# PSYCHE NSPIRED Tungsten Class

a collection of artworks

#### Psyche Inspired Tungsten Class

A Collection of Artworks

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## **Table of Contents**

Introduction	5
Foreword from Lindy	6
Mythology	8
The Team	38
Launch	48

Journey	62
The Asteroid	84
The Mission	108
Meet the Interns	144
Index	148



#### See these QR codes?

These allow you to experience more Psyche content online. To start, open the camera app on your iPhone/iPad or download and open a free app, such as "QR Code Scanner" from the Google Play store for Android. Hold your smartphone or tablet over these barcodes. Once scanned, follow the generated link on your device to experience our interactive content online and enjoy.

## What is Psyche Inspired?

Psyche Inspired is a program that brings undergraduate students from any discipline or major together to share the excitement, innovation, and scientific and engineering content of NASA's Psyche mission with the public in new ways through artistic and creative works.

## **Foreword From Lindy**

Dear Friends,

We've launched! Our beautiful spacecraft is, as I write, more than 600 times farther away than the Moon, and it takes radio waves, traveling at the speed of light, almost thirteen minutes to reach her.

Saying good-bye as the rocket lifted the spacecraft into the clouds on lucky Friday, October 13, 2024, was surprisingly hard, but that spacecraft's natural home is space. She is performing incredibly well.

At launch emotions run high, and engineering, science, and art come together especially naturally. It's also a moment of inspiration.

Recently I listened to a piece by an author I especially admire, George Saunders. The piece, called "Congratulations, by the Way," contains spectacular advice.

Now, I'm not normally a big fan of advice. The whole concept is a little annoying; it's condescending. I believe in minimal advising and maximal sharing, so that everyone learns more about the possible paths through life and can make up their own minds. But every once in a while, some advice comes along that's so good, it's irrefutable, it's precious.

Saunders talks about the importance of kindness. Kindness is often underrated sometimes thought of as an act for the weak. On the contrary: Kindness is the thing we all need more of.

Saunders writes:

Find out what makes you kinder, what opens you up, brings out the most loving, generous, and unafraid version of you and go after it like nothing else matters....Find your secret luminous place and clear away everything that constrains it.

For me, the actions of a team that creates the miracle that is space exploration is a hugely luminous place, not just for me but for all of humankind. And anything that important needs art, a lot of it, to capture and share the beauty and, well, the kindness.

This book celebrates the many contributions to this mission by our 2023-2024 Psyche Inspired class, the Tungsten Class.

Lunda 7. Elkumfurt

Linda T. Elkins-Tanton April 11, 2024 Paradise Valley, AZ



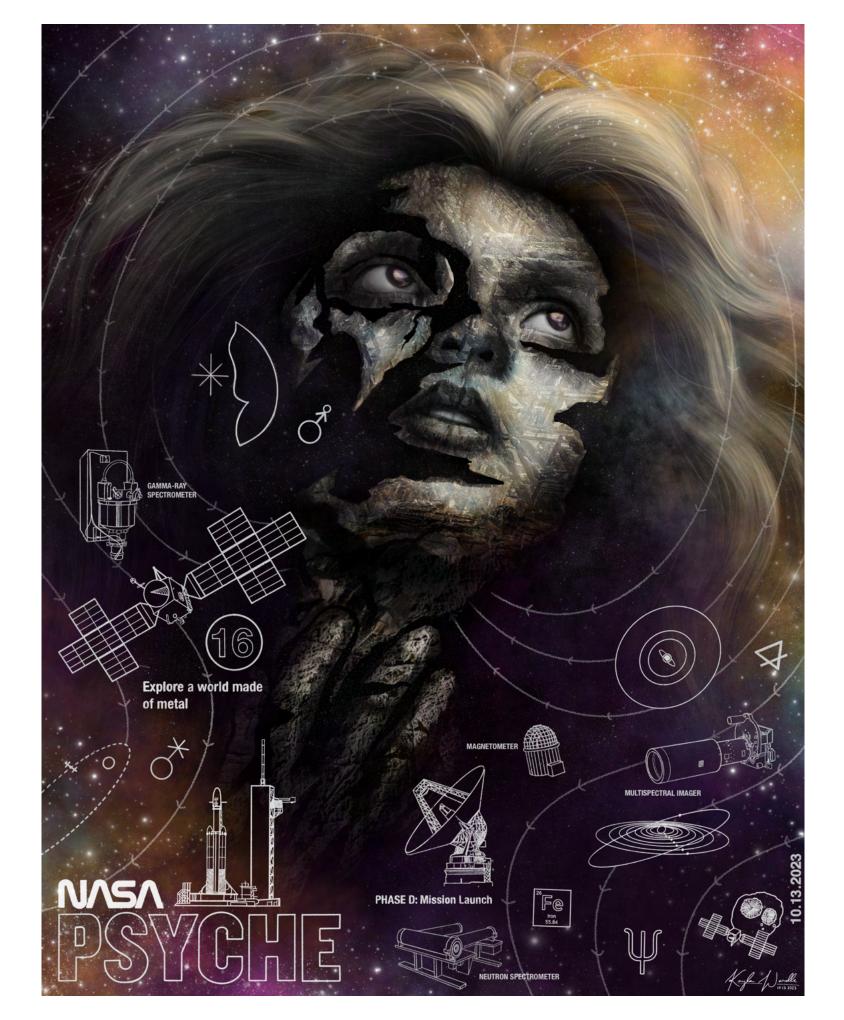
# Mythology

Early asteroids that were discovered, including Psyche, were named after gods and goddesses from ancient Greek mythology. After discovering the 16th asteroid in 1852, Italian astronomer Annibale de Gasparis named it Psyche, after the Greek goddess of the soul, who is often symbolized by a butterfly. Because Psyche was the 16th asteroid to be discovered, it is sometimes referred to as (16) Psyche.

### Soulstice

#### Kayla Wardle *Digital Painting*

"Soulstice" is a digital art piece made with Procreate. Drawing from both from the Greek myth of the goddess Psyche, whom the asteroid is named after, and the history of NASA's Psyche mission, "Soulstice" plays on the idea of a soul's journey. I wanted to depict how the story of Psyche searching for love parallels the story of the search for and exploration of the Psyche asteroid. The elements of this piece portray a long journey that is not yet complete. In this piece, I used the idea of personifying elements of the asteroid as the goddess Psyche. The goddess' face is fragmented and only half formed because we still are unsure what the Psyche asteroid looks like. Psyche's hair fades into sketches of magnetic field lines, portraying the possibility of the Psyche asteroid having a magnetic field. Scientific diagrams from NASA's Psyche mission appear in the background, along with historical symbols representing that the mission is still ongoing. Despite the seeming incompleteness, the piece is full of color and ideas, showcasing all that has been accomplished so far and the possibility of the future. "Soulstice" celebrates scientific progress and illustrates the human soul's eternal pursuit for discovery and fulfillment.





# Goddess of the Soul of Space

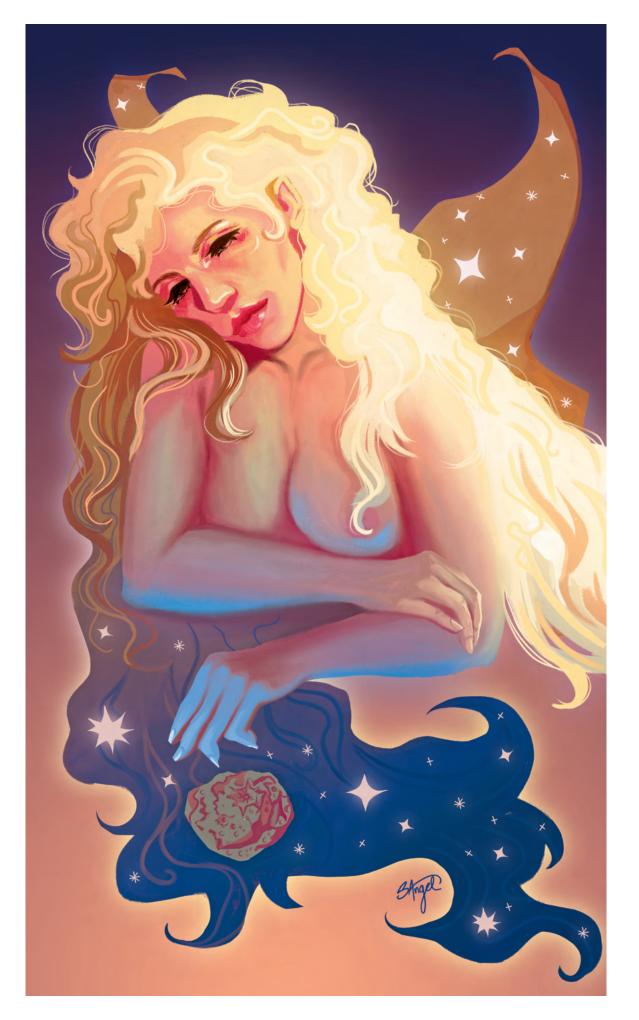
Mickey Zavala *Digital Painting* 

"Goddess of the Soul of Space" is a digital artwork that depicts a bust of the female goddess, crowned by the metal composition of the asteroid. Her eyes reflect the deep void of space, marked by colorful nebulas. She is surrounded by a few colorful stars. The piece marries both the mythological figure of Psyche and the asteroid Psyche. Psyche, the goddess of the soul, combines with the asteroid to become the goddess of the soul of space. The piece was created on a tablet using the Procreate digital art program.



