



**Gina Franzetta, MSc CAD**

**Designer**

**Portfolio**

**2 D Designer | 3D Designer | Illustrator**

## About the Project

The following pages include samples from my master's program. The eleven-month intensive, team-based program was structured into five chapters and five labs. Each incorporated a multitude of software programs, including Maya, Rhino, Grasshopper, Blender, Houdini, and Unreal Engine, as well as artificial intelligence platforms, such as Midjourney, to illustrate a cohesive alien world. The alien world included a protagonist species; the species' domicile; a metropolitan city environment; a navigational system, including a private and public vehicle; a public and private docking station; and a world map. Cultivating this alien world consisted of conceptualization, sketches, Midjourney explorations, modeling in 3D software, rendering in programs such as Arnold and Keyshot, and perfecting final images

# Master's Thesis

## 3D & Parametric Design

in post production, using Illustrator and Photoshop, including the implementation of new AI generative features.

The core objective of the master's program was to master the adaptation of a cohesive design framework to meet the specific needs and mindset of any group or subculture profile. This exercise enabled the analysis of both familiar and unfamiliar profiles, fostering cohesive and creative exploration of each unique world within a unified design collection. If a designer can craft an alien world, what demographic, culture, or profile can they not adapt?

The images selected from this past year include the final three chapters which contain images of the public vehicle, the docking stations, and the world map of the alien world we created. The abstract to our storyline, titled "War & Music" shown to the right, was created in conjunction with my partner, John Kirk Drogsvold with whom I collaborated for seven months of the program. Certain images, including the metropolitan docking station and the alien world map, were the result of a comprehensive team collaboration.

## The Tale of War & Music

*In the vibrations of a string, we find the dance of  
particles; in the harmony of music, we touch the pulse  
of the universe.*  
-- Anonymous

*What we have called matter is energy, whose  
vibration has been so lowered as to be perceptible to  
the senses. There is no matter.*  
-- Albert Einstein

## The Concept

This project envisions our alien world through the lens of quantum physics, the study of matter and energy at their most fundamental level, to depict the intense conflict and aggressive discord between religious and political groups with polarized beliefs. It investigates the tragic consequences of socio-political polarization and the resultant turmoil as factions vie for dominance. In this exploration, we implement the allegory of Adam and Eve discovering the fruit of knowledge, metaphors for historic acts of devastation—including the first atomic bomb from World War II, historic diasporas by subjugated peoples, the cold war, and contemporary ideological polarization dividing nations.

We introduce an enchanted alien environment existing within an asteroid belt, inhabited by a species known as the Verde, whimsical creatures with a propensity for music and a natural disposition for peaceful coexistence within their habitat. This harmony persists until the discovery of a seductive force that heightens the senses and bestows power upon those who wield it. As an homage to our sister group with whom this story emerged, we center the storyline around the savior character Seraphina. The world described in this project serves as the backdrop for the preexisting conditions that Seraphina will resolve in our sister group's narrative.

## Abstract

The quest to subvert opposing factions of political or religious doctrines pervades the history of humanity. Polarity in ideologies perpetuates belligerent acts, from terrorist attacks to riots to cataclysmic measures such as airstrikes into opposing territories. In this story, we employ the metaphor of music, "the organization of different sound frequencies," as a cultural, religious, and/or political ideology. We introduce the fictional concept of "quantum music" to symbolize the seductive potential and formidable power to subvert opposing ideologies through violent acts of dominance. Using this paradigm, we elucidate that, to subvert one by means of a "quantum" attack, the destruction of core values for those subjugated equally annihilates the very essence of their being at an atomic or soul level.

This world focuses on three main tribes or regions within the tree planet: The protagonist city of Luminalis, a city tucked within one of the tree canyons; their opponents, the Dark Enigma, who migrate to the top of the tree to best fit their style of music; and the rogue, migrant tribe, allies to Luminalis.

When the ancient Verde discover how to harness the mystical force of quantum energy to play on a physical instrument forged from the tree sap of the Great Ancestor tree, the frequencies emitted from the instrument intensity their senses with a heightened reality. However, the instrument also exhibits a cataclysmic side effect: When music played on the quantum harp cannot harmonize with other coexisting music, the frequencies result in a cataclysmic explosion. The Verde discover this in an explosion that nearly demolishes their planet. Yet, despite the devastation, the overwhelming allure of the enhanced reality and power of the harp propagates the temptation to play it.

After the explosion, the desire to possess such an instrument and to experience such a frequency -- especially following the destruction of their verdant skyline and lush landscaping -- transfixes the minds and souls of the Verde with an overwhelming desire to play their particular style of music using the quantum instrument. However, knowing that only one form of music can play at once ignites a radical shift in the relations of the Verde. Once a creature

*...in the  
harmony of*

## The Tale of War & Music

unknown to spite, jealousy or rage, the Verde covet the harp with the desire for the intoxicating experience of playing such an instrument.

The Verde gather in masses, groups of their own musical genre, with the group initiative to gain control of the harps. Thus, the Verde segregate and tribes are formed. A great diaspora followed as the tribes emigrate to various regions, distal to their original congregation as to escape the potential of catastrophic cacophony sounding from the otherworldly notes escaping the enchanted instrument. Symphony halls became war rooms teaming with strategy to possess all quantum instruments. The creatures that once rested under the open canopy of branches and thrived in harmony within the natural realm began industrializing their habitat with structures built for two purposes, war and music.

Infrastructure emerged as did technology. Reaches for power stretched far into the reaches of space where, between dimensions, the Verde sought quantum musical notes to collect and return to their homes. Threats loomed of attacks, either by the threat of quantum symphonies of the opponents to destroy their territories at the sacrifice of their own lives for the glory of the quantum music reigning their kind.

Hope seemed but an illusion and the seduction of the quantum music only strengthened from generation to generation. Only one music could play. Only one could rule.

But whose music would it be?

