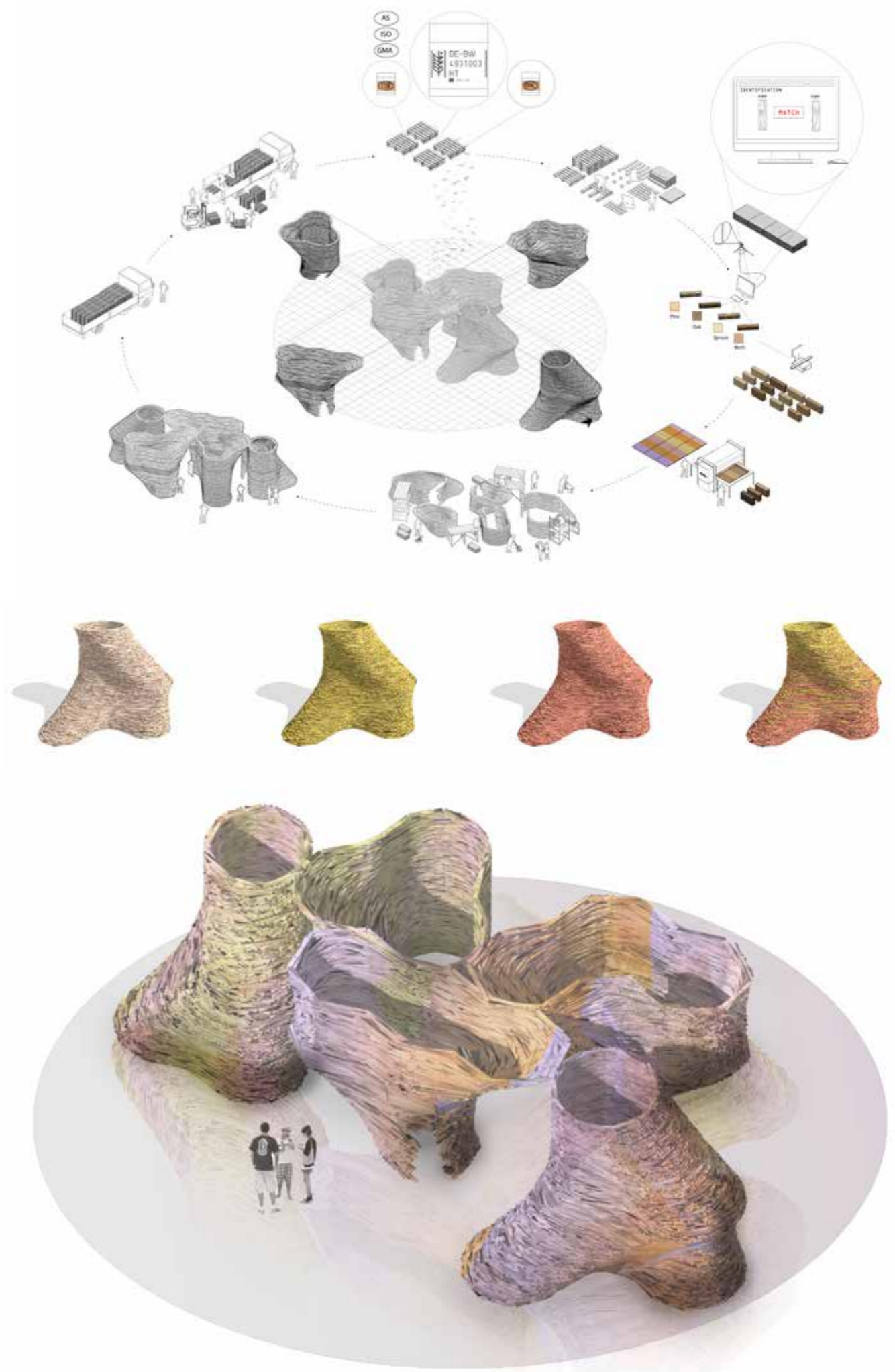
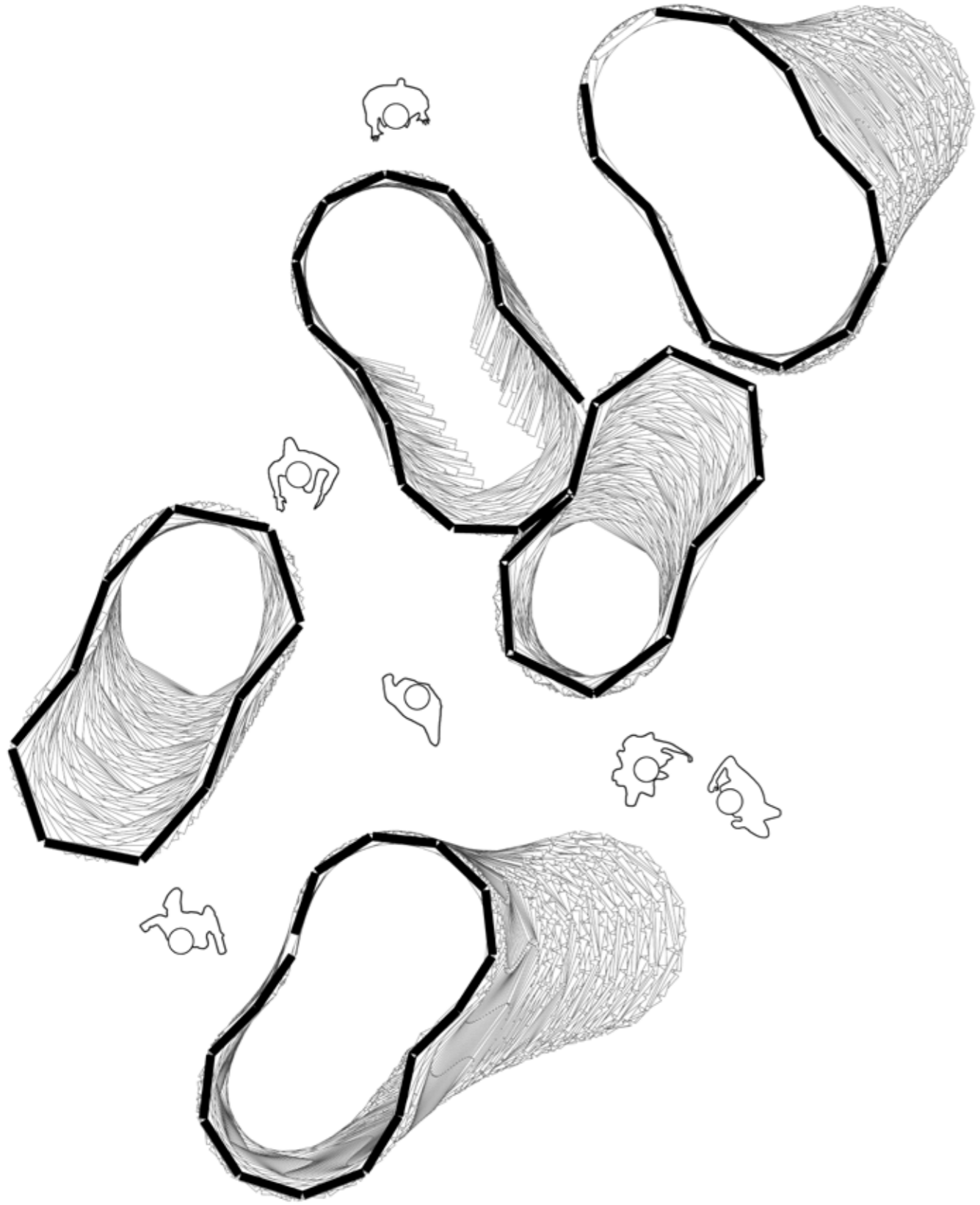
IN COLLABORATION WITH DEBORAH LOPEZ & HADIN CHARBEL



COMPETITION ENTRY FOR THE 2019 TALLINN ARCHITECTURE BIENNIAL, FINALIST, SECOND PRIZE



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# BROOD FM, A FRACTAL BASE URBAN ECOLOGICAL ANTENNA

A BROOD IS MOST APTLY USED TO DESCRIBE A PROGENY OF ANIMALS. FROM A SMALL GROUP OF FRESHLY HATCHED BIRDS TO THE EMERGENCE OF THOUSANDS OF CICADA WHICH RHYTHMICALLY MATERIALIZE ON 13 AND 17 YEAR CYCLES: THIS TERM SPEAKS TO AN ARRIVAL OF LIFE. THE PROPOSAL ANTICIPATES AND STIMULATES SUCH AN ARRIVAL TO ENCOURAGE THE EMERGENCE OF A VISUALIZATION OF THE ROOSEVELT ISLAND URBAN ECOLOGY.

BROOD FM PROPOSES AN ENVIRONMENT WHICH IS MEANT TO ATTRACT AND EXTEND SIGNALS OF HUMAN AND NON-HUMAN ACTORS ON ROOSEVELT ISLAND OUT TO A DISPERSED AUDIENCE OF THE CITY AT LARGE THROUGH SPATIAL AND SONIC MODES USING STANDARDIZED CONSTRUCTION SYSTEMS, MODULAR BUILDING LOGICS, NATIVE PLANT/ANIMALS, DIY RECORDING/TRANSMITTING DEVICES AND CONTEXTUAL SPECIFICITY.