Simon Angel Pitts *Digital Painting* 

I was deeply inspired by the idea of the asteroid being named after the goddess Psyche. I find great beauty in the connection between godliness and the universe, as I often find my own religion within the vastness of space. In my digital illustration, I wanted to incorporate both elements of the asteroid and the Goddess into one, where she flows into space, and space flows into her. This represents not only the connection through the name, but the idea that all things are one.





### Soul of Space

Rebecca Holdren Ink Pen, Marker, Bleeding Tissue Paper

This piece was created with ink pens, bleeding tissue paper, and markers. It depicts Psyche as a combination of the spacecraft, the asteroid, and the Greek goddess. Her wings are based on the spacecraft's solar arrays and her dress is inspired by ancient Greek clothing. Craters from the asteroid are also represented on both her face and dress. The metallic gray color palette and geometric patterns represent the technical complexity of the spacecraft. The background of the piece depicts space as a colorful mesh of overlapping patterns and spirals, reflecting how space isn't just an empty void, but a place of wonder and possibility with countless stars, planets, asteroids, and other phenomena to explore. Continuously inspiring further research and curiosity, the wonders and possibilities awaiting in the sky are the soul of space exploration. Since Psyche is the Greek goddess of the soul, there's no better name for this art piece than "Soul of Space."

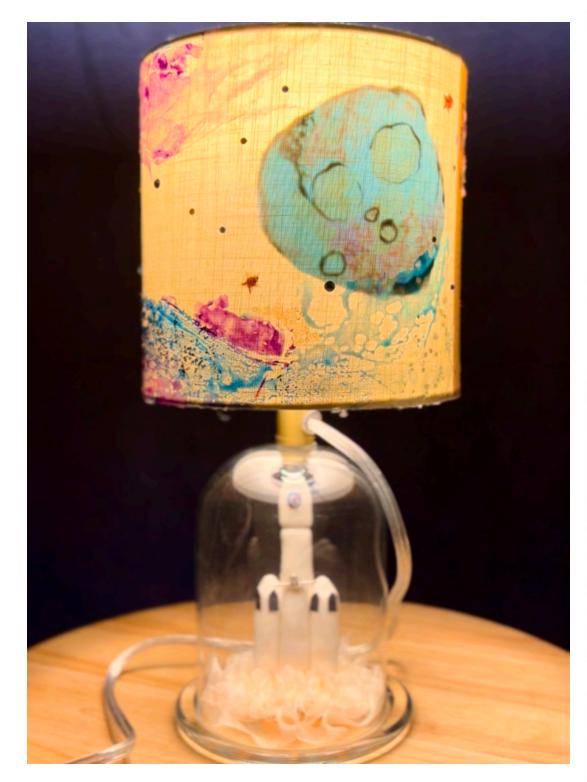
### **Forging Forward**

Angela Huang Digital Art

How do ancient narratives map onto our world today? The myth of Psyche from 2nd-century novel *Metamorphoses* is the inspiration behind countless spin-off stories, art pieces, and one very massive metallic asteroid—(16) Psyche. My goal with this piece was to map the mythological characters, Psyche and Eros, into a moment within her story over the current mission of the Psyche spacecraft sent to orbit the Psyche asteroid, with my own views and beliefs mapped onto traditional depictions in the piece's composition and execution. Reading Psyche's story, I was struck by how much she had to go through, and yet, in all the major classical artwork of Psyche I have viewed, Psyche is depicted very traditionally on the arm of or laying at the feet of a gallant, male Eros. This art piece is inspired by Antonio Canova's "Psyche Revived by Cupid's Kiss" and depicts Psyche after completing her second task — to shear the golden fleece off of dangerously violent rams — forging forward with shears and lamp in hand and fleece on her back to her third. I started this piece by looking at how I could play off of Canova's composition in a way that reflects my own view of Psyche's narrative. I made a very deliberate choice in placing Psyche at the center of focus compositionally, similar to how she is truly at the center of her myth and her asteroid at the center of the NASA-JPL-ASU-Maxar science mission, and making all of my design decisions around her. This included the placement of Eros, who is mapped over the spacecraft with solar panels for wings to visually indicate Eros's orbit around Psyche.

#### $NASA \cdot ASU \cdot JPL \cdot MAXAR$









### Highlighting the Wonders of Psyche

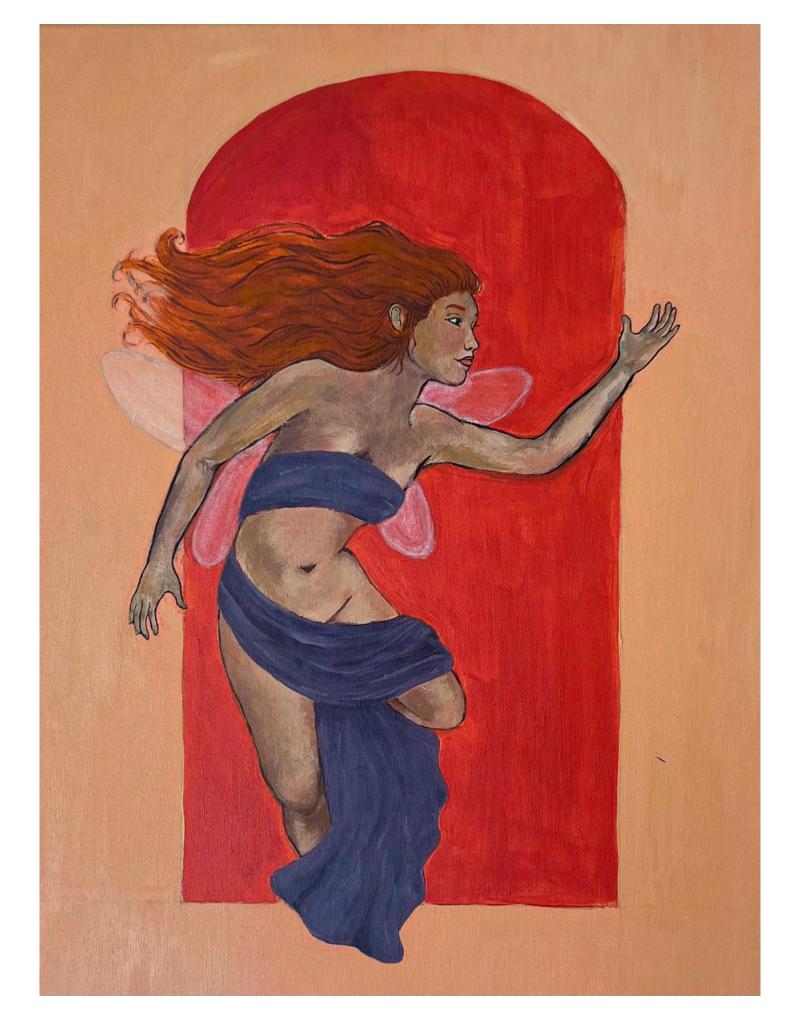
Cindy Furukawa Craft-Resin, Copic Markers, Polymer Clay, Rhinestones, Origami Paper, Ribbon

"Highlighting the Wonders of Psyche" is an art piece symbolizing the innovation and exploration of new discoveries fostered by the mission, which is displayed through an illuminated lamp. I decided to encompass both the essence of the goddess Psyche and the asteroid to show the dual ideas associated with the name "Psyche." By implementing transparent materials, I tried to create an overall stained glass effect that successfully casted a warm radiance to Psyche's hair. Her features were designed by cutting out metallic, gold origami paper so that when the light is on, the lining of her face stands out, when the lamp is turned off, her features remain soft and elegant. I sculpted a miniature model of the SpaceX Falcon Heavy rocket, that launched the Psyche spacecraft, out of polymer clay. In order to depict the exhaust and smoke, I utilized sheer ribbon and sewed them together to create folds and ruffles that added the desired billowing effect.