*music, we took  
the pulse of the*

# Master's Thesis

## Alien World Map

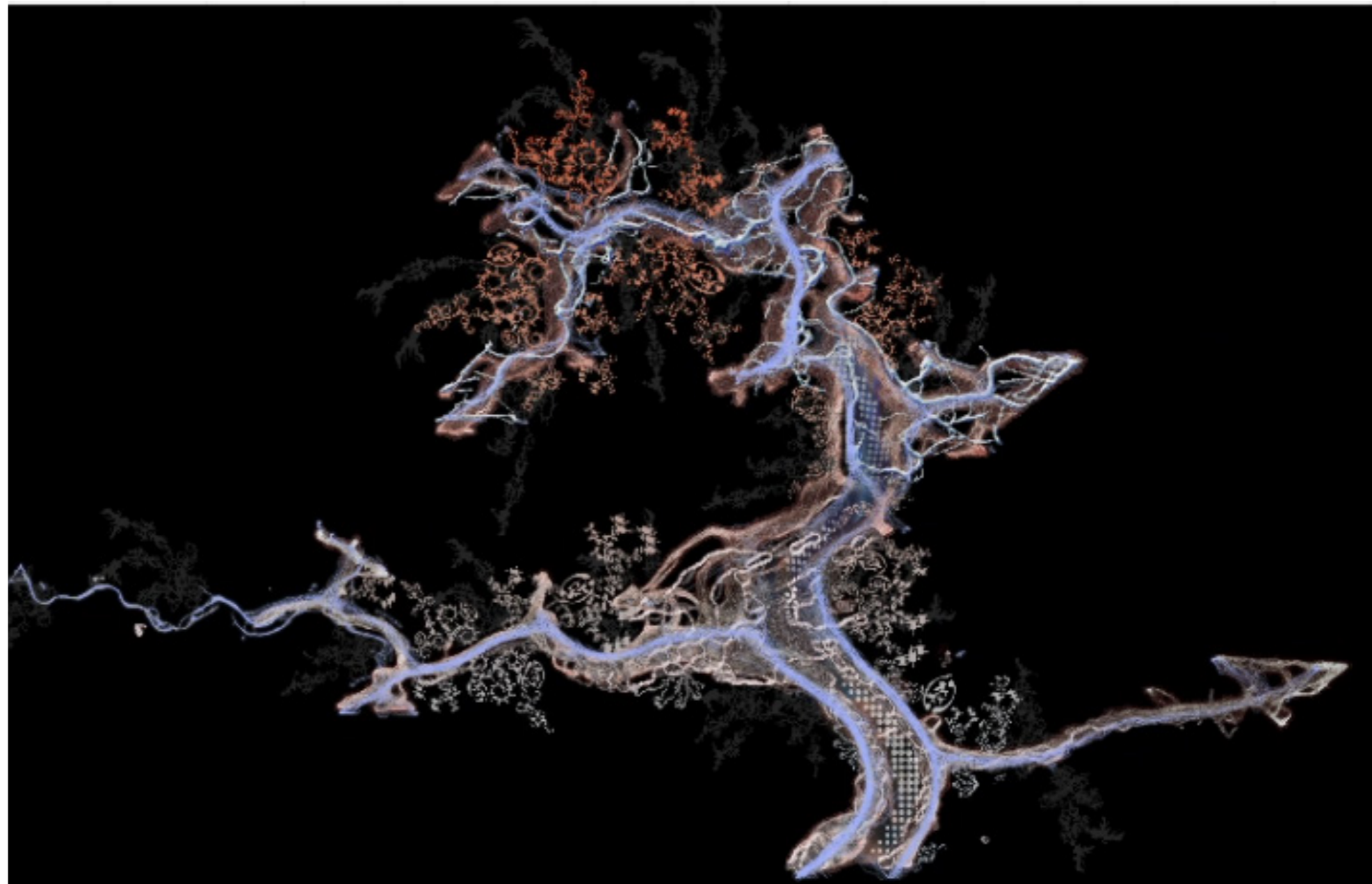
### About the Project

The project cultivated layers of networks using the Grasshopper Nuclei plugin, Rhino, Illustrator, and Photoshop. Additional layers were experimented in C#, but not implemented. Starting with a Midjourney image representing a map in the shape of a tree, simulations ran against various patterns outlined about the tree. Later, with the concept of warring tribes and a neutral party, series of bifurcating simulations patterned separate halves of the map, representing the protagonist tribe and their allies segregated from their opposition. Additional patterns form about the perimeter of the map. Shapes derived from a top view of the previously modeled metropolis served as building blocks to form various patterns modeled either manually or computationally. Both a computationally arranged variation and a manually placed arrangement form about the periphery. Additional features, such as the inner core, were formed in Illustrator. Post production final touches were completed in Photoshop.

### Project Story Concept

*In a quantum burst, a strange and enchanted tree sprouted from nothing into existence. Suspended in an asteroid belt floating in a vacuum in space, the tree began to grow, an autonomous planet fueled entirely by a quantum life force that flowed from within it. It is unclear how this tree came to be, but lore suggests it emerged from the harmonic resonance created by the sheer chance collision of two asteroids. Through their remains, the tree came to exist. Quantum frequencies flowing within and around the tree resonated as music. The tree blossomed and birthed the Verde species. After coexisting in harmony for centuries, the creature discovered a strange and magic-like force, quantum music, which conferred absolute power...*

### Alien World Map



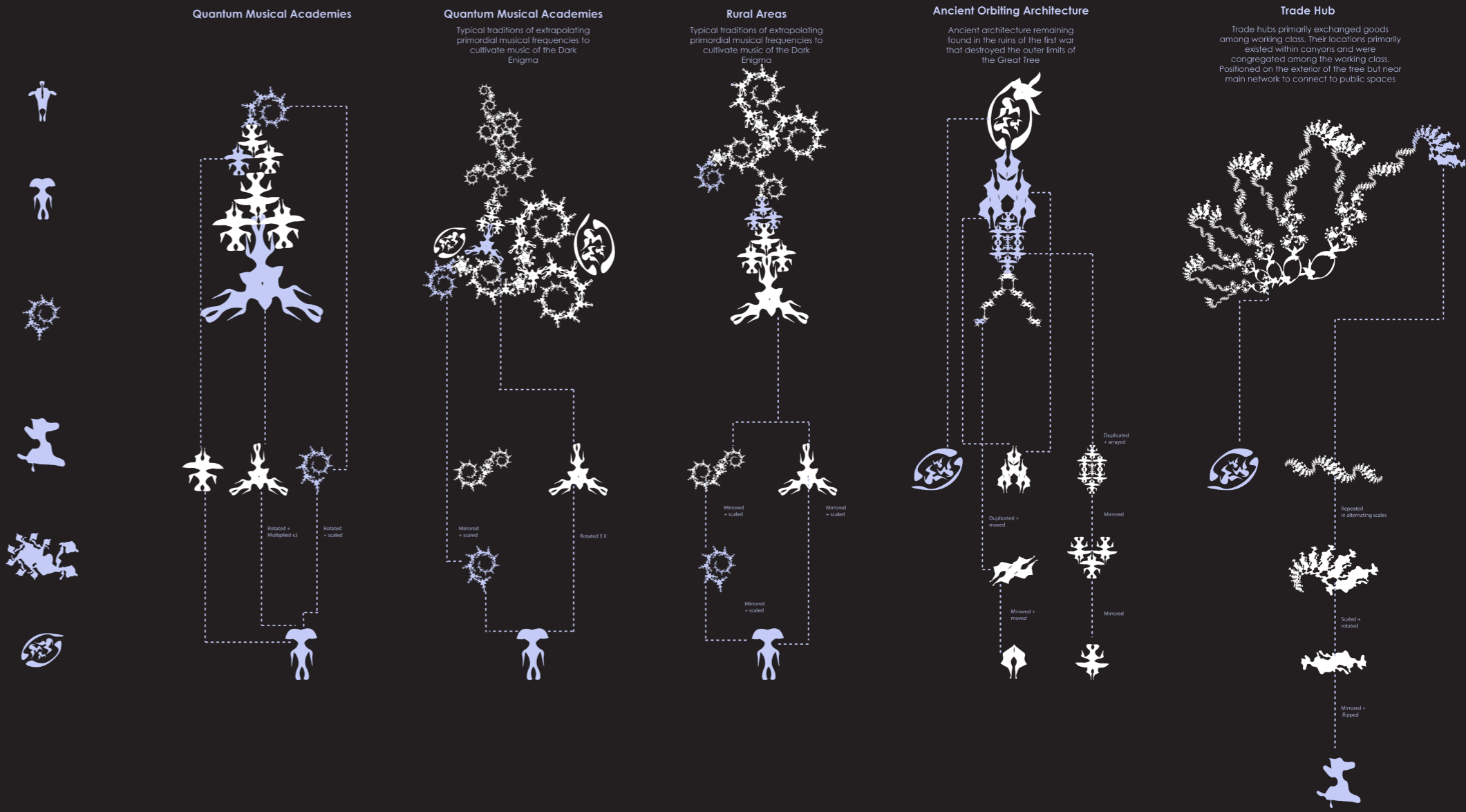


### Excerpts from the Story

*...As new networks developed about the tree, three distinctive patterns emerged that carved the foundations for the main regions about Quantascape. Luminalis built an expansive network from the base of the tree. It was also extended outward into the wild outskirts of the migrant Verde, allies of Luminalis, in order to establish trade routes for the various goods and services they provided. Here, in the wild outskirts, the migrant Verde roamed wild and free. The Verde separated their city plans into canyon cities, working class exo-cities, and agricultural hubs. Configurations from base units conjoined to form amalgamated clusters...*

# With their sultry and feverish tones...

*...The natural, preexisting network paths on the Great Tree served as foundations for the networks carved by the Verde. Regional networks emerged from these units, beginning with the Dark Enigma, famed foes to Luminalis, with their sultry and feverish tones, built their network atop the tree and around canyons in search of a crescendo. Their architecture the Verde consisted of a signature base unit and a spiraling conglomerate of the base unit constructed in a progressive series of rotations, scales and mirroring. Below, the lower region networks include home to Luminalis and regions of the Migrant Verde, allies to Luminalis. The music of Luminalis with their cool and melodic harmony echoing throughout their canyon city clashed with that of the Dark Enigma...*



# Master's Thesis

## Bio-organic Metropolis

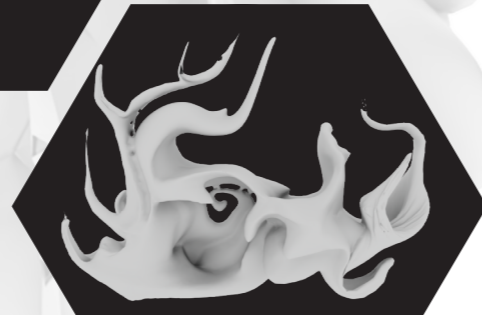
### About the Project

This segment of the project involved creating an environment for a bioorganic culture with a penchant for music and myopic focus on war. The militant lifestyle of this creature required both combative and protective components, while the drive to seek power through the cultivation of music necessitated musical elements. A canyon environment was ultimately selected for its acoustic nature and its subtle resemblance to our Midjourney image marrying a tree environment to a French Horn.