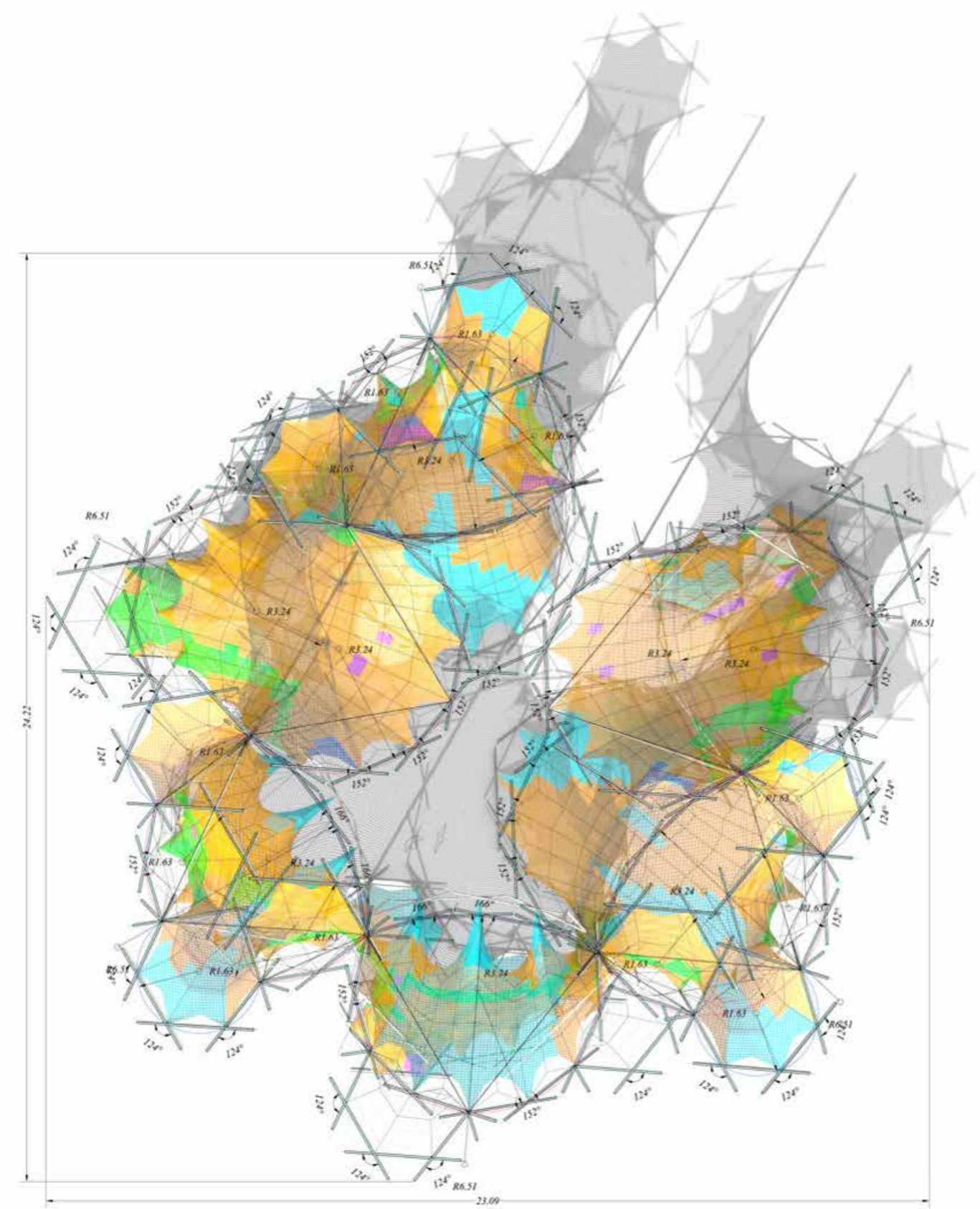
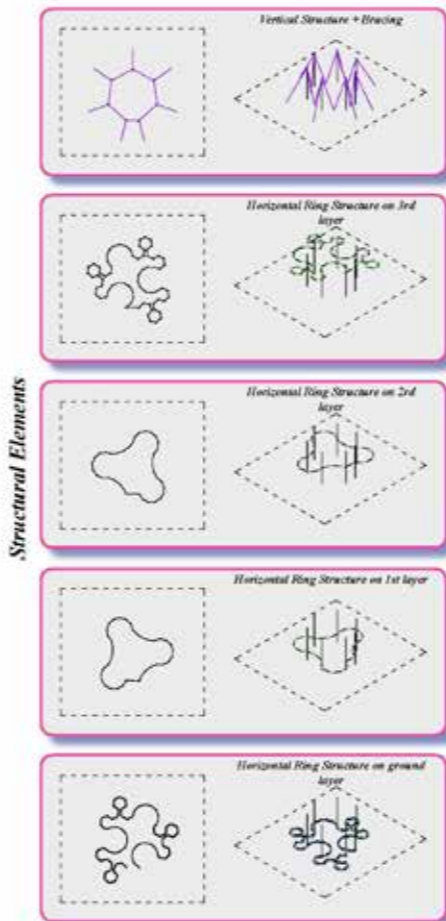
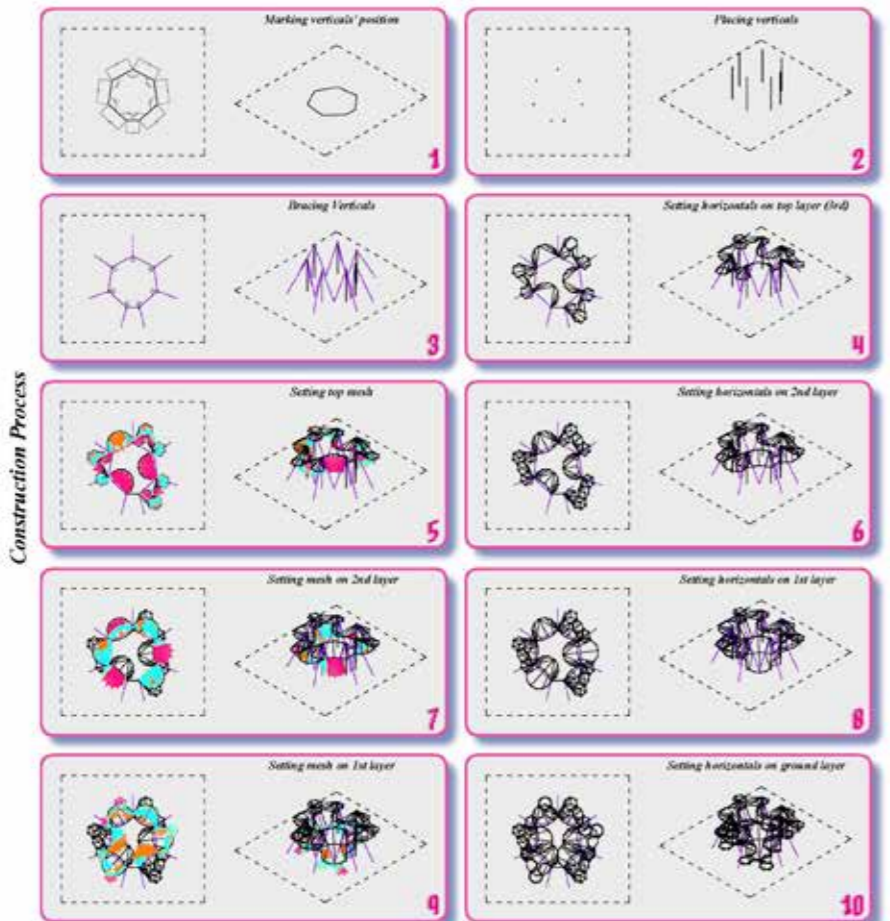
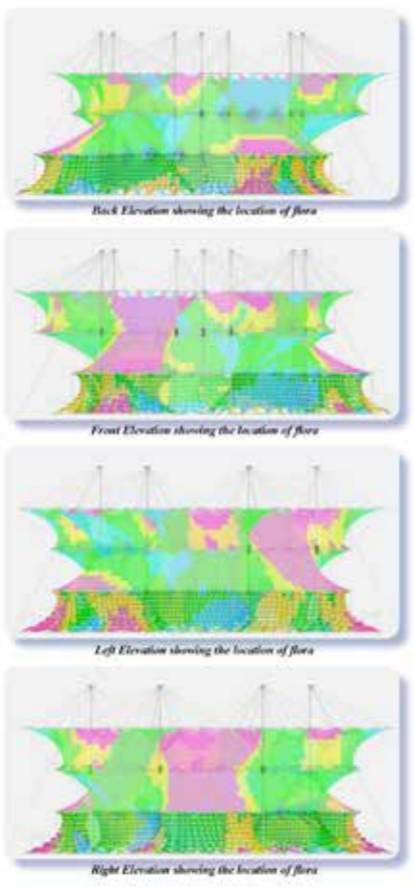
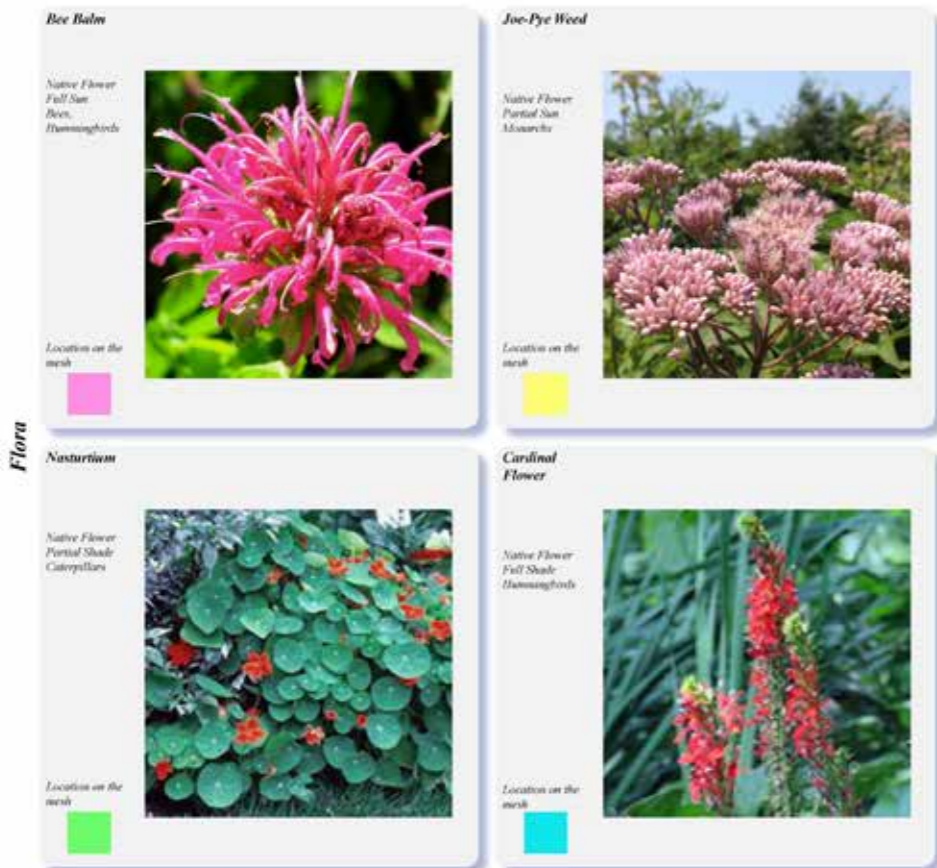
FM (FREQUENCY MODULATION) DETERMINES A STRATEGY OF MODULATING SURFACE TO CREATE A VARIETY OF SPATIAL CONDITIONS WITH INTERSPECIES RESONANCE. THESE MICRO-ENVIRONMENTS ARE DESIGNED TO ENCHANT THE NATIVE SPECIES OF ROOSEVELT ISLAND AND HOST RECORDING DEVICES WHICH WILL CAPTURE THE MOODY FREQUENCIES SPATIALLY SUSTAINED AND BROADCAST THOSE IN REAL TIME VIA FM STATIONS; ACTING LIKE AN AMBIENT ANTENNA.