### **Psyche Emerged**

Danielle Gu *Acrylic Painting* 

"Psyche Emerged" is an acrylic painting that depicts Psyche, the Greek goddess of the soul and the namesake of the asteroid Psyche. Psyche was a well-known figure in Greek and Roman mythology, and she was born as a beautiful mortal woman before she eventually became immortal. One of the most notable myths involving Psyche is the tale of her love and marriage with Eros, also known as the Roman "Cupid." Their love was immortalized by Italian artist Antonio Canova in a marble statue named "Psyche Revived by Cupid's Kiss" (Amore e Psiche). I drew a lot of inspiration from the delicate, yet dynamic pose selected by the sculptor and ultimately chose to partially replicate it in my own painting. I further referenced other paintings of Psyche and Eros like "The abduction of Psyche" by William-Adolphe Bouguereau to better understand her poses, clothing, and appearance. While working on this project, I read a lot of the original text of "The Golden Ass," a novel which tells the tale of Psyche and Eros. The multiple trials that Psyche is required to undergo before she achieves immortality and discovers Eros again truly reminded me of the perseverance of the multiple groups who collaborated on this mission. Thus, I tried to represent the beauty of their efforts in my portrait of the stunning Psyche.





### The Polarity of Psyche

Aditi Mungale *Watercolor and Ink* 

The beauty of Psyche lies in the many meanings that are intertwined with its name. Psyche is the name of the Greek goddess of the soul, but it is also the name of an incredible space mission exploring an asteroid millions of miles away in the asteroid belt. "Polarity of Psyche" explores the idea of two very different concepts coming together, and the intriguing relationship between a physical and abstract idea.

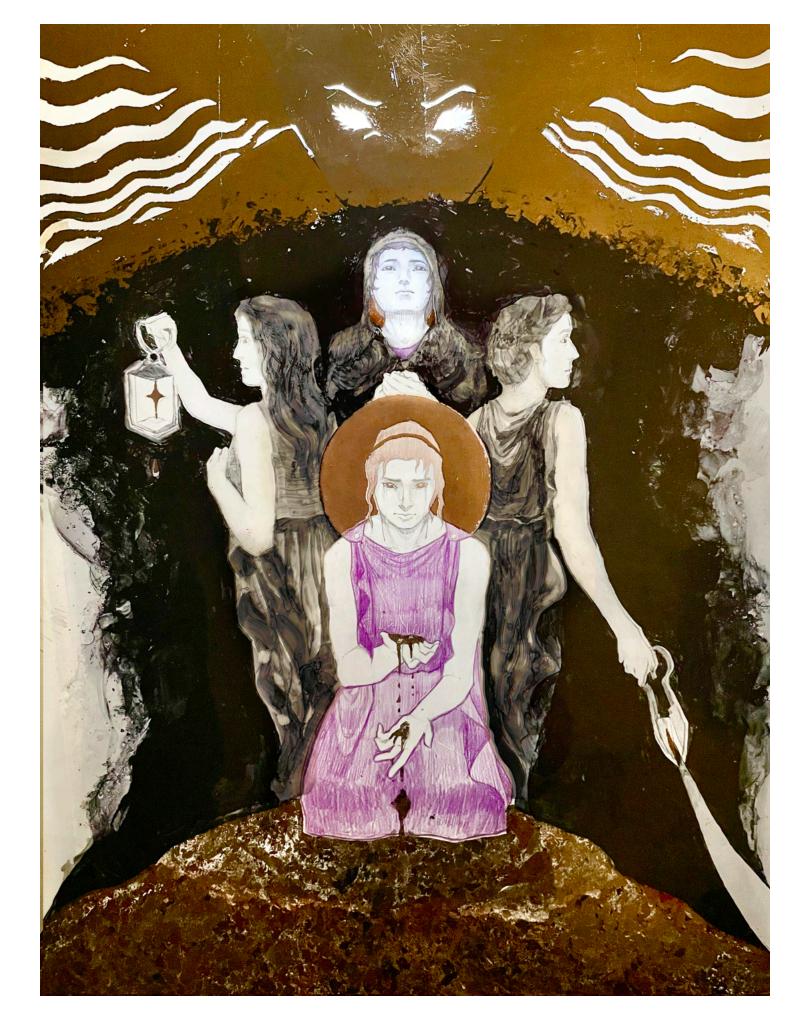
The foreground of the painting contains a depiction of Psyche the goddess in an ethereal forest. She has butterfly wings behind her figure as an homage to the traditional iconography associated with the myth. The sky is painted with swirling clouds and a silhouette of the Psyche spacecraft, depicting its journey through space. Both Psyches are outlined in gold ink to signify the common connection between the dual figures.

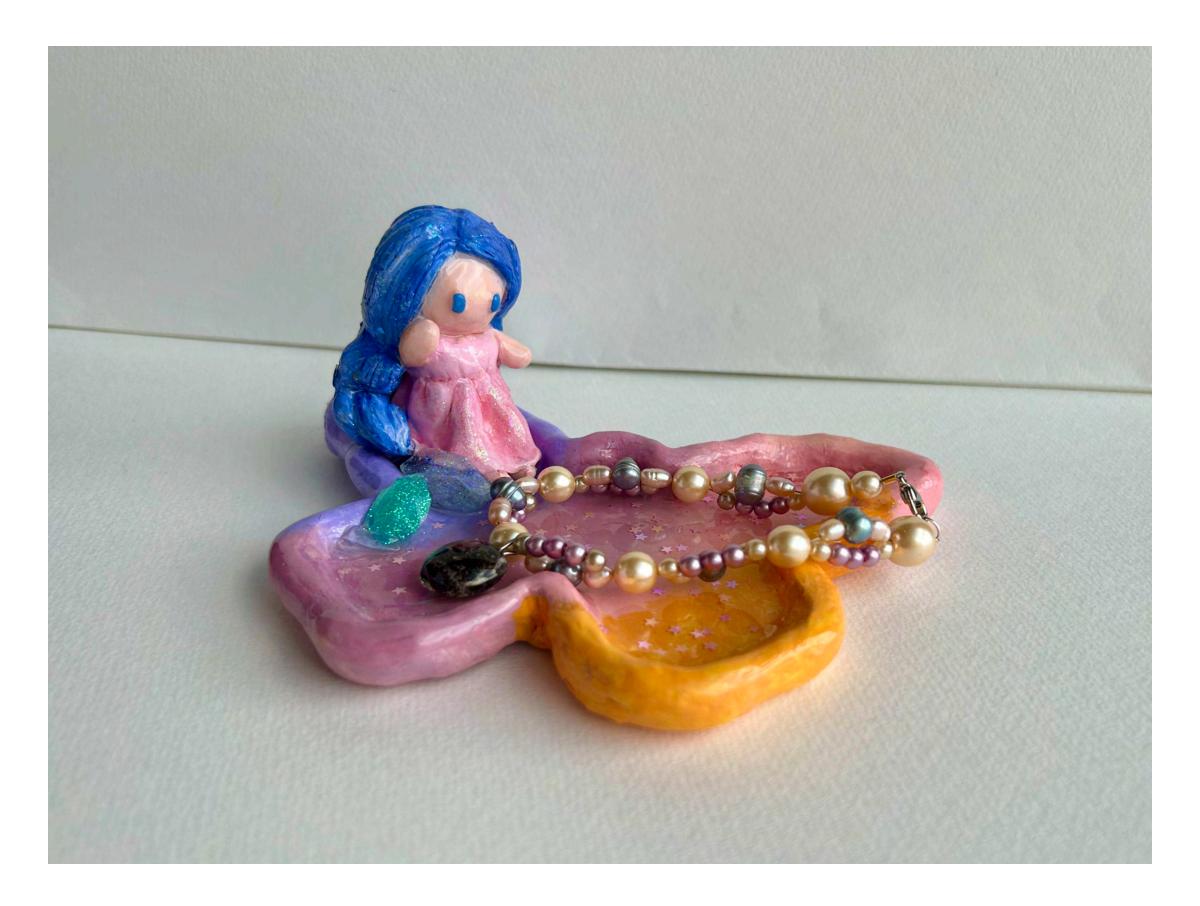
### Sifting the Self

Angela Huang Clear and Matte Mylar, Black Alcohol Ink, Isopropyl Alcohol, Gold Leaf, Copper Leaf, Metal Flakes, Charcoal Pencil, Color Pencil

"Sifting the Self" is a prequel to my Project 1 ("Forging Forwards") that looks at Psyche's mythological first task set by the goddess Aphrodite-the looming golden figure at the top of my piece-as punishment for being so beautiful. Psyche is given barrels of mixed grains and seeds and told to sort them out individually, which initially overwhelms her with despair. I sought to depict this in the most personal way I could through my own viewpoint of Psyche and her growth. Central to the composition is Psyche during her first task, which can be said to be the lowest point in her story, kneeling and looking at an overflow of jumbled grains (depicted with metal flakes) in tears. Behind her are three other states of self.

To me, beauty is in growth despite obstacles and bravery despite fear, which I've tried to channel into Psyche in this artistically challenging multi-layered piece of many mediums. The sifting of the seeds is a visual metaphor for how Psyche, and perhaps I, and this piece's audience, can only grow by confronting and challenging ourselves in various ways; learning from our past to move on to a better future.