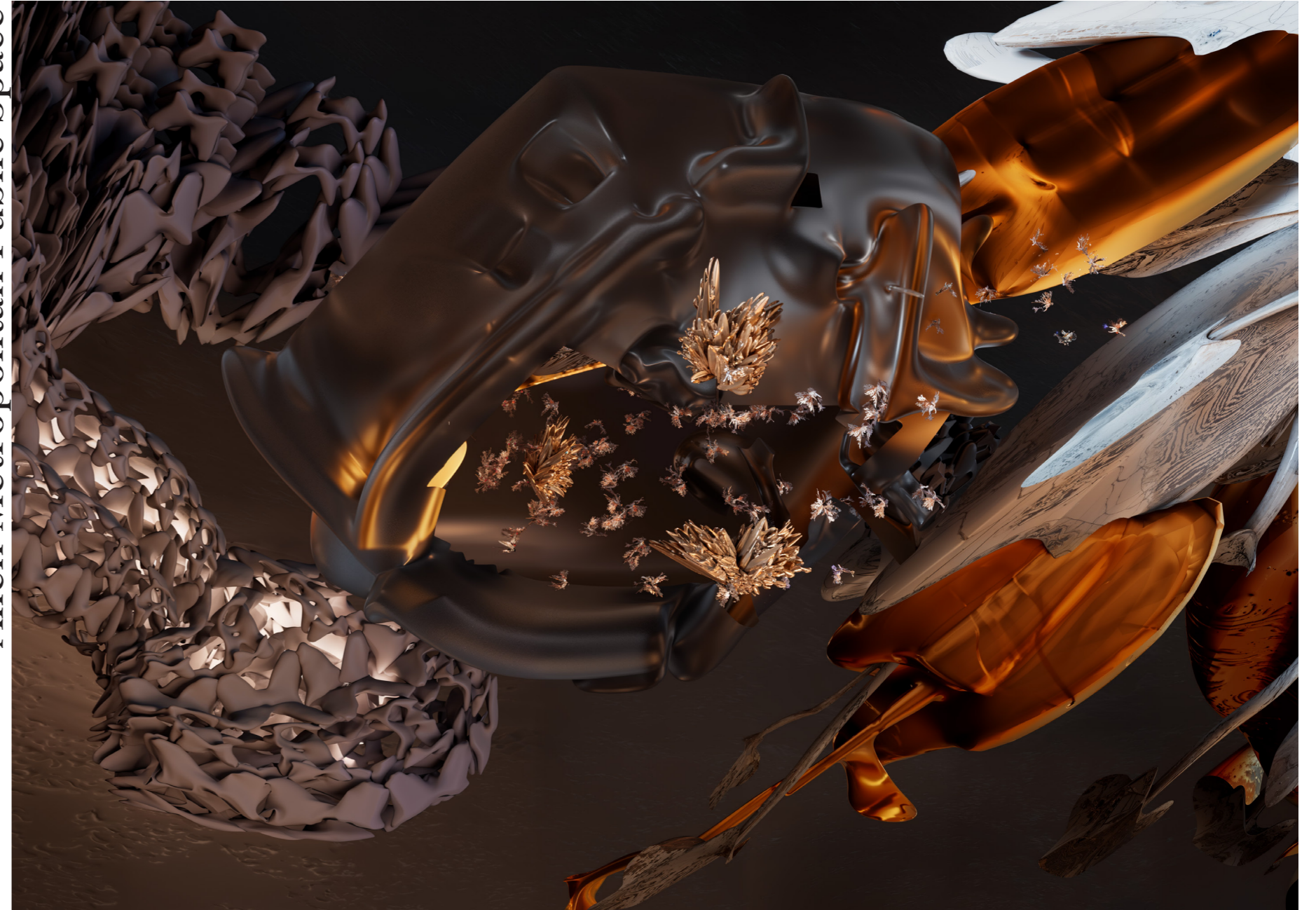


### Excerpt from Story

*...Layers of residential units laced the sidewalls of the canyon with thick wasp-like units, suspended from sneak attacks. Set inside of a transparent bubble, a technological marvel is born that can absorb the music notes of opponents. About their periphery, the padding of soft fluttering from thousands of Verde wings fluttered around these spaces with maddening bellicose...*



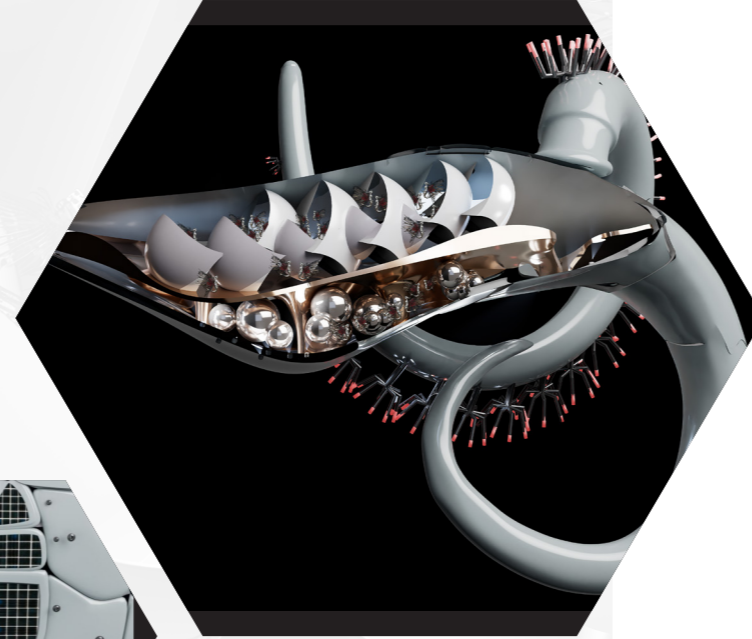
### Alien Metropolitan Public Space



# Master's Thesis Transportation System

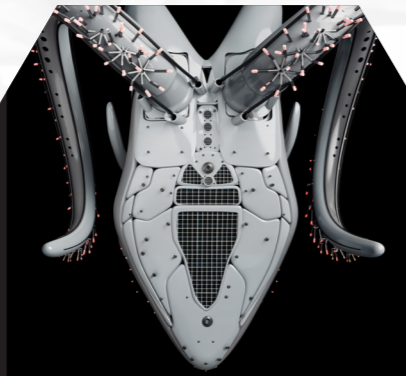
## About the Project

Research used to cultivate the aesthetic of our transportation system included themes of musicality and combative bio-organic species, such as the Parasitic Protozoa, algae toxins, and mycelial combat. Other themes incorporated the choice of Möbius strip geometry as its relationship to the study of Quantum Physics and its implementation in studying topology, quantum field theory, and condensed matter physics. Other aspects considered when designing these vehicles included aspects of functionality. Such competencies included protective detailing and defensive measures. Modeled in Rhino, Houdini, and Maya.