IN COLLABORATION WITH DEBORAH LOPEZ & HADIN CHARBEL

COMPETITION ENTRY FOR THE 2019 CITY OF DREAMS COMPETITION, FINALIST



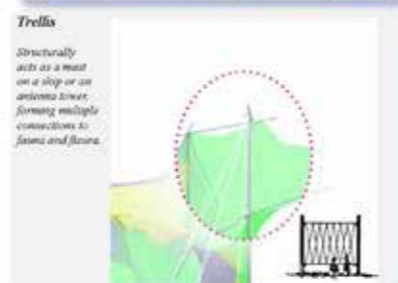
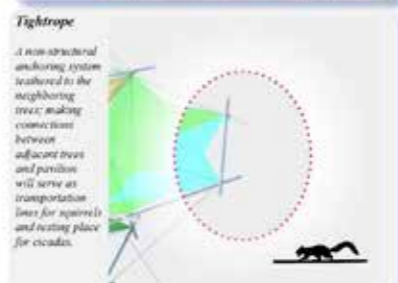
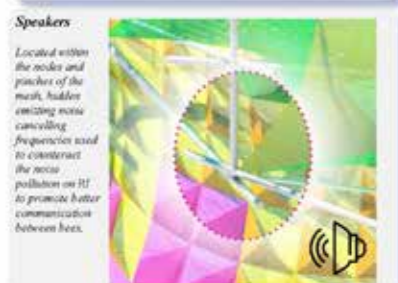
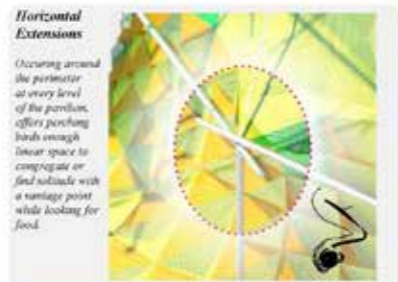
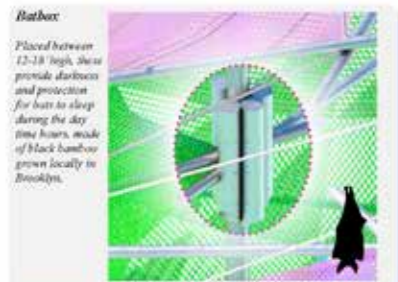




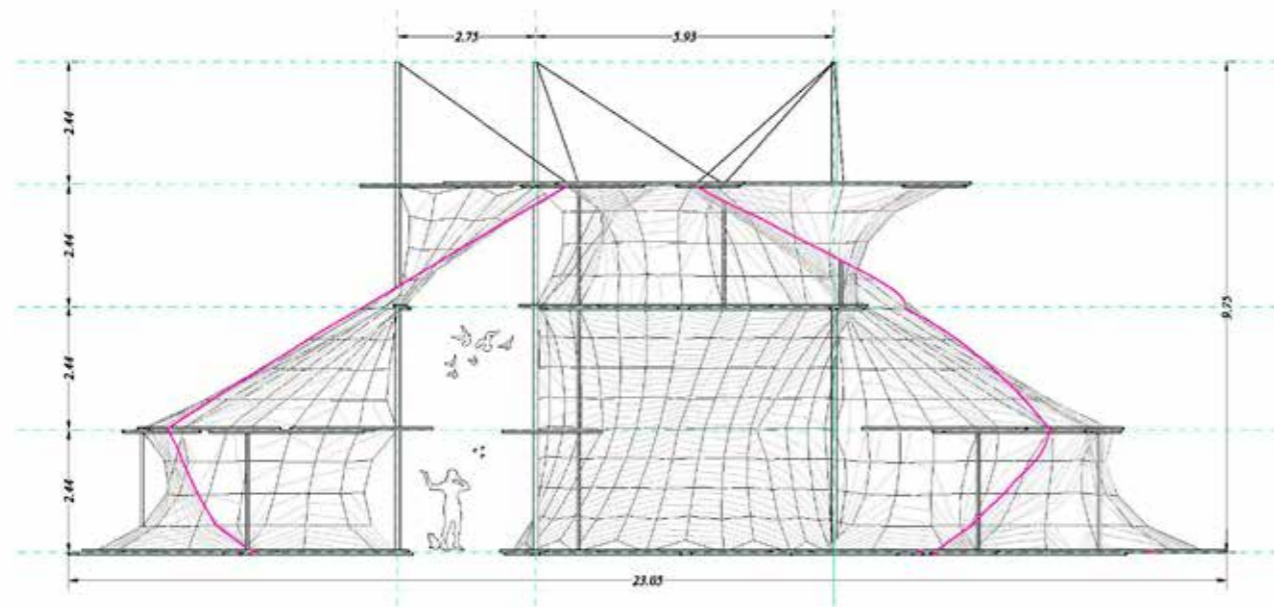
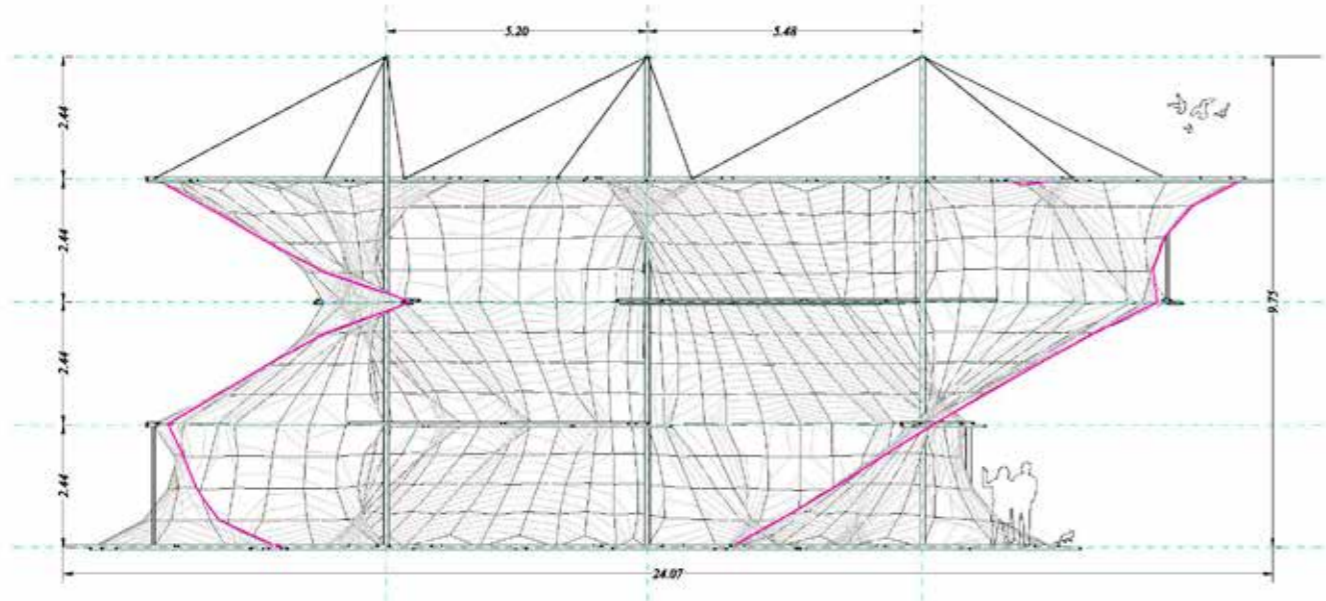
Fauna