# **Psyche's Treasured Keepsakes**

Cindy Furukawa Polymer Clay, UV Resin, Beads, Paint, Jewelry Making

"Psyche's Treasured Keepsakes" is a trinket dish and bracelet set inspired by the goddess Psyche. For the dish itself, I created a butterfly-shaped base from polymer clay drawing inspiration from the association of butterflies with the goddess Psyche. In the left corner of the wing, I sculpted a miniature version of the goddess Psyche. Referencing the color scheme of the mission's logo, I painted the dish in vibrant shades of purple, magenta, pink, and orange. Additionally, I handcrafted a bracelet to act as a set. I opted for an intertwining bracelet and used pearl beads for an elegant look without overshadowing the trinket dish. In the center of the bracelet is a pendant that is inspired by the asteroid itself. The design of the bracelet symbolizes the interconnectedness of the Psyche mission's impacts of fostering new discoveries in science and its influence on artistic interpretations of exploring the soul of Psyche. This project's focus was on intimacy and personalization, envisioning a piece that blends into your daily life. Whether it be sitting on a desk or used as a decorative storage for keys, office supplies, and your cherished accessories, this trinket dish adds a vibrant touch of color to the room. Its design also provides a cute companion to keep your belongings safe from getting lost.

# Psyche and the Lamp

Kyra Correa Edge-Lit Lamp, Laser Cut and Engraved Acrylic, LED Lights, 3D Printed PLA

"Psyche and the Lamp" reimagines of the story of Psyche and Eros. Here, Eros is replaced with a spinning (16) Psyche, and instead of an act of betrayal, the soon-tobe goddess Psyche engages in an act of self-discovery. Psyche's curiosity reflects humanity's curiosity as a whole as we attempt to discover our own planet's core—its soul, if you will—by exploring 16 Psyche, the possible core of a planetesimal. "Psyche and the Lamp" references a wide variety of ancient Greek and Greek-inspired art. I 3D printed 16 Psyche with white filament to evoke the marble statuary of ancient Greece. The goddess Psyche's pose is derived from Archaic and Classical-period vase paintings and from the pose of Psyche in John Wood's Neoclassical painting "Psyche Enamored of Cupid." The rendering of her facial features is inspired by statuary from the Classical period. Finally, the folds on the bottom of her dress evoke the wings of a butterfly, her iconographic symbol.







### Lady and the Asteroid

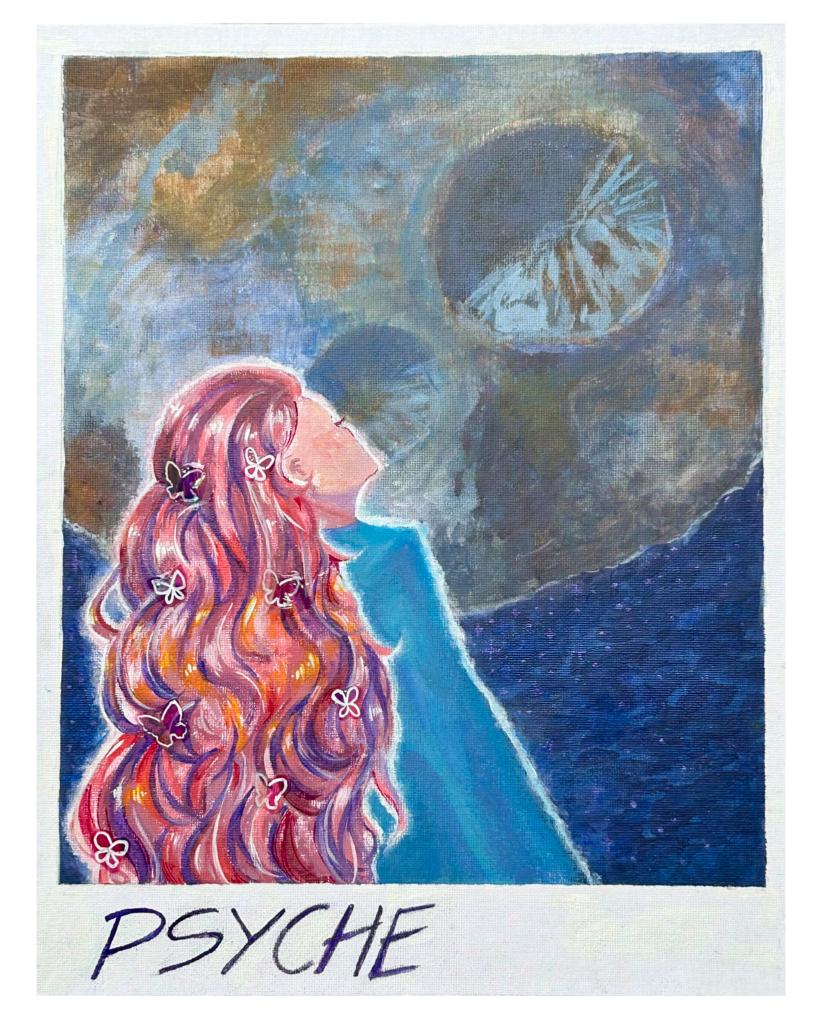
#### Leila Mirza Stoneware Clay, Mid-Fire Glaze, Acrylic Paint

In crafting "Lady in the Asteroid," I wanted to dive deep into the realms of Greek mythology and astronomy, channeling the timeless narratives of Psyche and the celestial dance of the (16) Psyche asteroid. Using black stoneware clay as my canvas, I sculpted a delicate classic Greek amphora–a traditional urn shape with two handles. I incorporated a mid-fire speckled glaze, and then layered black and gold acrylic paints in geometric, mandala-like patterns. I depicted an abstract goddess Psyche raising her hands to the cosmos, and the asteroid itself. To me, Psyche is a symbol of the soul's journey through the vastness of space and the depths of the human psyche. As I grew up adoring Greek mythology, I was set on creating a piece that fused my love for the cosmos as well as mythology itself.

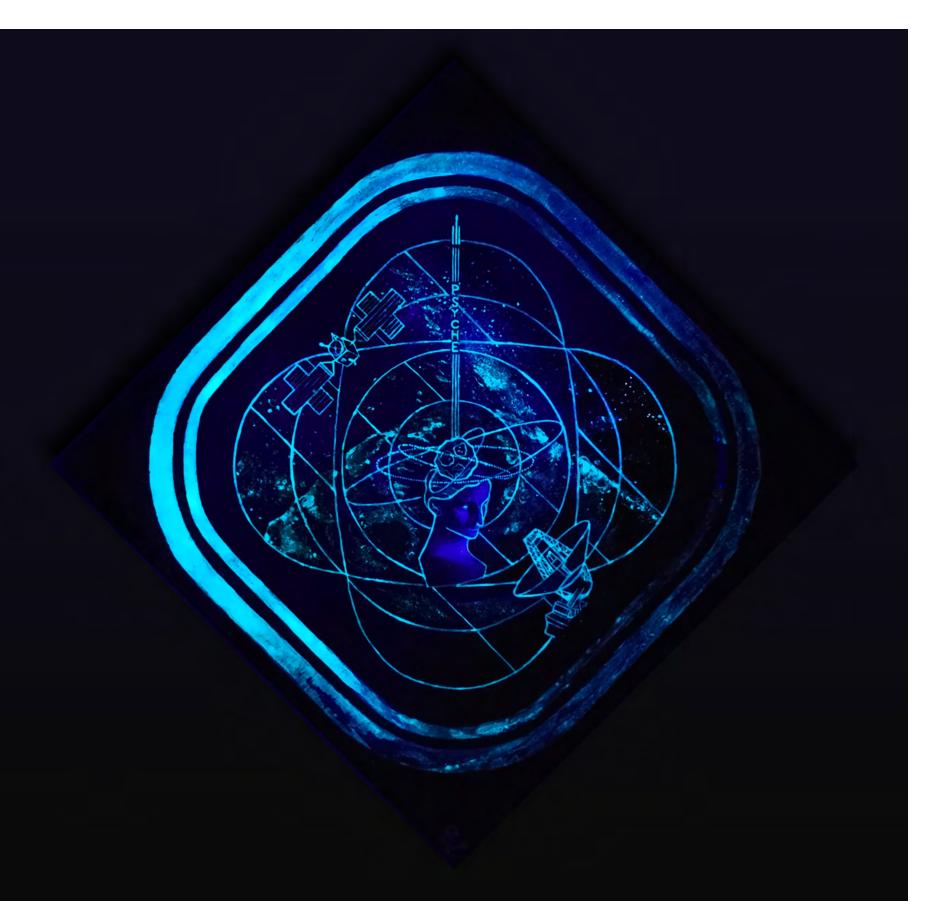
### Polaroid Portraits: Psyche's Cosmic Captures

Cindy Furukawa *Painting* 

"Polaroid Portraits: Psyche's Cosmic Captures" is a work designed to mimic a polaroid snapshot featuring the goddess Psyche in front of the asteroid. The camera is set to focus primarily on the goddess, resulting in intentionally softened details of the asteroid for a subtly blurred out background. The materials that were used were solely acrylic paint, with many of the colors mixed. My main goal was to create an artwork that didn't overly emphasize adding intricate details across the whole piece but instead shifted the focus on specific parts of the painting. For this reason, I decided to add highlights to Psyche's wavy, long hair, which reflects the colors of the Psyche mission's logo. This addition provides a vibrant contrast of colors against the shimmery dark background. To enhance texture, small butterfly details were added to her hair using cutouts of holographic cellophane film.