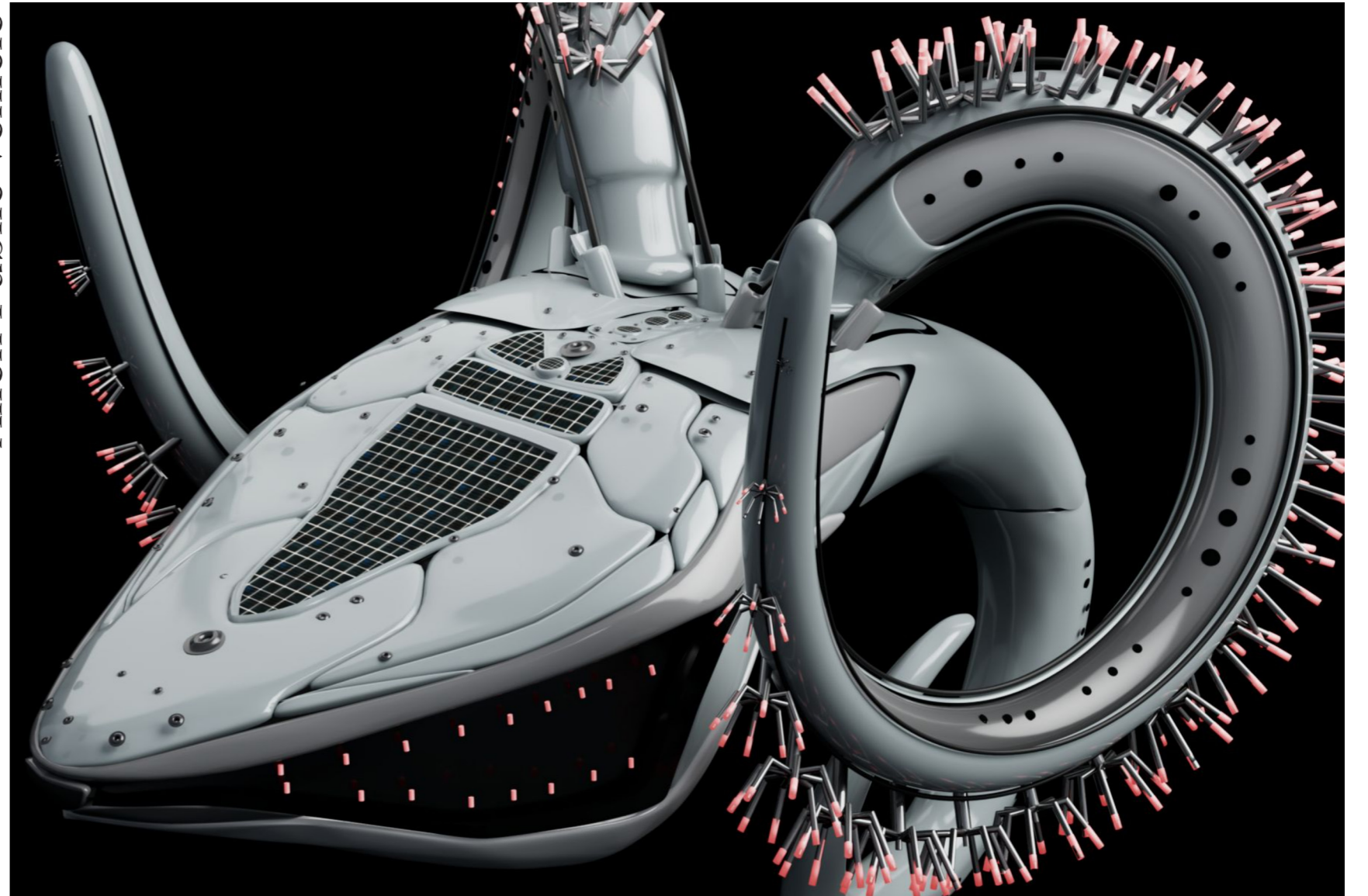


## Public Vehicle Construction

Built to foray deep into the asteroid belt and space as well as to traverse the terrestrial grounds, the public vehicle is built to withstand quantum attacks. Along the ship's arms extend glowing metal spikes equipped for terrestrial climbing along the city walls and to grip the private vehicles of its passengers during pilgrimages into quantum space fields. The infrared lights peaked at the tips of the spikes serve as a defense to blind the Verde's enemies, helping them to travel incognito as the light can be blinding to Verde. Atop the ship's energy panels inlaid along the nose vessel. Through them the ship collects radiation helping power the ship as it travels deep into space with light as the only form of energy to be absorbed. Small pores along the legs the vehicle resonate with the quantum music that permeates all. Inside the ship passengers sit in the upper compartment while the technicians conduct the instruments down below.



## Alien Public Vehicle



# Master's Thesis Transportation Systems

## About the Project

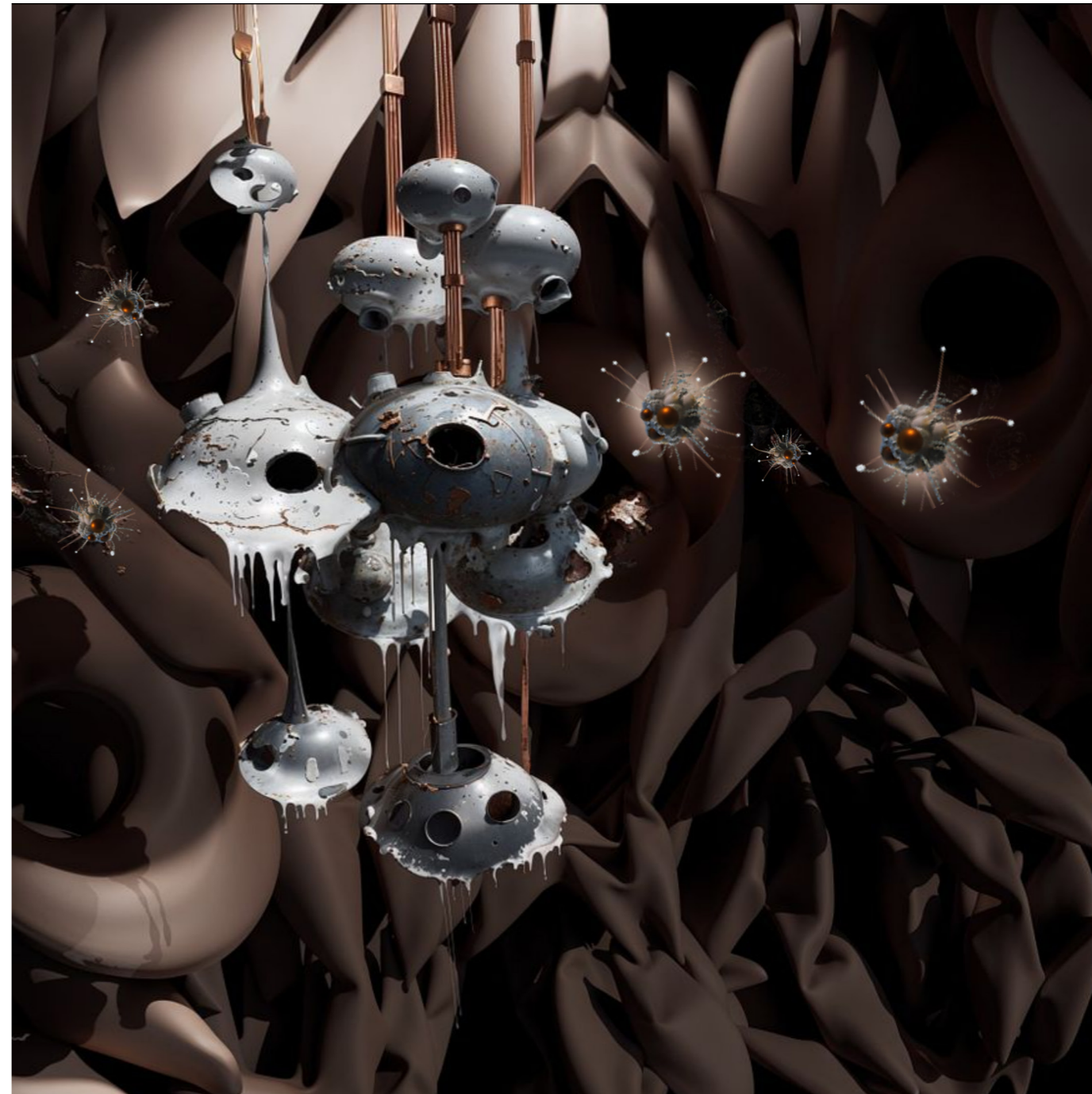
Inspired by the concept of dripping tree sap forming rotund pods fit to house a round flying vehicle, the private vehicle underground parking hangs from the ceiling of underground cave-like pockets inside the residential units. The units suspend from copper pipes inspired by brass instruments. At certain angles, the pipes round like the shape of a trombone. Modeled in Houdini and Maya.