Devices



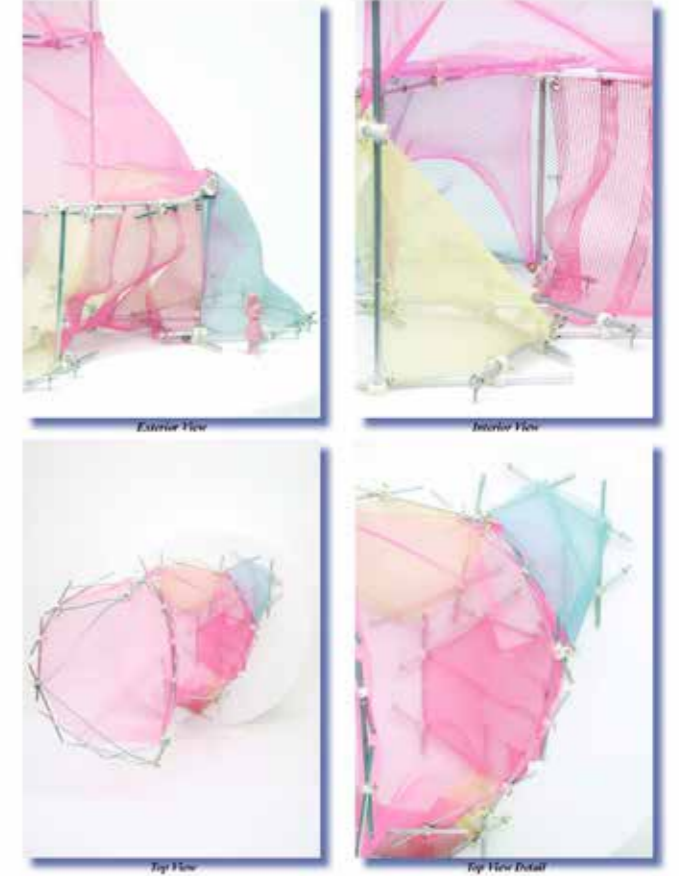




Construction of 1:20 Mock-Up



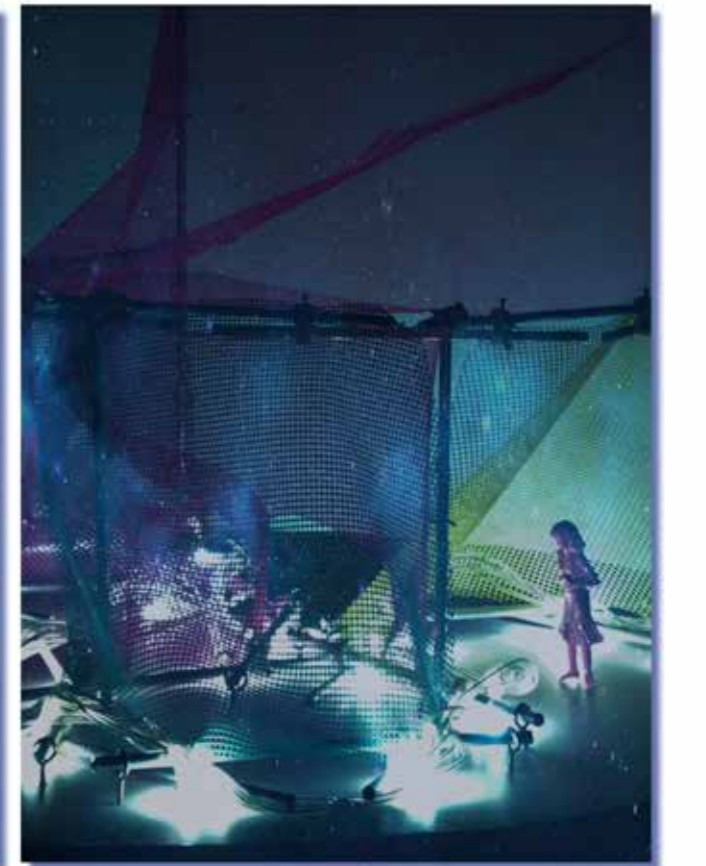
Scale Model segment of complete proposal approx. 1:20



1:20 Mock-Up Night View with Lighting



Scale Model Night View



Scale Model Night View



SEED 54, HYPERSURFACE SCULPTURE

UTILIZING A SERIES OF CONCAVE HEXAGONS (KIDNEYS) THIS NEW GEOMETRY APPROACHES THE LIMITATION OF 6-SIDED REGULAR POLYGONS AND THEIR INABILITY TO ENCLOSE SPACE. THIS SCULPTURE IS THE LARGEST TO DATE IN A SERIES OF HYPERSURFACES WHICH COMPRISE A NEW FAMILY OF CLASSIFIED GEOMETRIES DEVELOPED BY HARESH LALVANI.

THIS SEED IS COMPRISED OF TWENTY NETS OF LASER CUT QUARTER-INCH STEEL WHICH ARE FOLDED AND WELDED TOGETHER INTO THIS CLOSED SPHEROID OVER 8 FEET TALL. THE FABRICATION METHODS IMPLEMENTED AT LALVANI STUDIO WITH PARTNER MILGO-BUFKIN COMBINE DIGITAL AND HERITAGE PRODUCTION TECHNIQUES.



AT LALVANI STUDIO IN COLLABORATION WITH MILGO-BUFKIN

COMMISSIONED 2013 FOR THE CORNER OF 6TH AVENUE AND 54TH STREET, MANHATTAN, NYC



1D SERIES 300, MASS CUSTOMIZATION OF EMERGENT DESIGNS

*"There is nothing as dreamy and poetic, nothing as radical, subversive, and psychedelic, as mathematics."*

—Paul Lockhart (A Mathematician's Lament, 2002)



presents at



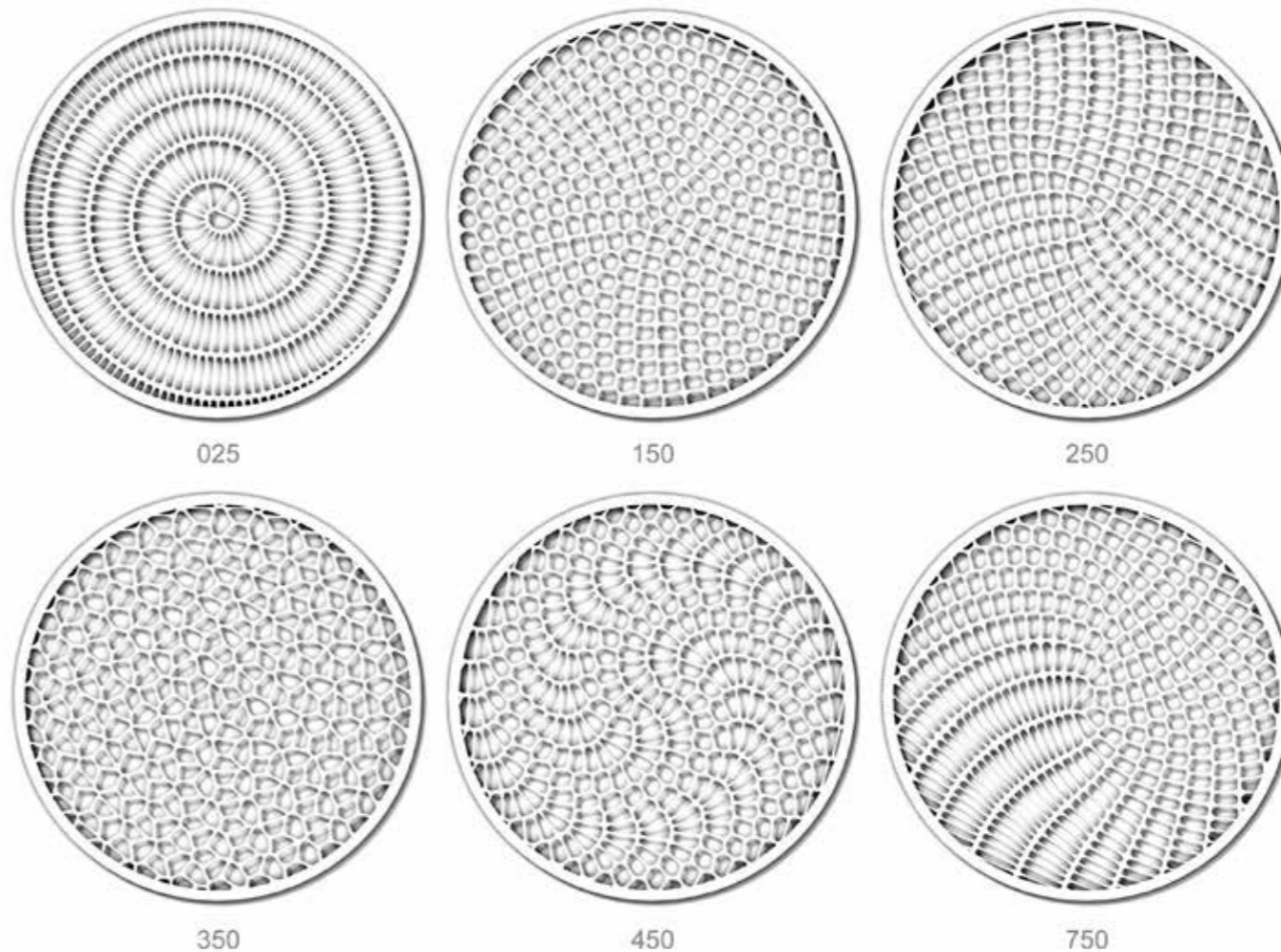
**DR. HARESH LALVANI**

in collaboration with Milgo\Bufkin

**MASS CUSTOMIZATION  
of EMERGENT DESIGNS**

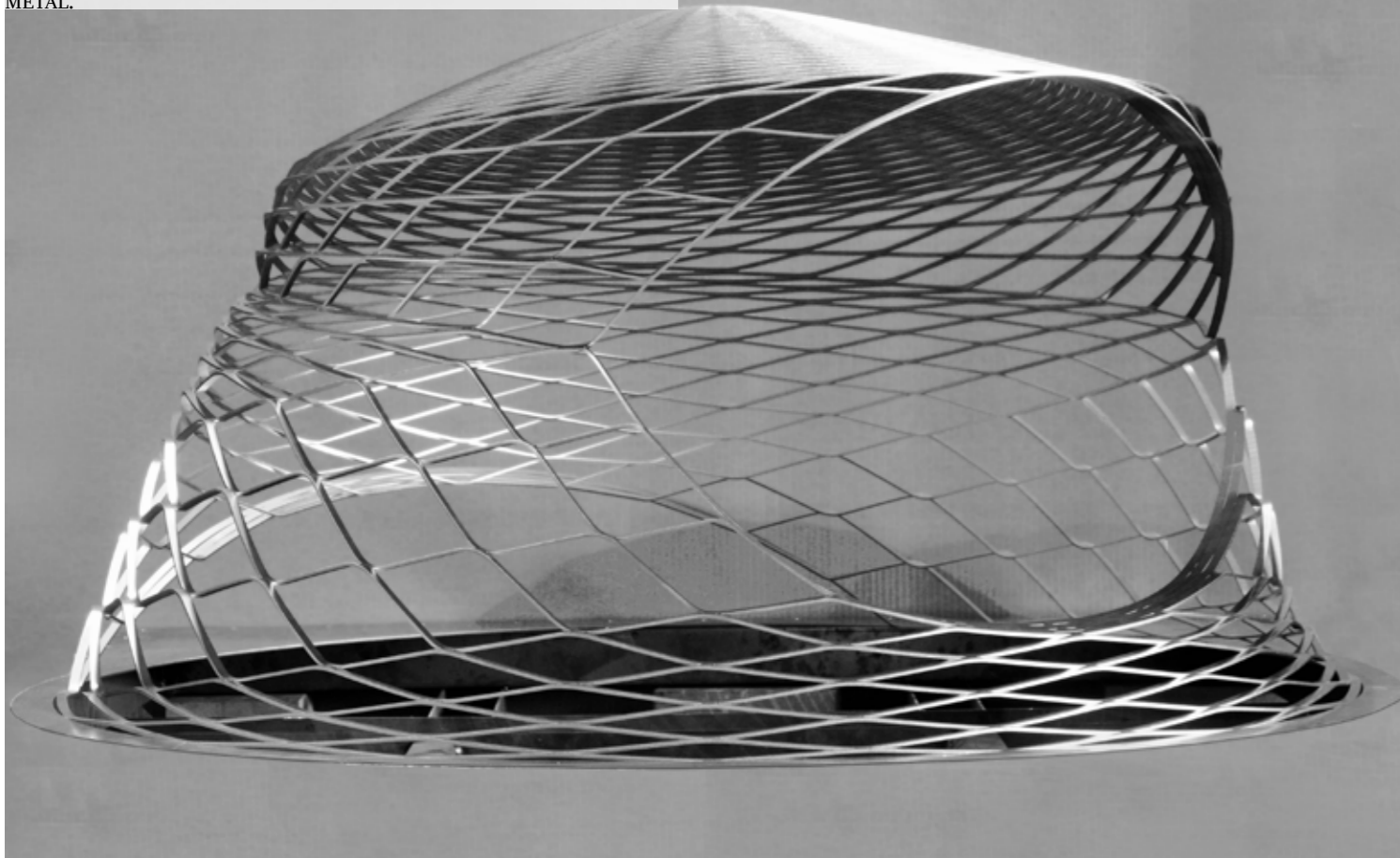
Dr. Lalvani—sculptor, architect, designer, morphologist, visual mathematician, inventor, and professor of Architecture at Pratt Institute—has been working for over thirty years to decode the morphological genome that encodes potentially all form, for design applications. Essentially, Lalvani continues to identify the universal generative principles underlying forms and patterns, both man-made as well as those found in nature. The morphological genome permits digital manipulation of form in the design process, thereby enabling mass customization in digital manufacturing. In sequencing the morphological genome and sculpting works, both functional and abstract, from such principles, Dr. Lalvani stands at the intersection of Art and Mathematics—more specifically, at the dawn of genomic design, art, and architecture.