### Illuminae

Kayla Wardle Acrylic Paint and Photoluminescent Powder

Welcome to "Illuminae," an acrylic painting celebrating space exploration and discovery, brought to life with a touch of chemistry. At the painting's heart is the Goddess Psyche, the embodiment of the human soul, sculpted in the timeless style of ancient Greek sculpture. Her "brain" is represented as the heart of the mission itself, the Psyche asteroid. Together, they embody humanity's curiosity about the universe.

In the foreground, outlines of the spacecraft and deep space dish portray the connection between humanity and the spacecraft that will let us understand more about the Psyche asteroid and our solar system. Beyond, a star-studded sky stretches into infinity, overlooking the destination of our spacecraft, the surface of the Psyche asteroid.

But there's more to discover here than meets the eye. As the lights dim, hidden details emerge, illuminating only in the dark or under UV light. Watch as important elements of the mission, highlighted by photoluminescent powder, come to life. Just as scientists might use radiation waves or a telescope to view objects in space that are invisible to the naked eye, the viewer is invited to discover these hidden images by viewing the painting in a different light–literally.

### The Team

Initially, the Psyche team was composed of five individuals, which grew to about 140 by the time of the site visit from NASA in 2016. As the mission continues, more team members are added as needed. Currently, the Psyche team is comprised of many hundreds of individuals and seventeen different partners with a variety of specialties, including science, engineering, management, business, outreach, and education. Each member of the Psyche team plays an important role in the mission, ensuring that the mission proceeds on schedule and achieves its mission goals and objectives.





### **PSYCHE LAUNCH**

PRINCIPLE INVESTIGATOR

#### DEPUTY PRINCIPAL INVESTIGATOR BEN WEISS

#### **CO-INVESTIGATORS**

ERIK ASPHAUG I JIM BELL AVID BERCOVICI BRUCE BILLS RICHARD BINZEL WILLIAM BOTTKE CATHERINE BOWMAN RALF JAUMANN INSOO JUNO DAVID LAWRENCE SIMONE MARCHI TIMOTHY MCCOY I JOSÉ M. G. MERAYO RYAN PARK PATRICK PEPLOWSKI CAROL POLANSKEY THOMAS PRETTYMAN CAROL RAYMOND THOMAS ROATSCH CHRIS RUSSELL BENJAMIN WEISS DAN WENKERT MARK WIECZOREK DAVID WILLIAMS MARIA ZUBER

#### MISSION LEADERSHIP

WILLIAM (BILL) KNOPF SARAH NOBLE BRAD ZAVODSKY HENRY STONE ROBERT MASE DEBORAH BASS TIM WEISE BRIAN JOHNSON ADNAN SELOD DAVID OH JENNIFER MAXWELL NOAH WARNER ROB MENKE DARREN MICHAELS MARK BROWN NEIL DAHYA PETER LORD



### **Psyche Festival Poster**

Esha Raut Graphic Design

Inspired by music festival posters, this piece honors the science investigators who have worked on Psyche. They are present by name according to their respective team, as if they are part of a concert setlist. I incorporated the Psyche fonts and colors into the design theme.

### **Psyche Odyssey Vinyl Album**

Miranda Unwin *Digital-Adobe Illustrator* 

This artwork is designed to encompass the similarity of movement between gravity waves and sound waves. The musical harmony of the universe is visually represented by the brand colors of the Psyche mission and dynamic elements that create flow and movement. "Easter Eggs" (hidden clues) are scattered throughout the piece tying in the team's involvement on Earth behind this incredible mission. The title of this vinyl album is "Celestial Havoc: The Psyche Odyssey", a play on the Greek epic "The Odyssey", as this mission will be an incredible journey far from home. The composer of this vinyl album is named "Violent History of Collisions", which was a phrase that struck me when reading about the formation of the asteroid Psyche. The pink/purple circle in the center is a representation of a vinyl album that conducts the waves of the Psyche asteroid and spacecraft. The Psyche spacecraft sits on the needle of the vinyl player, keeping the two objects in sync with each other. In the background of the composition are the names of all the individuals who helped make the mission to Psyche happen. Without their contribution, this mission and my role within it would not be possible.





### **Full Circle**

Leila Mirza *Stoneware Clay* 

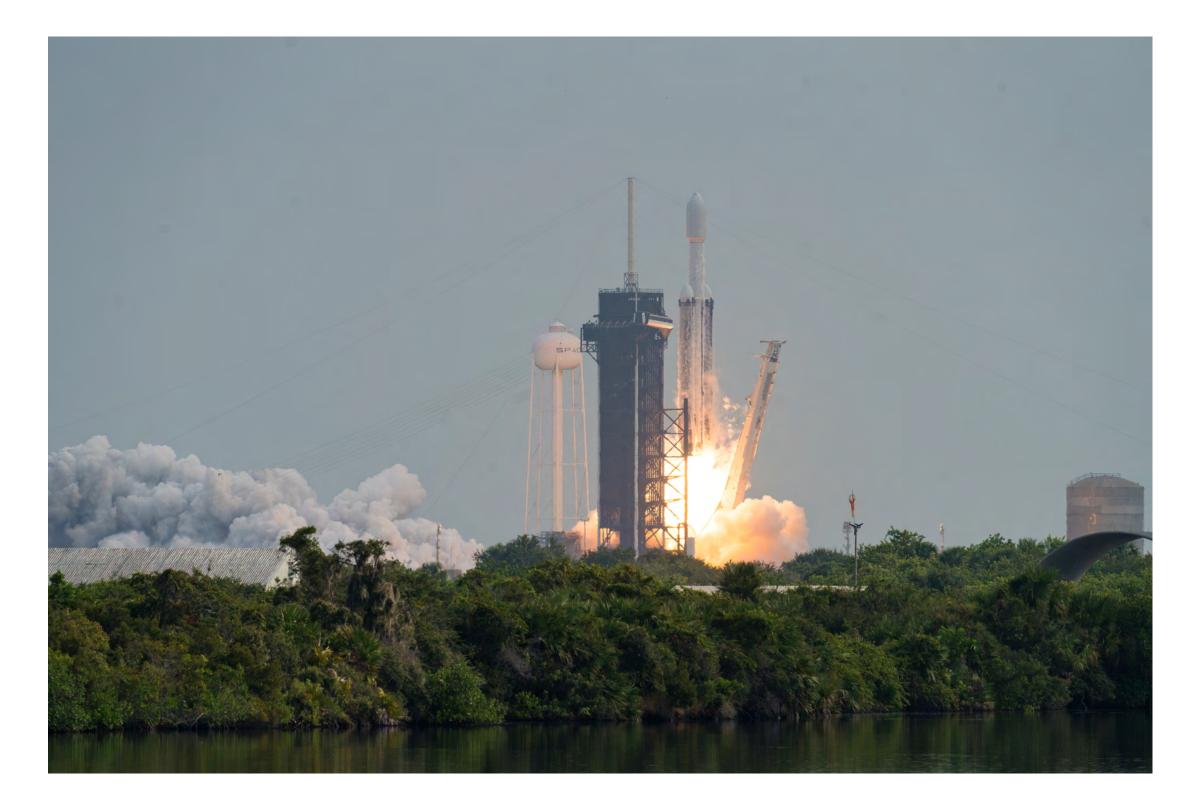
My final piece is called "Full Circle." I carved the Psyche mission logo symmetrically around a donut shaped body. This piece combines my love for throwing shapes on the wheel with the novelty of carving shapes into clay rather than painting them on top. In my mind, it is a feminist piece celebrating the female goddess and female leadership of the mission. I am incredibly inspired by the work of the mission's principal investigator Lindy Elkins-Tanton. After she came to speak to us, I learned about the effort and persistence it took to write grants to NASA, eventually be selected, and now have a spacecraft up in the air.