## Excerpt from Story

Vehicles travel through underground residential networks leading to cavern spaces for parking. Formed from the dripping sap of the Great Tree, each pod serves as a section to multiple vehicles. Multiple pods drip from the cavern ceiling, conjoining into one multi-pod unit. Each of the individual pod openings serve as entrances and exits to parking spaces within. Derived from copper instruments mined from the nearby asteroid belt, copper pipes help to suspend the pods from the cavern ceiling.

## Alien Private Underground Parking

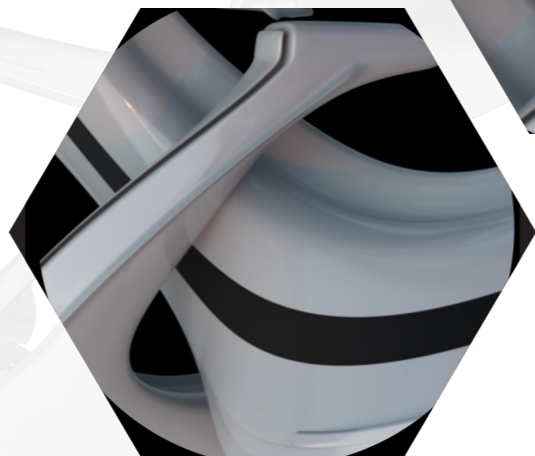
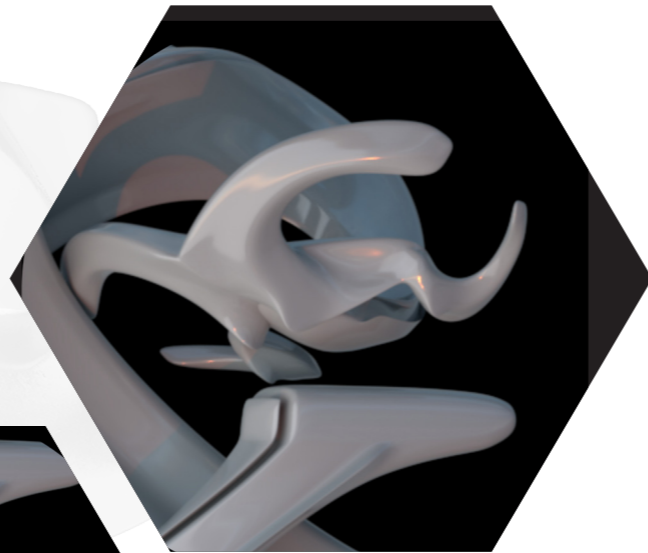
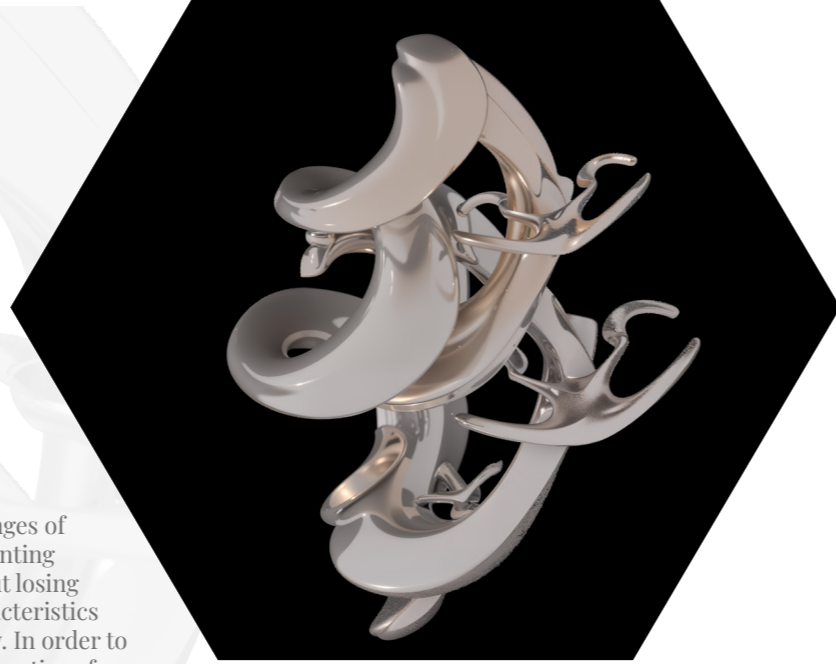




# Master's Thesis Transportation Systems

## About the Project

One of the greatest challenges of this project was in representing the quantum world without losing the representational characteristics that detailed our geometry. In order to implement suggestive properties of a quantum world, this chapter introduced the implementation of the Möbius strip. In the fields of Quantum Mechanics and Quantum Computing, physicists implement the Möbius strip to study topology for purposes such as designing quantum circuits, learning new states of matter, and understanding quantum phase transitions. The metropolitan loading dock implemented a quadrupled Möbius strip, which served the dual purpose of permitting subtle representation of musical characters, such as geometry similar to the arabesque shapes of the G Clef.



## Alien Public Underground Parking



2D Design  
Graphic Design &  
Illustration



# 2D Design Website Banner Graphics

## About the Project

This project aimed to redesign the banner for the Harvard SEAS Lab, Teamcore, a lab that executed cutting edge Computer Science technology employed by organizations for the greater good. Since the lab's sister organization focused on the humanitarian employment of the technology, the messaging needed to convey that this organization focused on the technical.