The *HyperSurface series* and the *1D series Morphing Fruit Platters*, which Moss will present at Design Miami, were developed during the past fifteen years in collaboration with Bruce Gitlin and Milgo\Bufkin, the renowned art-metal fabricator where these pieces were made. All works are fabricated in laser-cut steel. All works are one-off.



PURF, MATERIAL RESEARCH IN EXPANDED METAL

PURF IS BODY OF RESEARCH WHICH ENGAGES THE LIMITS OF SHEET MATERIAL, LASER CUTTING AND 'FORCE EVENTS' TO CREATE DEPLOYABLE AND SELF SUPPORTING STRUCTURES IN PERFORATED METAL.



AT LALVANI STUDIO IN COLLABORATION WITH MILGO-BUFKIN AND MOSS

AT LALVANI STUDIO IN COLLABORATION WITH MILGO-BUFKIN

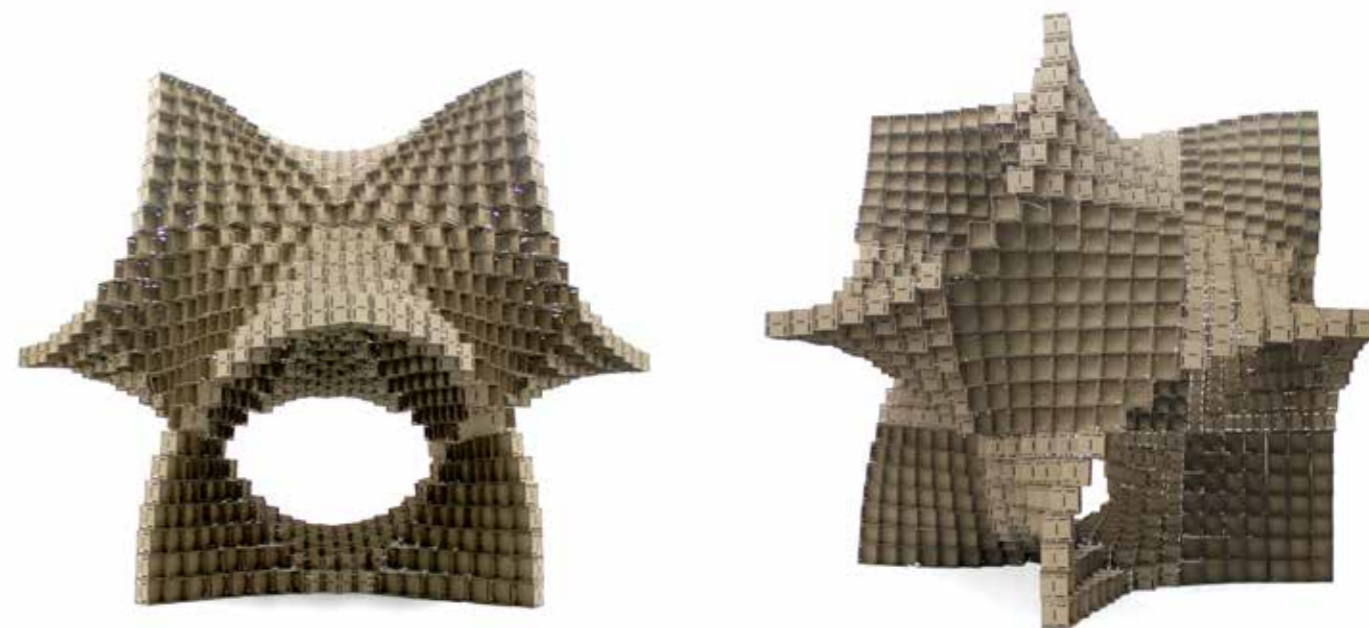
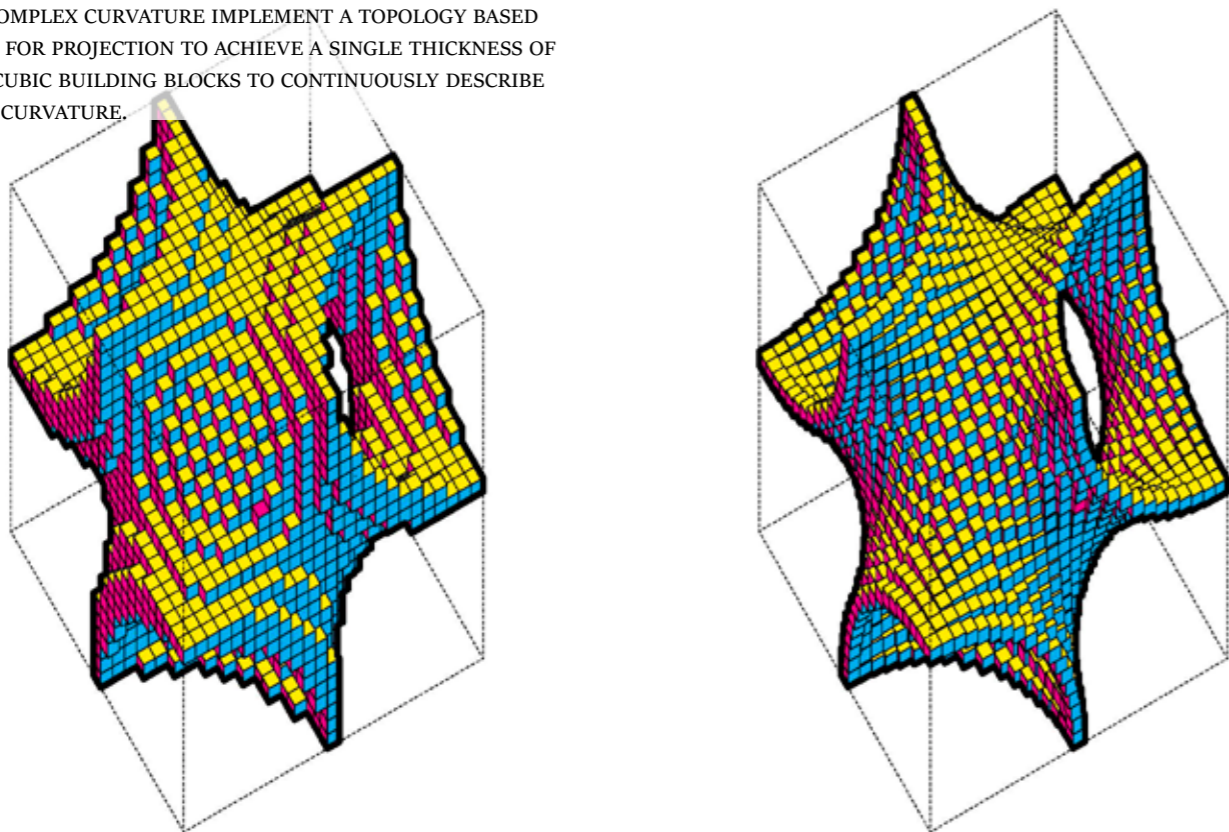
EXHIBITED AT DESIGN MIAMI 2011

RESEARCH & PROTOTYPE FOR THE FIELDS SCULPTURE PARK AT OMI, 2014



**VOXEL OPTIMIZATION, UNIT CONSTRUCTION OF COMPLEX CURVATURE**

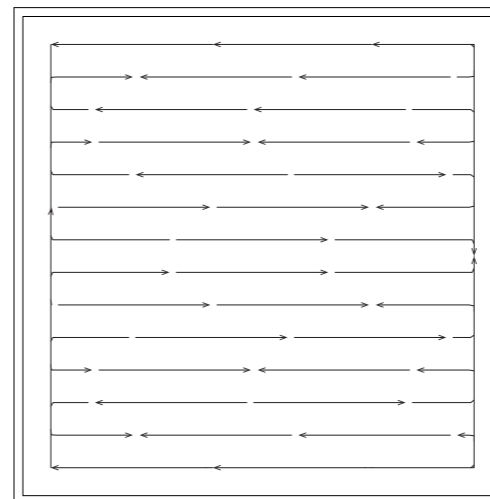
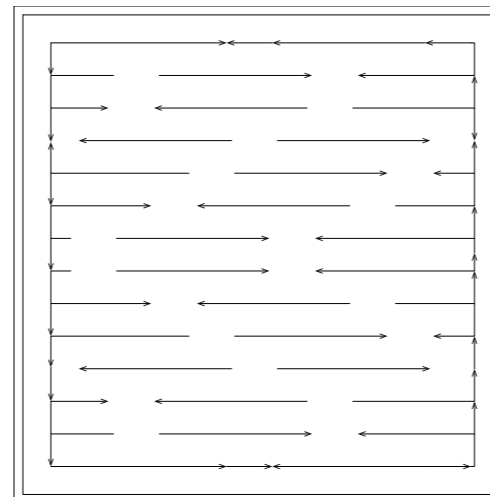
PART OF THE ONGOING RESEARCH REGARDING 'FORM AND FORCE' AT THE CENTER FOR EXPERIMENTAL STRUCTURES. THESE METHODOLOGIES FOR OPTIMIZING UNIT BASED CONSTRUCTION TO DESCRIBE COMPLEX CURVATURE IMPLEMENT A TOPOLOGY BASED PROCEDURE FOR PROJECTION TO ACHIEVE A SINGLE THICKNESS OF IDENTICAL CUBIC BUILDING BLOCKS TO CONTINUOUSLY DESCRIBE COMPOUND CURVATURE.