### A Feminist View of Psyche

Meagan Martin *Oil on Canvas* 

"A Feminist View of Psyche" is an oil on canvas painting that features a representation of the goddess Psyche under the dome of the Psyche asteroid, surrounded by some of the many inspirational women of NASA. The four women featured are Katherine Johnson, Sally Ride, Margaret Hamilton, and Mae Jemison. The four women are surrounded by technical equipment as well as iconography representing the four mythological trials of Psyche, dually representing their substantial challenges as they paved the way for women within the space program. Their representations visually build up to Psyche's standing form, which is reaching down to a child to give a gift of three stars, a symbol of the goddess. The image of the child is based on a picture of my mother, whose love of space first introduced me to its wonder. All the figures are set in an abstract view of space. This acknowledges the many women who paved the way in the space program as well as notes their impact on following generations; a thank you to all women who inspire and encourage others to follow their dreams even if they are found in space.





### Launch

At 10:19 a.m. EDT on Friday, October 13, 2023, the Psyche spacecraft launched successfully aboard a SpaceX Falcon Heavy rocket from Launch Pad 39A at NASA's Kennedy Space Center in Florida.

### **Psyche Launch Newspaper**

Esha Raut *Graphic Design* 

This piece depicts what would be the front page of a vintage newspaper that announces the launch of the Psyche spacecraft. It offers other information on the recent launch, the Psyche asteroid, and links to learn more about different aspects of the mission and even get involved through different projects.

## BREAKING NEWS **PSYCHE LAUNCH**

On October 13th, 2023 at 10:19am EDT, the Psyche spacecraft launched from the Kennedy Space Center's Launch Complex 39A. This spacecraft is traveling to the asteroid Psyche, located in the main metal belt between Mars and Jupiter. The asteroid is being explored for its various metals, which are more prevalent than ice or rock.

This mission has just completed Phase D (launch), and is progressing to Phase E which involves traveling to Psyche using the assist from Mars' gravity, arriving at the asteroid, and thereafter orbiting it.



NASA's Psyche spacecraft, after launch from Kennedy Space Center's Launch Complex 39A.

Photo Credit: NASA/Kevin Davis & Kevin O'Connell

#### THE ASTEROID

#### **GET INVOLVED**

Dimensions:

• 173 x 144 x 117 mi

#### Diameter:

 140 mi (if viewed as a perfect sphere)

#### Density:

- Estimated 3,400 to 4,100 kg/m<sup>3</sup>
- Surface Area:
- 64,000 mi<sup>2</sup>

Artwork inspired by the Psyche mission:

Additional Resources:

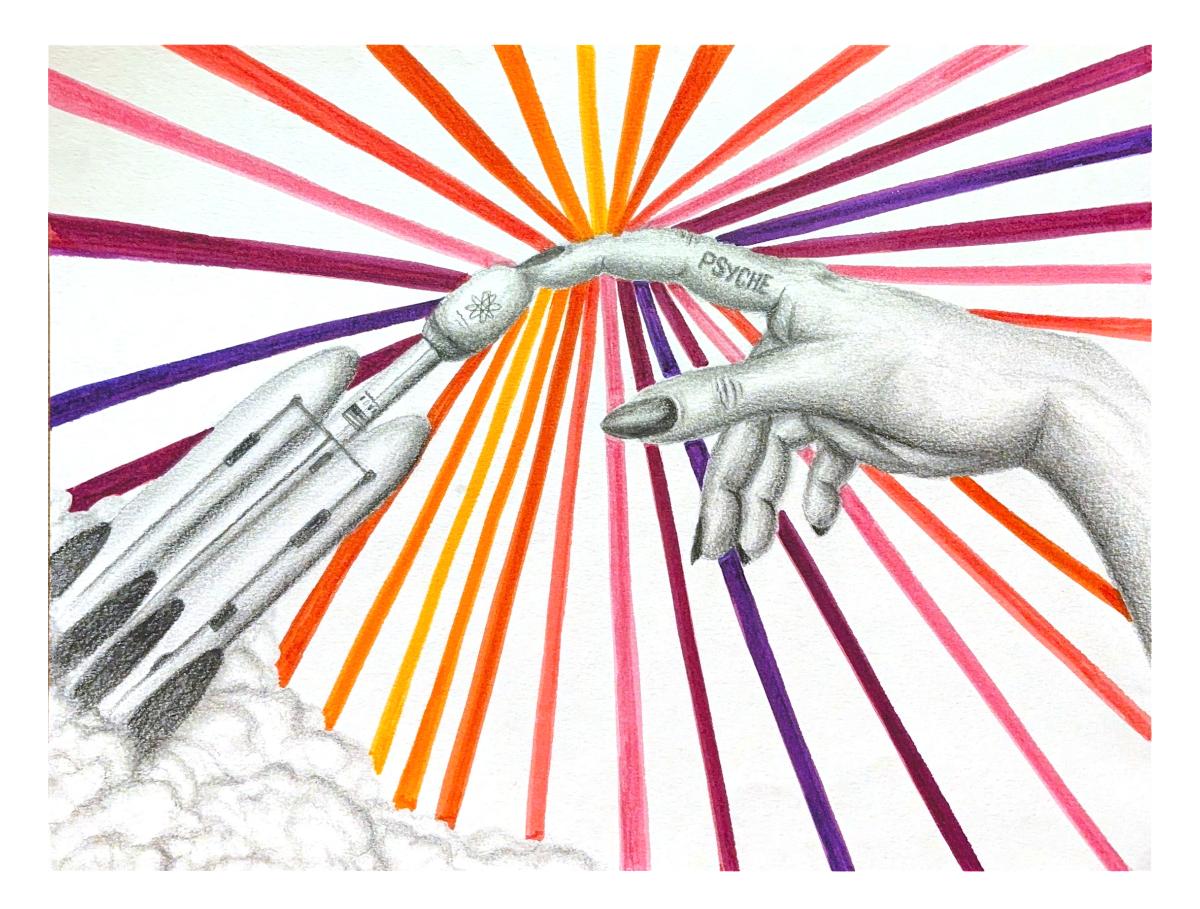
#### Psyche Inspired

- <u>Capstone projects</u> by university students
- Innovation Toolkit
- Models and Materials
- <u>#PsycheSpaceCrafty</u>

#### WANT TO LEARN MORE?

Check out:

- Psyche Mission Website
- NASA Psyche Science Website
- JPL Psyche Website
- The <u>Timeline</u>



### **Creation of Psyche**

#### Ally Lewis Graphite, Charcoal, Acrylic Markers

Inspired by Michelangelo's most famous work, "The Creation of Adam," as well as the recent Psyche launch and its incredible success, "The Creation of Psyche" was born. Featuring the hand of the Psyche goddess on the right and the Psyche spacecraft itself during launch on the left, this work was created to celebrate the planning, hard work, and immense success that resulted from Psyche's launch on October 13, 2023. On a more symbolic level, too, this piece celebrates the origins of the Psyche mission itself. Specifically, in Michelangelo's original work, the figure on the right was to represent God as he "created" Adam, the figure on the left, who was being created according to the Genesis passage, "God created man in his own image." To that same effect, in this piece, the Psyche goddess is bestowing her inspiration, luck, and of course, her creation upon the Psyche spacecraft itself, modeling the mission after herself as God did in Michelangelo's painting. To elevate the piece to a more modern realm, too, the touch of Psyche is surrounded by exploding lines in the color palette of the Psyche brand. This not only represents the explosion of excitement and success due to the recent launch, but it ties the ancient Psyche goddess to the modern day mission itself.

### **Sense of Wonder**

Rebecca Holdren Markers and Ink Pen

"Sense of Wonder" highlights Psyche's launch, capturing the feelings of childlike awe and joy in the launch of a rocket and the exploration of the unknown. The piece is drawn with marker and ink pen along with white colored pencil for the exhaust and depicts the launch of the Psyche mission. The rocket and exhaust are drawn semi-realistically, showing the effort and technical skills that went into pulling off a launch. The sky is purple with orange clouds, matching the colors of the Psyche mission patch. The vibrant color palette of the sky along with the inclusion of butterfly wings (the Greek goddess Psyche was often depicted with butterfly wings), gives a more fantastical vibe, capturing the sense of wonder in launching a mission into space. The wings are a blend of purples and blues, white stars, and geometric patterns, with each wing having a smaller drawing including Psyche the goddess, the spacecraft, the asteroid, and the rocket. The pattern work on the wings also represents the technical complexity in space travel and exploration.