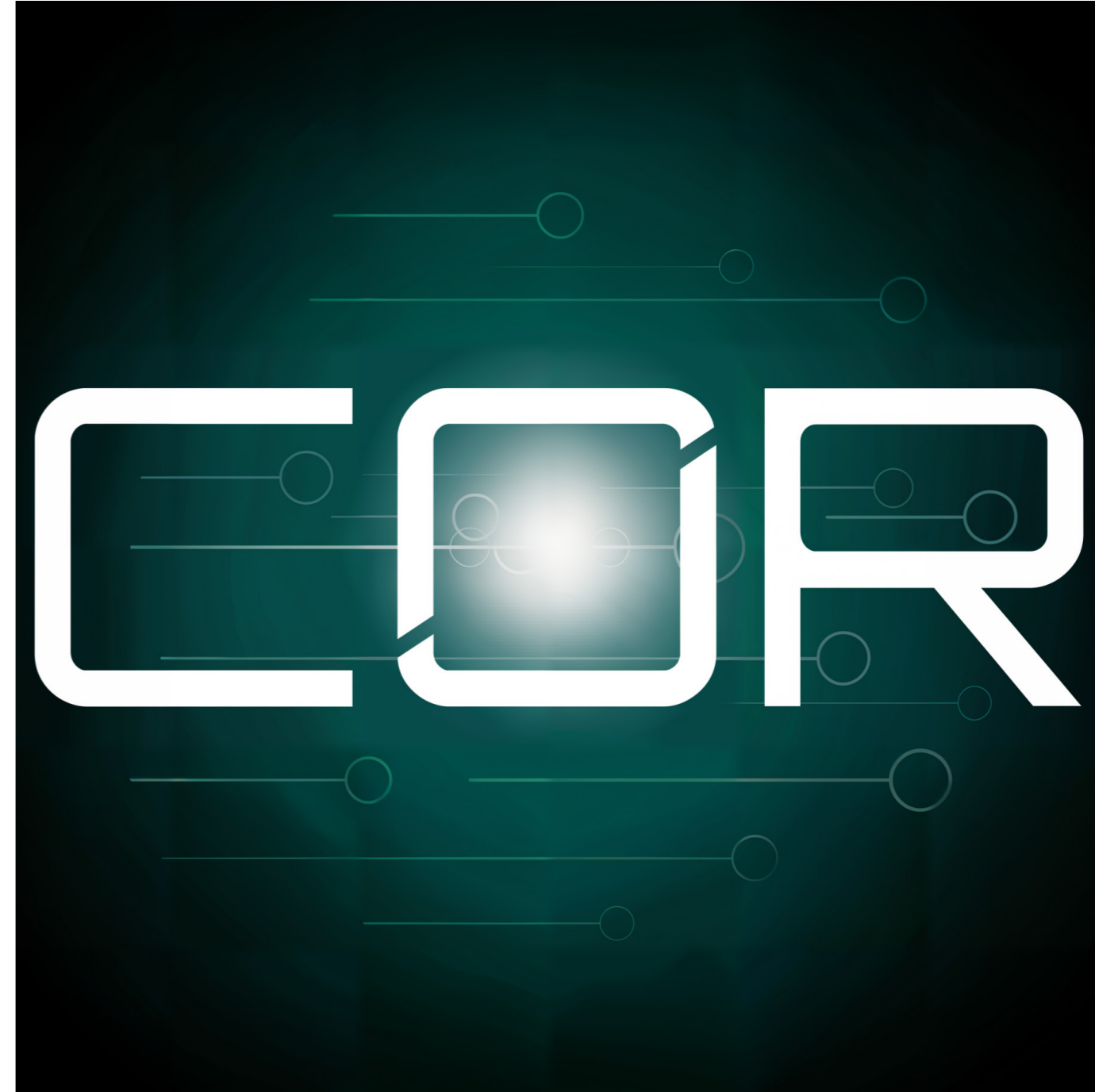
## Design Objectives

To cultivate a technical aesthetic in order to differentiate this organization from its sister organization, which employed this lab's technology toward humanitarian efforts, the messaging needed to convey that this lab centralized technological research, driving efforts anchored by pioneering technology at the core of its operations.

## More on This Design

The letters *c*, *o*, and *r* derived from "core" in the title were highlighted with a techie teal green digitally lit, intentionally omitting the *e* to emphasize internalized positioning. Circuits pierce through the "cor", highlighting the computer science technology as the central focus image created in Illustrator. Main photo credits to Professor Milan Tambe. Edited in Photoshop.

Teamcore Website Banner



# 2D Design Illustration

*Arms are the*

## About the Project

The “Arm Challenge” charged DesignMorphine Master’s students with presenting their creative interpretation of an arm. This creative journey exemplifies my creative process, beginning with the conceptual and physical analysis exploring what defines an arm. Following this creative journey, a series of visual references including hand sketches, media, and Midjourney explorations marry the conceptual motifs. From this theoretical union, a parametric evolution emerges and a new object is born. Created in Adobe Illustrator.

## Concept + Inspiration

Starter concepts and themes began with defining an arm. *What does an arm do? What does it represent?* My definition derived from my yogic family teachers from Frog Lotus Yoga and their catch phrase “The arms are the wings of the heart.” This sentiment set the trajectory of the design as a manifestation for functionality and poetic devices related to the heart.

## Starter Concepts + Other Themes

- Heart of glass
- Emitting emotion, facets of human emotion
- Pathway to the brain and heart

## General Concept

Fantasy augmented being who possesses bio sensitivity to self and to others. As being matures, he/she evolves by challenge: heartbreak, grief, etc. He/she ultimately becomes a steward of the land but first must undergo challenges of pain. Pain causes literal shattering, glass pieces producing a hole in the being. Where breaks occur, so does growth, and new biology is formed. Fully evolved creatures become wise and serve as stewards of the land.

## Parameters

Where there is a crack, there is growth.

*- Frog Lotus Yoga teachers*

## The Arm Challenge

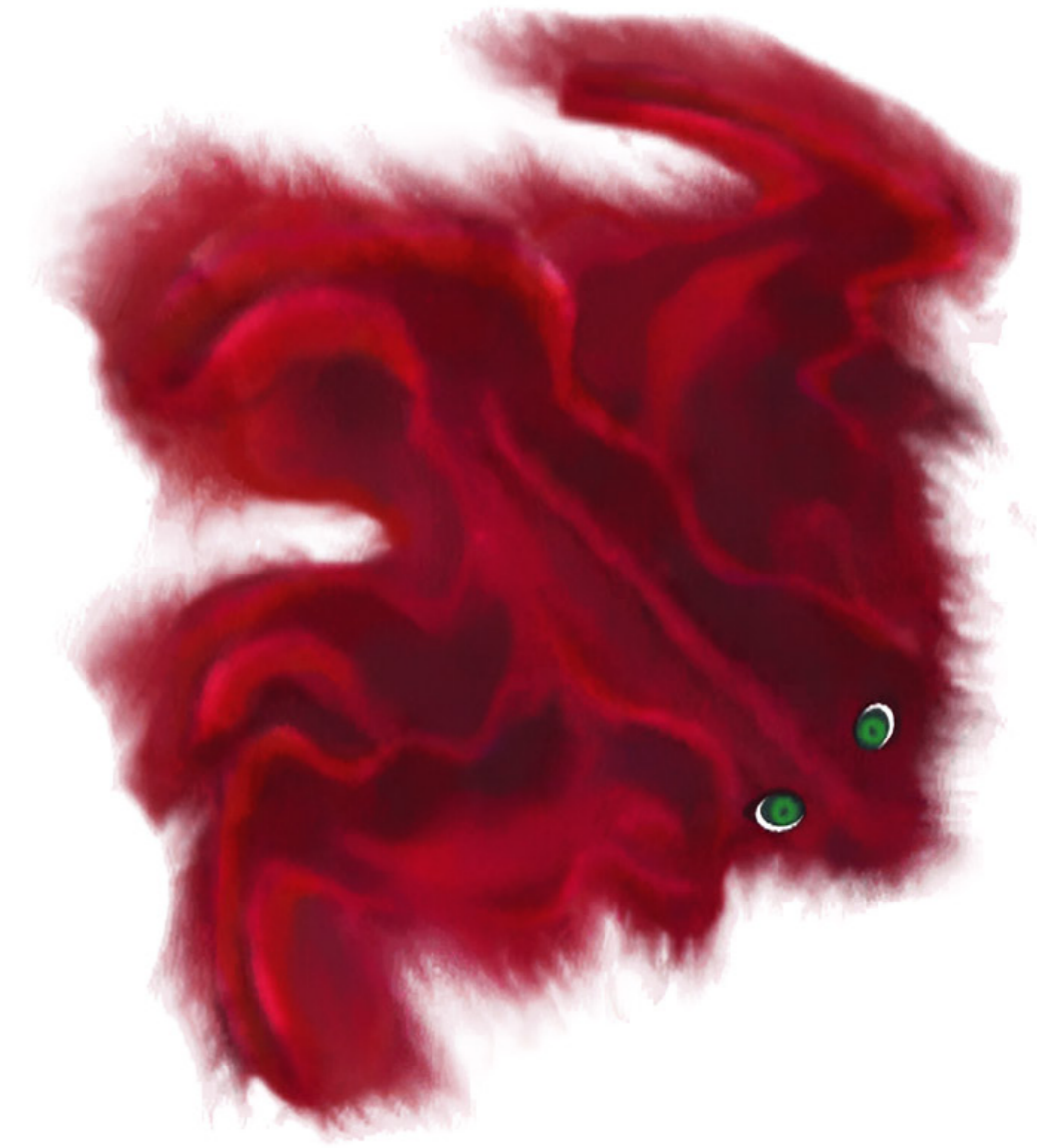


# 2D Design Illustration

## About the Project

The Little Critter began the first in a series of illustrations following the evolution of a fictitious species. The story of the critter begins in a tropical climate where its feathery body camouflages among flowers native to the environment. It's mating rituals being incumbent on high winds allowing its flat body to migrate to towards others of its species, providing an innate incentive to migrate. Thus, the critter learns to adapt within new environments through a series of events, from climate change to the extinction of its predator.