**REPOSE, REUSABLE SUBSTRATES FOR CASTING**

THE CONSTRUCTION OF A MOLD (SUBSTRATE) IMPLIES A SET OF SECONDARY MATERIALS COMPRISING A NEGATIVE (SUBSTRATE) WHICH ARE NECESSARY TO PRODUCE A DESIRED POSITIVE. HOWEVER, IN NO WAY DO THESE NECESSARY MATERIALS DIRECTLY CONTRIBUTE TO THE FINAL PRODUCT AS IT IS EXPERIENCED IN ITS FINAL PRESENTATION. IN THIS WAY MOLDS CAN BE CONSIDERED AS WASTE OR WASTEFUL.

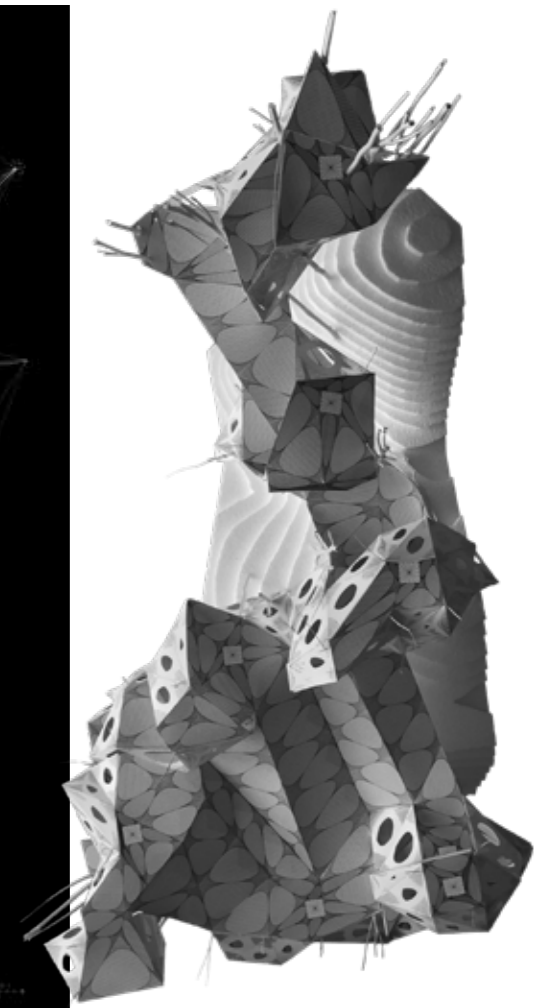
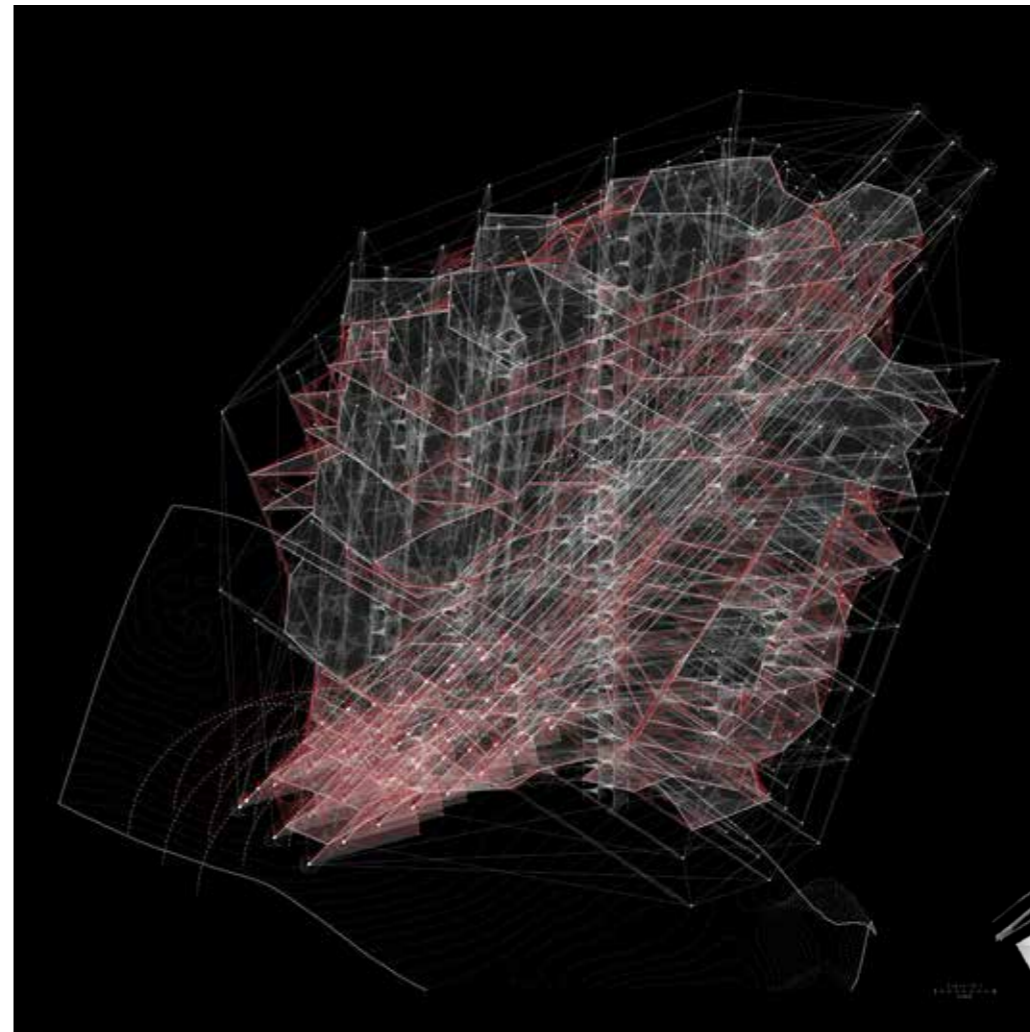
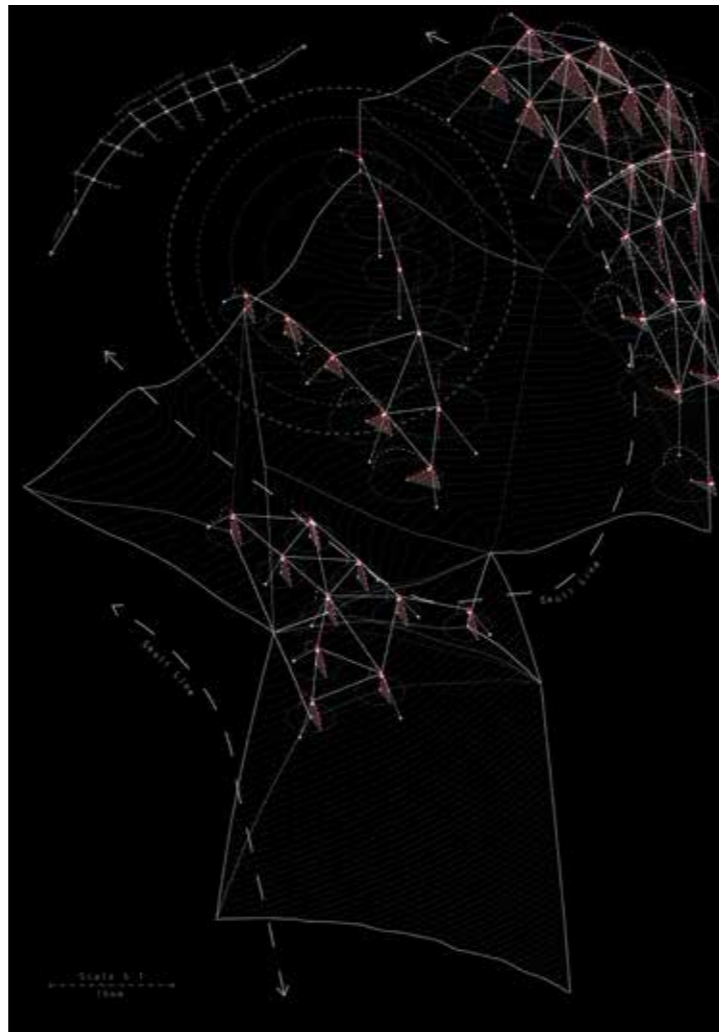
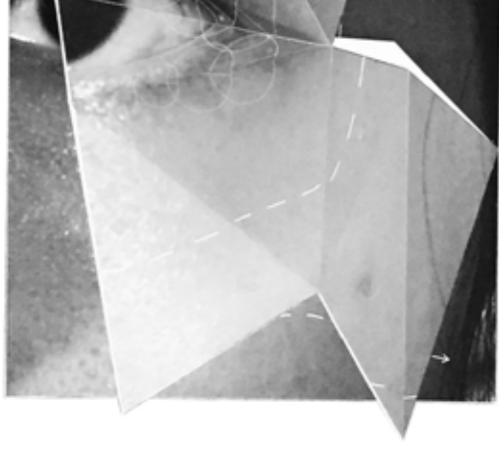
THIS WORKSHOP WILL POSITION A NEW TECHNIQUE IN MOLD MAKING THAT PROMOTES THE IDEA AND PRACTICE OF REUSABLE MOLD FABRICATION. TO EVOLVE THE IDEA OF THE MOLD (NOT UP TO THE POINT OF ELIMINATING IT COMPLETELY) IS TO CONCEIVE OF IT AS SOMETHING THAT CANNOT JUST PRODUCE IDENTICAL MULTIPLES BUT CAN PRODUCE DIFFERENT INSTANCES (POSITIVES) WITHIN A GIVEN SPACE OF CONSTRAINTS. IT CAN BE REUSED.