# Reaching for the Future

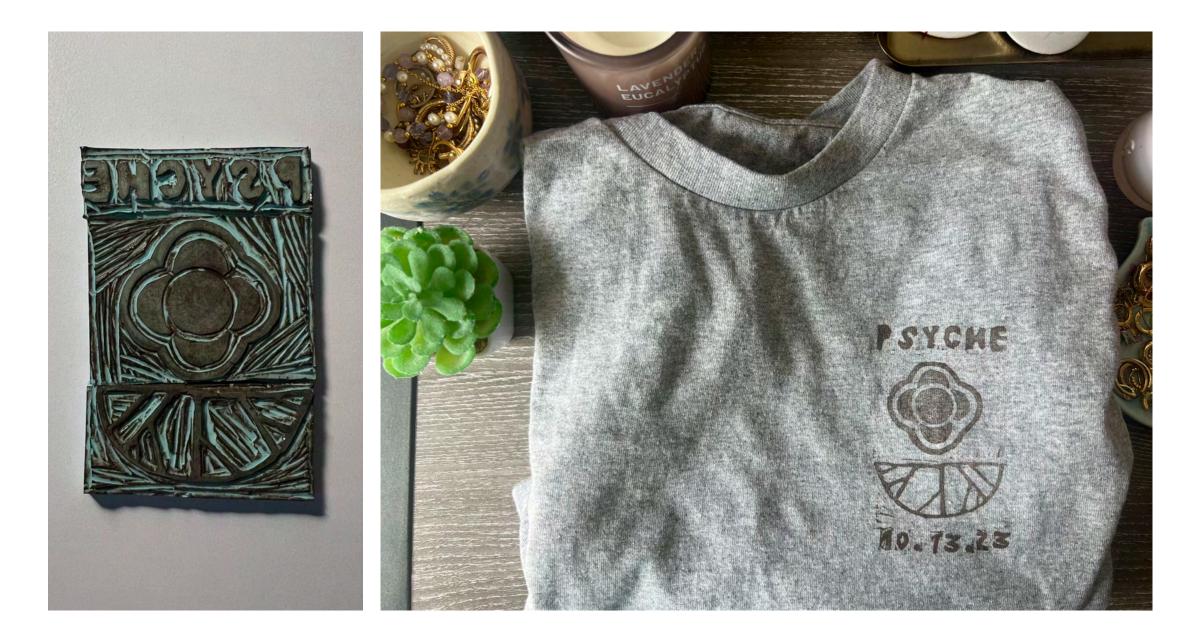
Meagan Martin *Pine Wood, Wooden dowels, Acrylic Paint, Wood Finish* 

This work comprises five hand-carved wooden toys inspired by various aspects of the Psyche mission. Specifically, it features models of the Psyche spacecraft, asteroid, and rocket, along with two scientists and a command center console. All five elements were made from pine wood decorated with acrylic paint and coated in a clear varnish. All toys are placed in a box roughly approximating a typical toy box. The toys are designed to inspire the people who interact with them to become involved and excited about space—encouraging their users to dream of space and engage with the collective wonder of the mysteries and wonders of space. The toys represent the power of play and the impact of childhood toys on individuals' paths and passions; these toys encourage the option to work in and opportunities found within STEAM fields.

### **Psyche Stamped**

Danielle Gu Rubber, Archival Ink, Paper, Fabric

This work envisions a line of Psyche mission branded merch, from T-shirts to postcards. The print is made up of 8 separate stamps carved from rubber that are each printed one at a time. The top of the stamp reads "PSYCHE" and the bottom line of numbers refers to the date on which the Psyche spacecraft launched! The upper middle section of the stamp depicts the Psyche logo, and it draws inspiration from the previous drafts of the Psyche badge logo. Unlike the current version of the logo, the stamp does not feature different shades of colors with lines of separation in between. The bottom middle section draws from one of the other original concepts for the logo, namely the Widmanstätten pattern. The lines within the half moon shape are meant to resemble the cross section of some iron meteorites. Altogether, each part of the stamp aims to show the progression of the mission over time, from conception to launch.





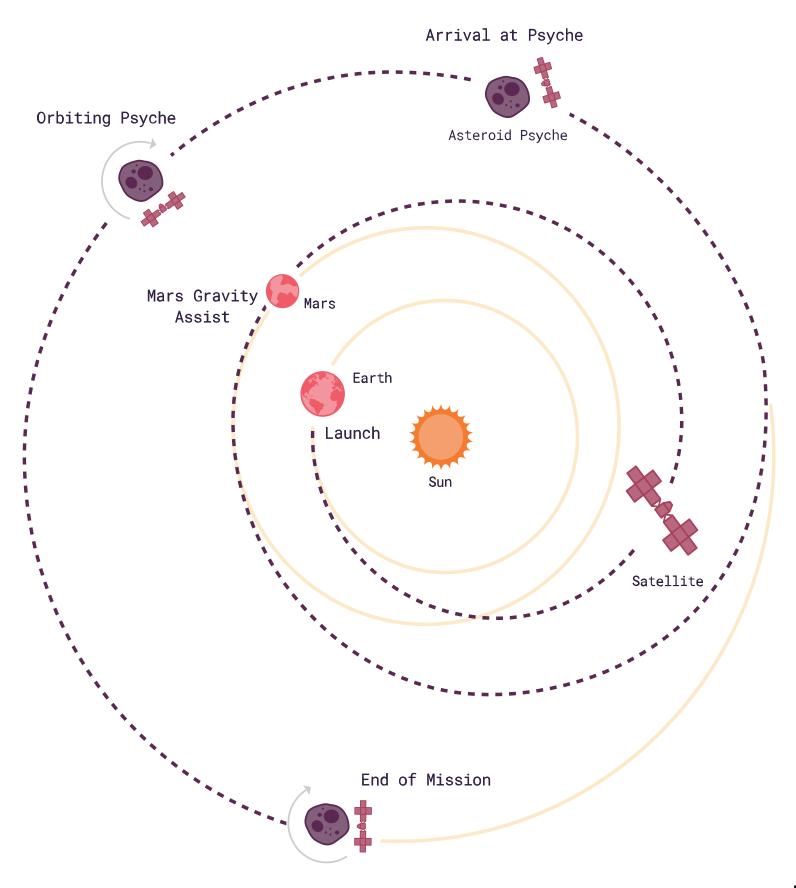
### Launch

Simon Angel Pitts *Digital Illustration* 

Launch illustrates the spacecraft taking off with the asteroid in the distance, conveying where the spacecraft will soon be. I wanted to celebrate having had the opportunity to be the class of interns who got to witness the launch.

### Journey

After separating from its launch vehicle, the Psyche spacecraft completed a checkout period before beginning its travels to the asteroid using solar-electric (low-thrust) propulsion. On its journey, the spacecraft is heavily monitored, communicating with Earth, undergoing operational readiness tests, having its instruments calibrated, and completing navigation and trajectory calibration as needed. The spacecraft will complete a Mars flyby and gravity assist prior to arriving at the asteroid.







### Navigating Psyche's Orbital Pathways

Cindy Furukawa Craft Beads, Washi Tape, Wire, Polymer Clay, Paints, Shrink Plastic

For my first project I geared towards a more hands-on crafting approach because I wanted to work with diverse materials. I drew inspiration from a Japanese wind chime, known as Furin, which are typically displayed at homes as a decoration that embodies relaxation. My vision was to create a tangible piece that portrayed the Psyche mission on a personal and up close level. While space exploration seems vast and boundless with endless opportunities, I hoped to share that knowledge by distilling the vastness and allowing viewers to experience it on a three-dimensional level in their hands. I enjoy being able to view art pieces from different perspectives, so I wanted to encompass that vision by creating a piece that seemed like it was floating in space. Each of the orbitals of the spacecraft's pathway are represented with various materials to distinguish their unique trajectories and the beads that were chosen for the tails represent the stars and metal make-up of the Psyche asteroid.

### The Scent of Psyche

Alexandra Szabo *Candle Wax, Candle Dye and Scents, Acrylic Paint and Spray, Wire, Pins, Washers* 

"The Scent of Psyche" was designed to bring some color and relaxation into our everyday lives. The candle is the representation of the mission, the spacecraft, and the asteroid. Inside the candle: As the Psyche mission is a journey to a metal world, this candle is a journey for our senses. We start with calming vanilla and orange dream slice, going into the signature scent of the season, pumpkin pie. Then we mix the coziness of brownies with refreshing coffee to maximize our experience. The idea of the layers comes from the asteroid's differentiated layers of materials in its core. While creating the wax layers, I realized that the only proper representation is if the layers are uneven, representing their natural formation.