## Curious Critter



## About the Project

This design involved disassembling and re-composing the First Amendment of the United States Constitution through the lens of “electrAcity,” a theory by Greg Ulmer that suggests digital media is to the digital age what literacy is to print. Ulmer posits that consciousness in the digital age exists outside the human body, enabling complex communication. The metaphor of the octopus, with its distributed intelligence and bioelectric properties, illustrates this theory. By adopting octopus-like behaviors—

2D Design  
Parametric Design

# The Octopus

such as camouflaging, manipulating technology, and navigating prohibited spaces—this process explores and aggregates polarized perspectives of contemporary American political culture, weaving them into a canvas that reflects the evolving and complex understanding of the First Amendment. View the Octopus process in action on YouTube (<https://www.youtube.com/watch?v=CwHWIUa92Pw>). Also, read the full details of this project from the perspective of implementing the CATTts process ([https://gfranzetta.com/wp-content/uploads/2023/02/The-Octopus\\_CATTts.pdf](https://gfranzetta.com/wp-content/uploads/2023/02/The-Octopus_CATTts.pdf)). Created in Adobe Illustrator, Photoshop, and iMovie.

The Octopus



# 2D Design Poster Design + Illustration

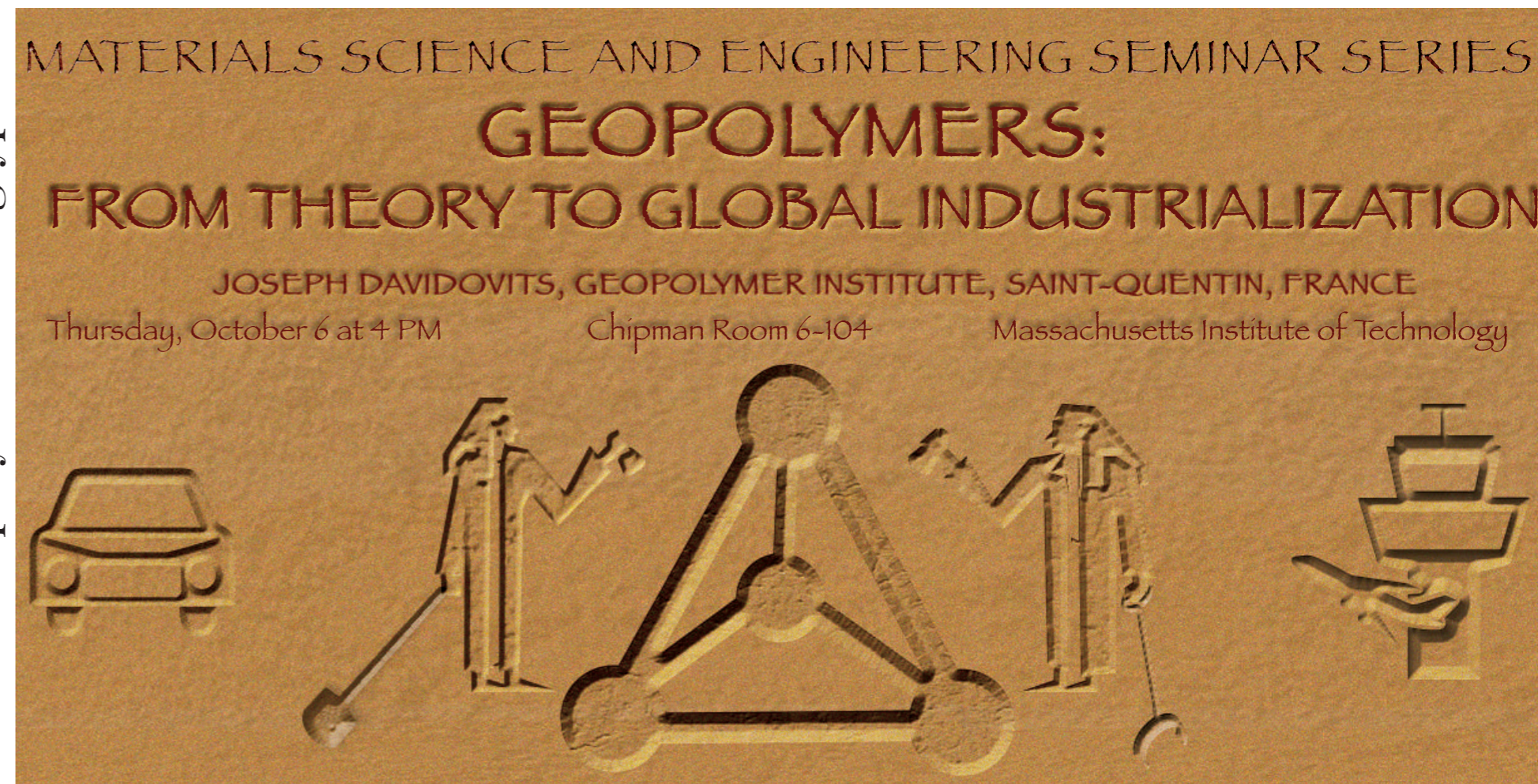
## About the Project

This poster was created to advertise a seminar by prolific research chemist, Prof. Joseph Davidovitz, whose work as the inventor and developer of geopolymers, has been featured in high profile media, such as Nova. The talk explored geopolymers, an inorganic polymeric material employed for industrial applications, discussed the contemporary employment of the material for such applications as airport construction, foundry utility, and automobile construction. In addition, he introduced his theory that in addition to contemporary usage, the material was also employed by the ancient Egyptians to construct the Great Pyramids. His theory contradicts the traditional theory that the Egyptians hauled massive stones to the site of construction, and instead suggests that they engineered geopolymer technology and implemented the technology to form the colossal building blocks that built the pyramids at the site of construction.

## Design Construction

Designing this poster focused on illustrating the science of and the avant guard theory pertaining to the ancient Egyptian employment of geopolymers. Paying homage to ancient Egypt as a main theme of the talk, hieroglyphs of scientific and industrial imagery from industries and practices where the geopolymer material is applied etch into sandstone. The Papyrus font was selected to suggest the antiquity. With geopolymers being the central topic of the talk, a geopolymer molecule positions within the center of the composition. Flanking the image, two ancient Egyptian chemists dressed in lab coats, one male one female, hold beakers in one hand and foundry tools in another, behind them in the outer perimeters etch hieroglyphs of a car and an airport, signifying the employment of the geopolymer. Automobile and airport utilized manipulated clip art. Other images created in Photoshop and Illustrator.

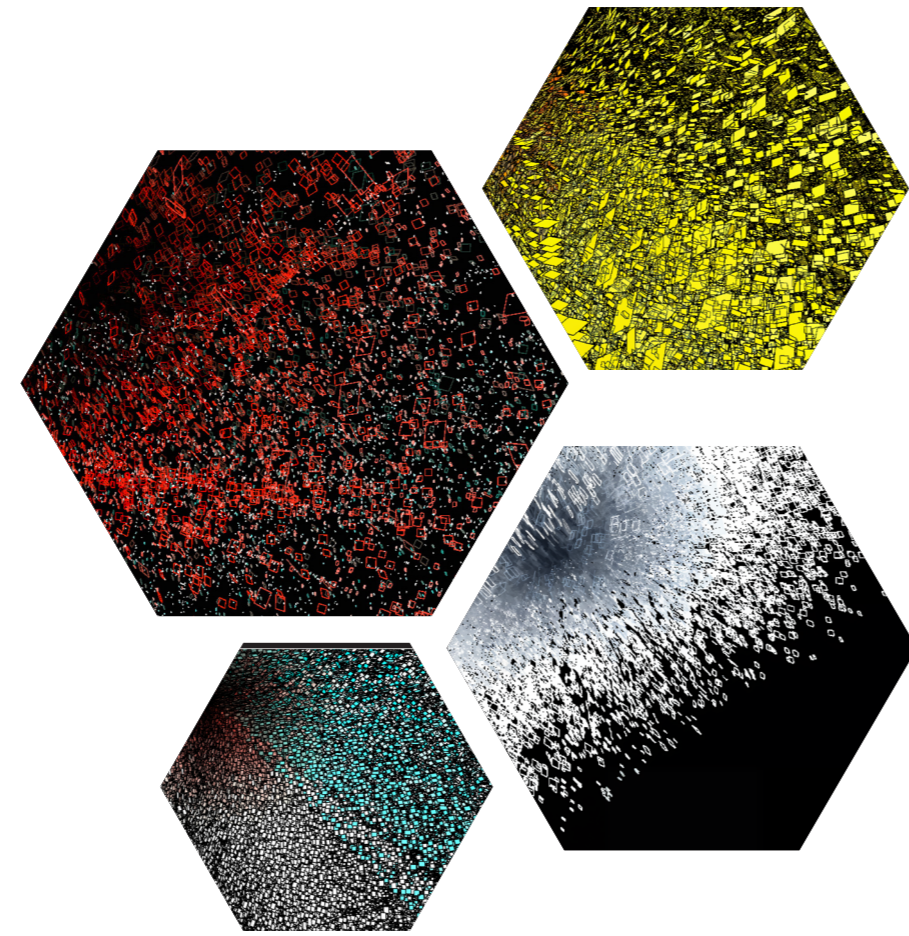
## Geopolymer Hieroglyphics



# 2D Design Parametric Design

## About the Project

The following projects include selections exploring the phenomenon of 11:11. 11:11 contains metaphysical principals of synchronicity and the mathematical phenomenon of doubling and folding within itself.