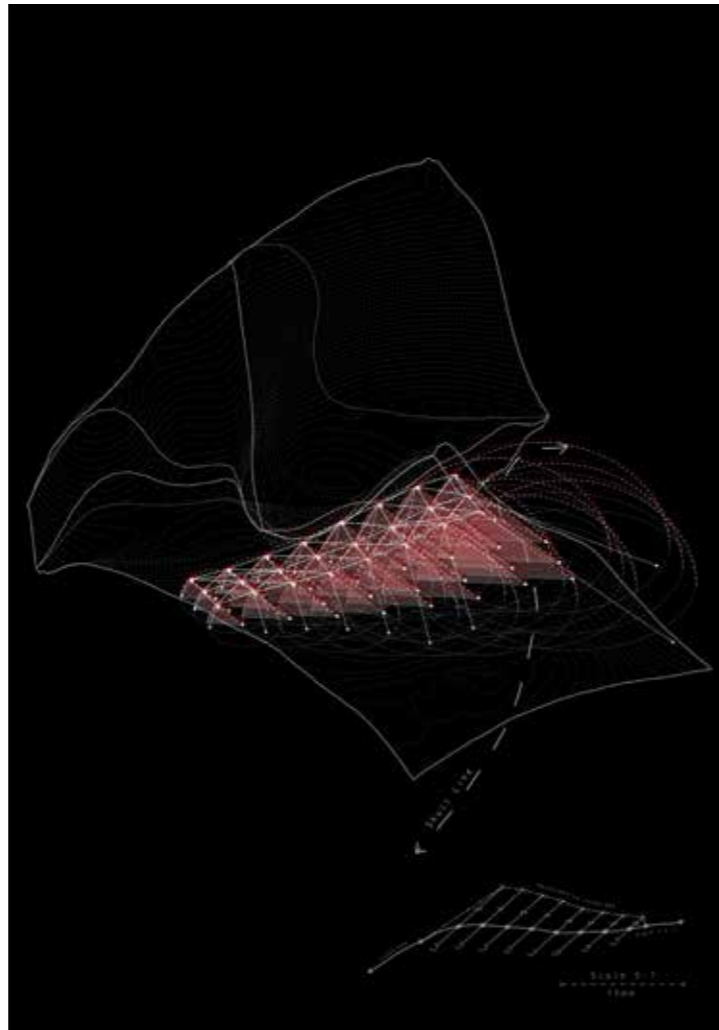
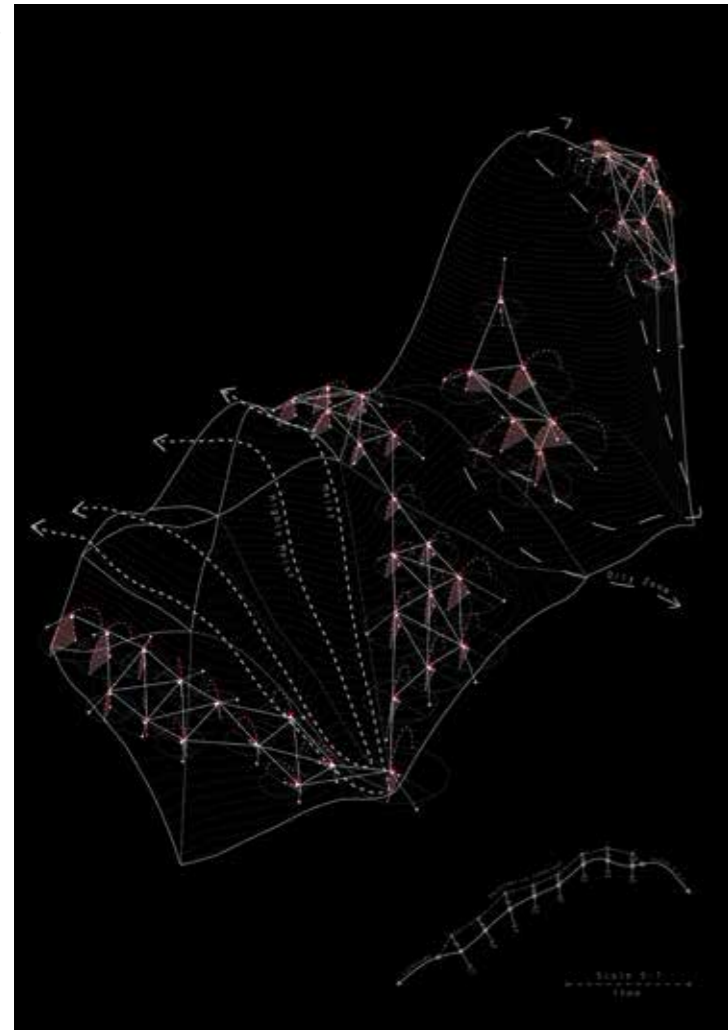


PREFABRICATED ARCHITECTURAL SOLUTIONS OFTEN OFFER VARIABLE CONFIGURATIONS AND/OR FINISHES THAT SUIT A RANGE OF OCCUPATION TYPES OR AESTHETIC PREFERENCES. THOSE PERMUTATIONS EXIST WITHIN THE LOGIC OF THE BUILDING ITSELF, WHILE GROUND CONDITIONS ARE SENTENCED, DOOMED TO BE RATIONALIZED, SMOTHERED, FLAT, FEATURELESS, AN ISOLATED AND CARTESIAN OBJECT PLACED IN THE VOID.

THIS STUDIO EXPLORED THE RELATIONSHIP BETWEEN PREFABRICATED ARCHITECTURAL SYSTEMS AND THE SITES THEY OCCUPY BY DEVELOPING ARCHITECTURAL SYSTEMS THAT ARE NOT SITE-SPECIFIC BUT SITE-SENSITIVE USING FLEXIBLE AND/OR KINETIC COMPONENTRY THAT CAN FLOURISH IN VARIED AND POSSIBLY TURBULENT LANDSCAPES THROUGH PROCEDURAL DESIGN. STUDENTS UTILIZED FACIAL SURVEYS AS EXPERIMENTAL SITE CONDITIONS.



DESIGN STUDIO AT THE INTERNATIONAL PROGRAM FOR DESIGN AND ARCHITECTURE, 2016



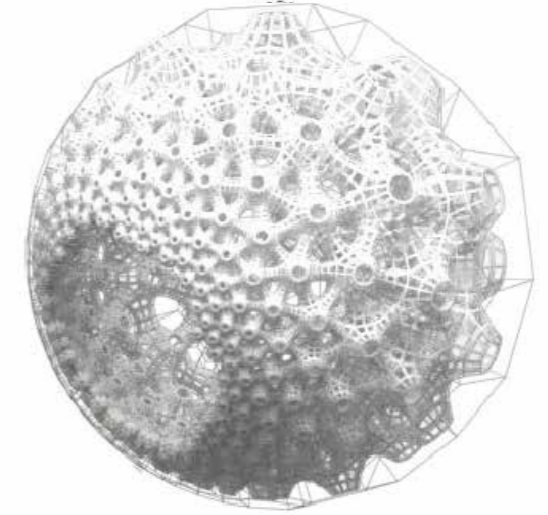
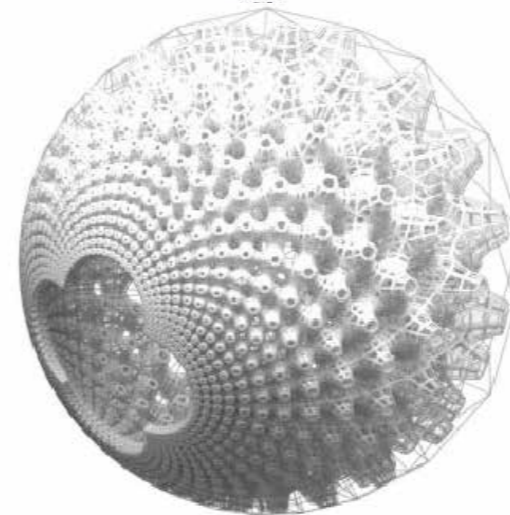
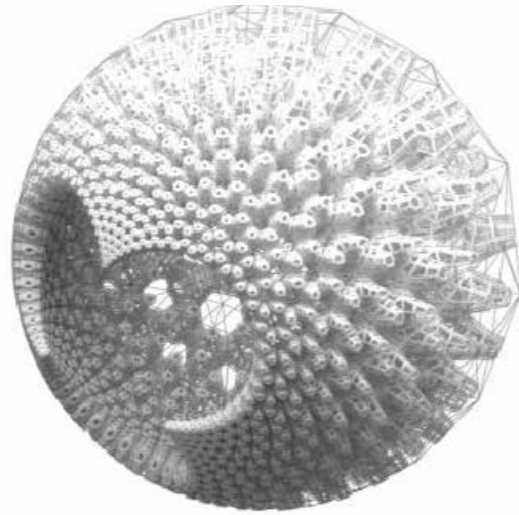
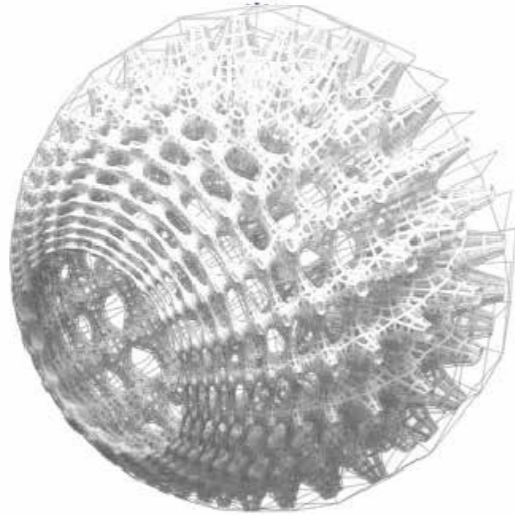
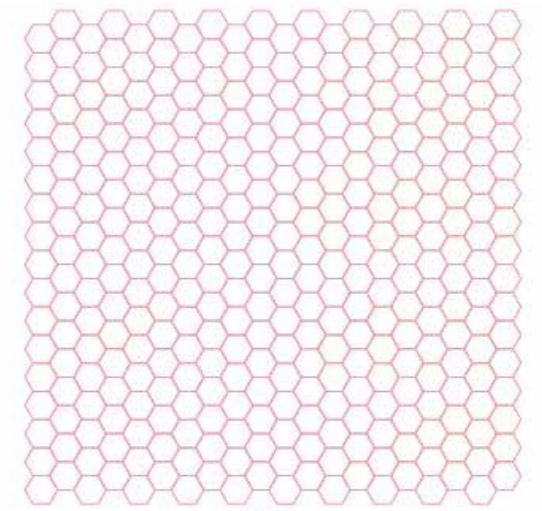
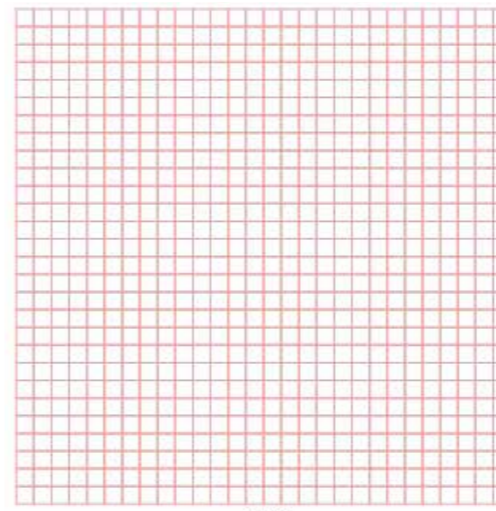
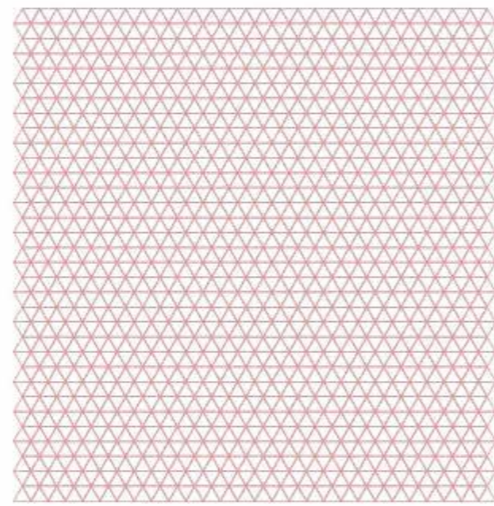
STUDENT WORK, SETTAWUT LEENAVONG



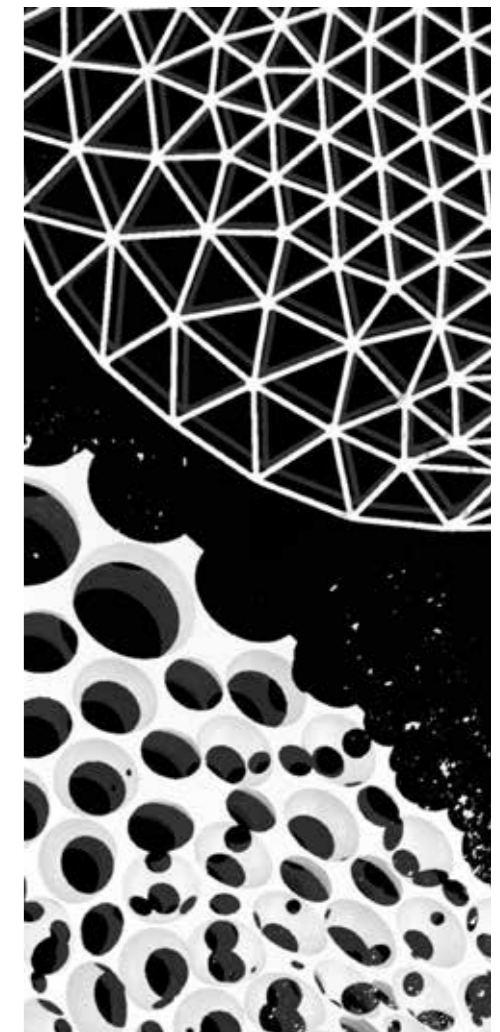
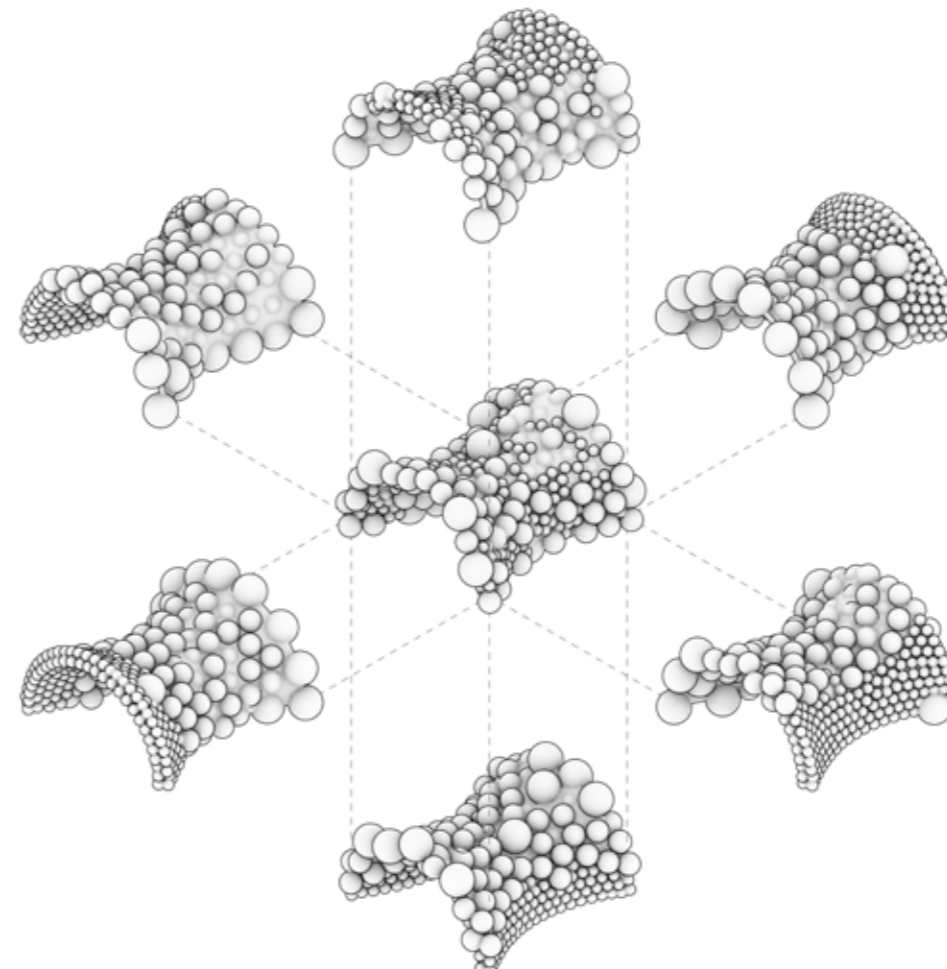
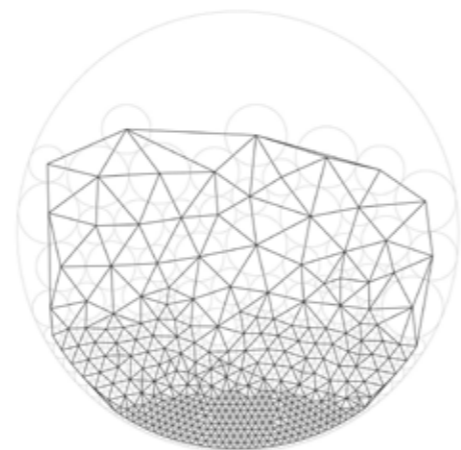
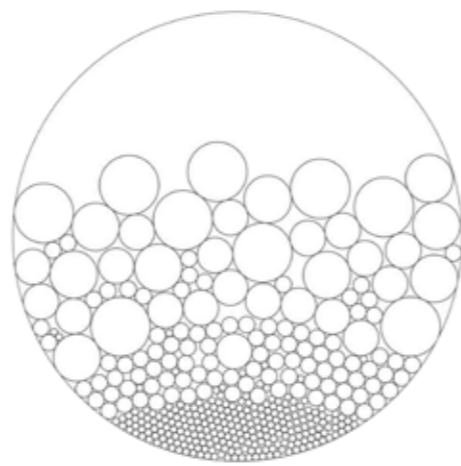
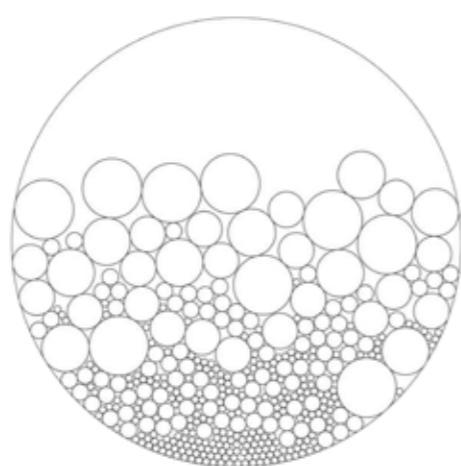
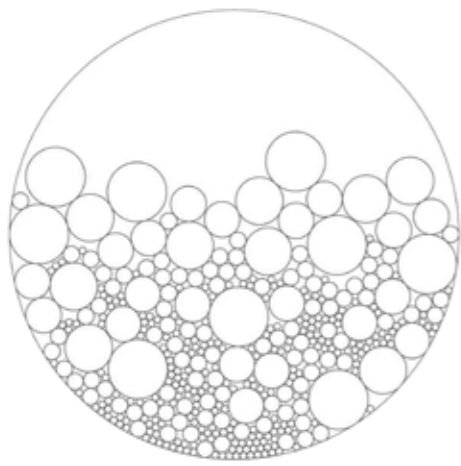
**CONSUMING GEO, INVERSION AS PRACTICAL SPHERICAL PROJECTION**

ROBIN EVANS IN THE INTRODUCTION TO THE PROJECTIVE CAST ACCIDENTALLY ELABORATES ON THE HISTORY OF ARCHITECTURE AND GEOMETRY ASKING QUESTIONS ABOUT WHERE GEOMETRY IS LOCATED IN A PROJECT? (IS IT IN THE DRAWING? IN SPACE? THROUGH PERSPECTIVE? VIA IMAGINATION?) WHAT IS THE ROLE OF GEOMETRY IN THE DESIGN, RATIONALITY, CONSTRUCTION AND EXPERIENCE OF ARCHITECTURE?

THIS STUDIO POSITIONED A DEEP DIVE ON THE UNDERSTANDING AND USE OF GEOMETRY IN DESIGN WORK THROUGH THE METHODOLOGIES OF DIGITAL TOOL DEVELOPMENT AND THEIR RELATIONSHIP TO CONSTRUCTION OF ENVIRONMENT; SCRUTINIZING THE ARTIFACTS OF PROCEDURE AND CRITICALLY APPROACHING THE POTENTIAL USE, APPLICATION, MEANS OR RELEVANCE OF SHAPE.



**CONSUMING GEO, GRANULAR CONVECTION AS SELF ORGANIZING MODEL FOR REMESHING**





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