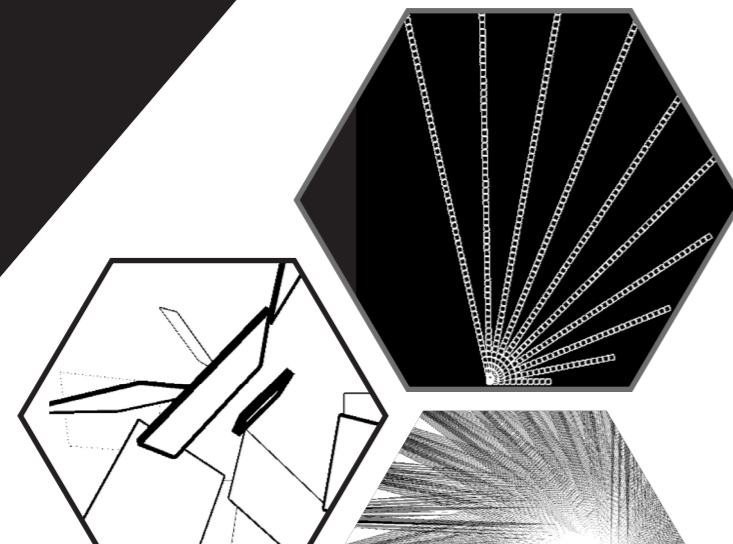
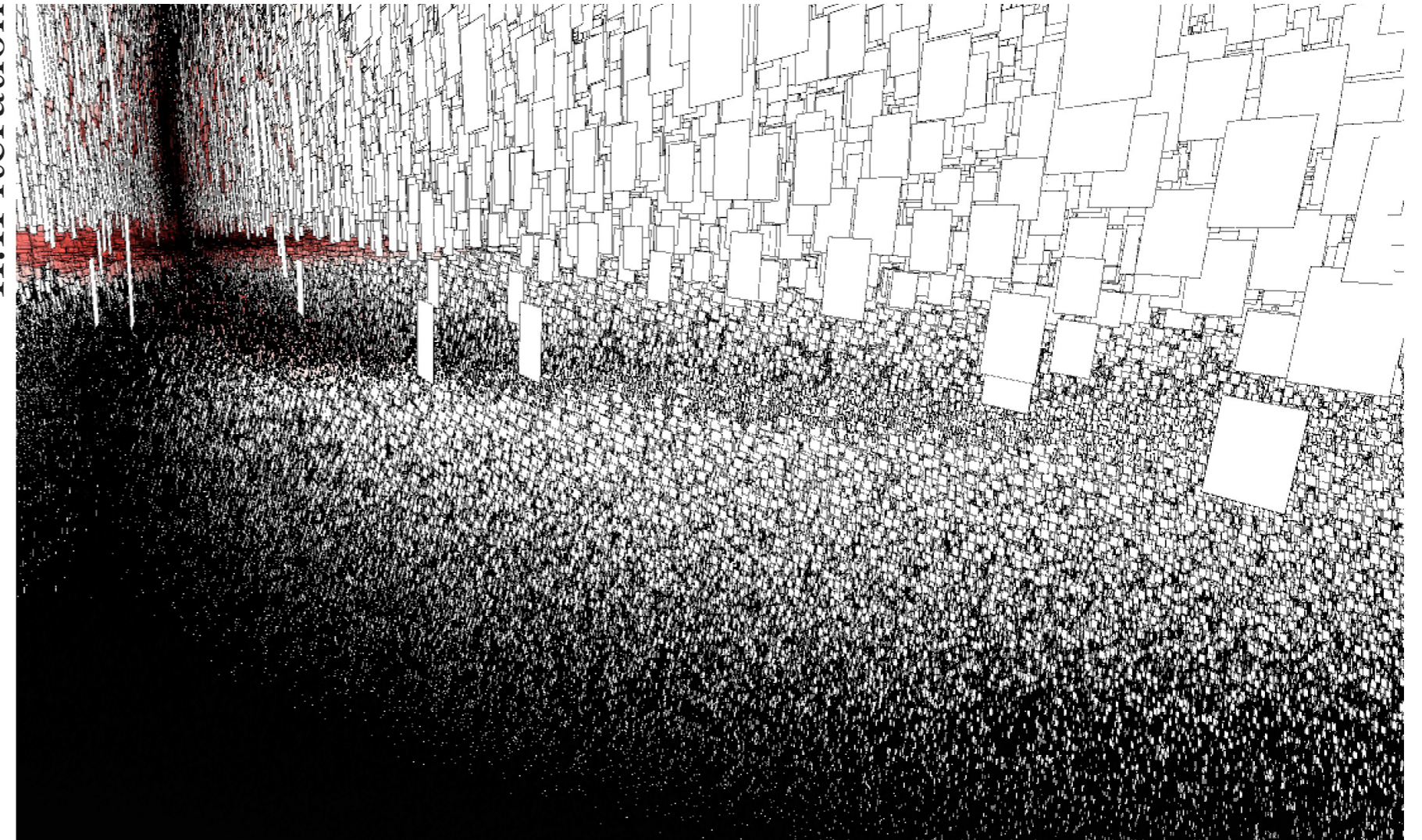
## The End Result

What did unlocking this experiment with the math and metaphysics marvel yield?  
...As it turns out, when exercised visually using a series of for-loops in Java, the mythical number journeys within a D.C. Comic strip. Discovering this visual comparison, color pallets from classic comic books were selected.

Below displays earlier iterations leading to final iterations included in selections shown above.

To view the presentation for this series, visit [https://gfranzetta.com/wp-content/uploads/2022/10/11-11\\_Gina-Franzetta.pdf](https://gfranzetta.com/wp-content/uploads/2022/10/11-11_Gina-Franzetta.pdf).

11:11 Iteration





# 2D Design Logos

## About the Project

The LEAP project contributed to a proposal to the National Science Foundation for a \$25M grant to execute an innovation to polymers research. The graphics and icons for this project utilized a color pallet selected by the principal investigator of the project to visually indicate subject components applicable to each topic throughout the proposal. The flowing hyperboloid imagery represents cross-linked and other structures of fluid polymer chains simplified into elegant lines. Created in Illustrator.



## About the Project

This logo represents a futuristic cyberpunk cyborg character. The V in this design was inspired by geometry found in mechanical representations of cyberpunk graphic art. Color selections included neon pinks and blues. Created in Illustrator.



## About the Project

The Working Group of MIT (WG) supported MIT departments a multitude of capacities, from administrative duties to administering IT support. As the founder and chair of the WG subcommittee, Design Support Staff (DSS), a group for support staff who performed in a graphic design capacity, I was charged with designing a new, temporary logo to represent the WG until the DSS acquired a sufficient quantity of members to collectively create a new, official logo. The top design represents the human-centered message of the WG. The bottom design represents the final logo designed by DSS members as a group. This project involved collective research, sketches, magazine clippings, and brainstorming to create a logo to represent a diverse group containing a broad spectrum of skills and expertise that comprise the MIT support staff. Our team unanimously concluded that the imagery of gears most effectively symbolized MIT's support staff, reflecting their integral role as the cohesive force operating behind the scenes to keep the MIT machinery running smoothly. Created in Illustrator.



Contact



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Designer