### **Psyche's Souvenirs**

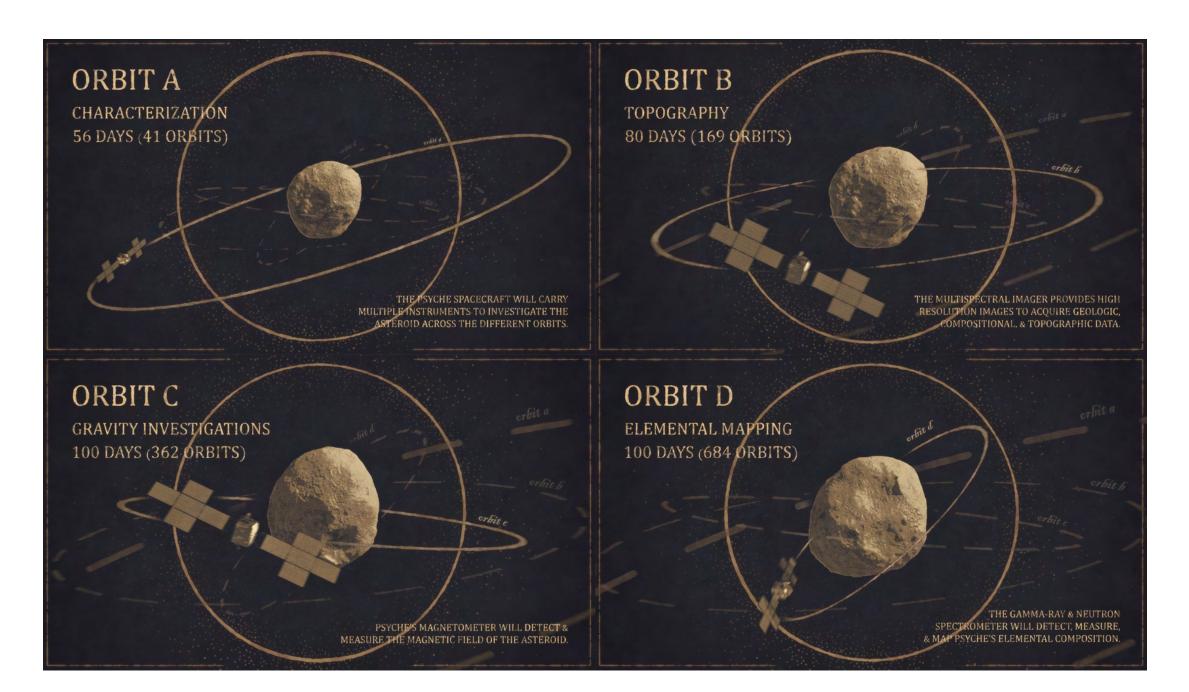
Kyra Correa *Travel/Souvenir Magnets – Laser Cut and Engraved Cast Acrylic, Paint Pens, Neodymium Magnets* 

When my family travels, we always bring back a magnet to remember our trip by. So, to commemorate Psyche's trip, I made three magnets out of laser cut and engraved acrylic! The first shows Psyche blasting off from Earth. The second shows Curiosity waving hello as Psyche uses Mars as a gravity assist. The third shows Psyche's arrival at (16) Psyche, with four blue rings representing its orbits.

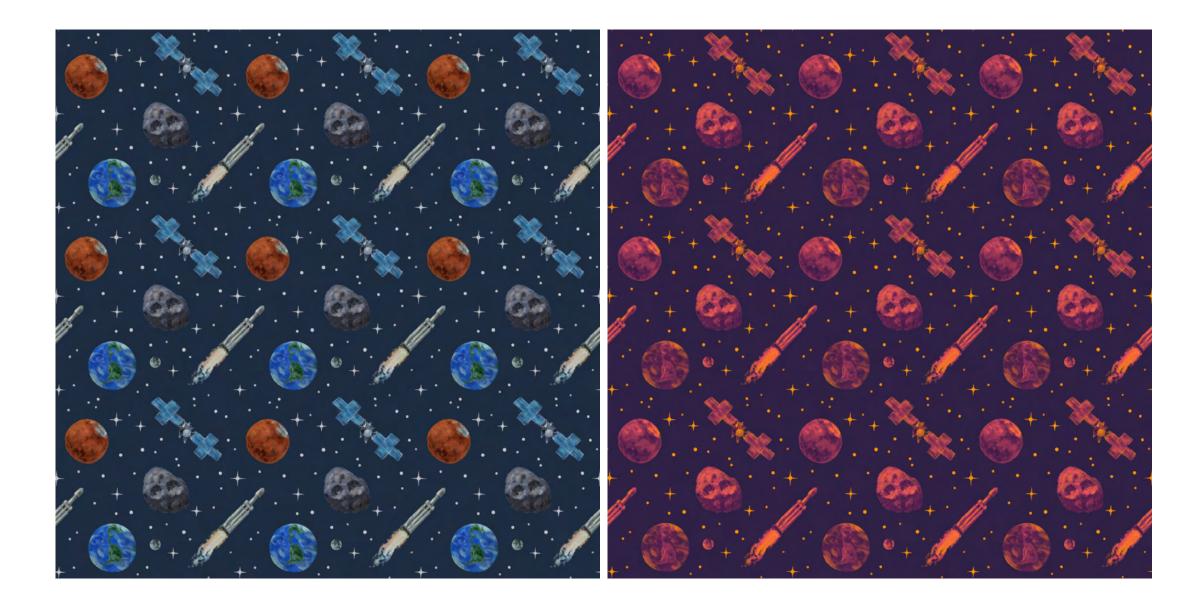
### **Orbits of Psyche**

Paige Manley Digital 3D – Blender, Unreal Engine 5, After Effects

"Orbits of Psyche" visualizes the various orbits that the Psyche spacecraft will be taking around the asteroid once it arrives in 2029. The animation is inspired by vintage astronomy and astrology posters, which typically include a minimal color palette as well as use value and texture through cross hatching. As the spacecraft completes each orbit, information about the orbit appears, including the focus of the orbit and its expected duration, as well as information about the different instruments used to study Psyche.







## **Interplanetary Pattern**

Kyra Correa *Digital Painting* 

A repeating pattern featuring (16) Psyche, Psyche spacecraft, Earth, the Moon, a Falcon Heavy rocket, and Mars. I used many of the same elements in this pattern as I did in my "Psyche Magnets," as I would like to design packaging for them using the pattern! I also created a version using the official Psyche mission branding colors by applying a gradient map to my original pattern. For this piece, I experimented a bit with digital painting. I focused on giving each element a rich texture without perfectly rendering everything out, and found that I really enjoyed it! I've been designing lots of very tight, exact pieces recently, so doing something a bit looser was a breath of fresh air for me.

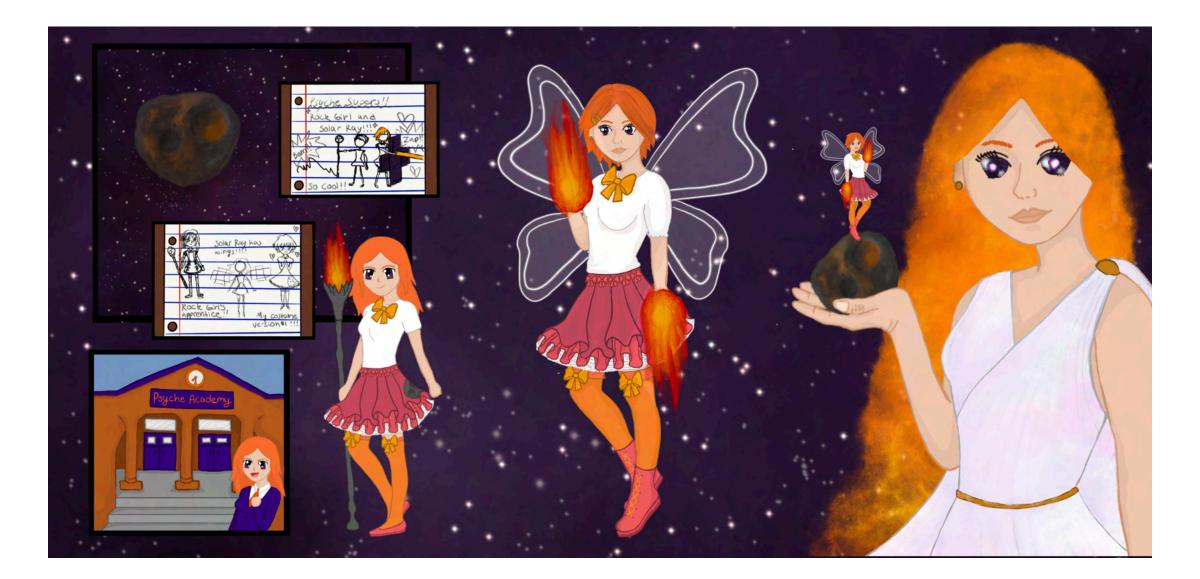
# Odyssey

Kayla Wardle Mixed Media – Sculpture and Acrylic Paint

"Odyssey" is a hybrid sculpture and acrylic painting depicting the journey of the Psyche spacecraft. To commemorate the recent successful launch of the Psyche spacecraft, I got the idea of using the spacecraft's design itself to highlight its mission. In this piece, I wanted to showcase the spacecraft itself-both its design and its story. I had the idea of turning the solar panels of the spacecraft into canvas paintings. Each "wing" contains five canvas panels that make up a cohesive image. The paintings portray the beginning and end of the spacecraft's journey. The left panel showcases its launch atop a Falcon Heavy rocket and the right panel visualizes the spacecraft finally arriving at its destination, the Psyche asteroid.







# **Genesis of Psyche**

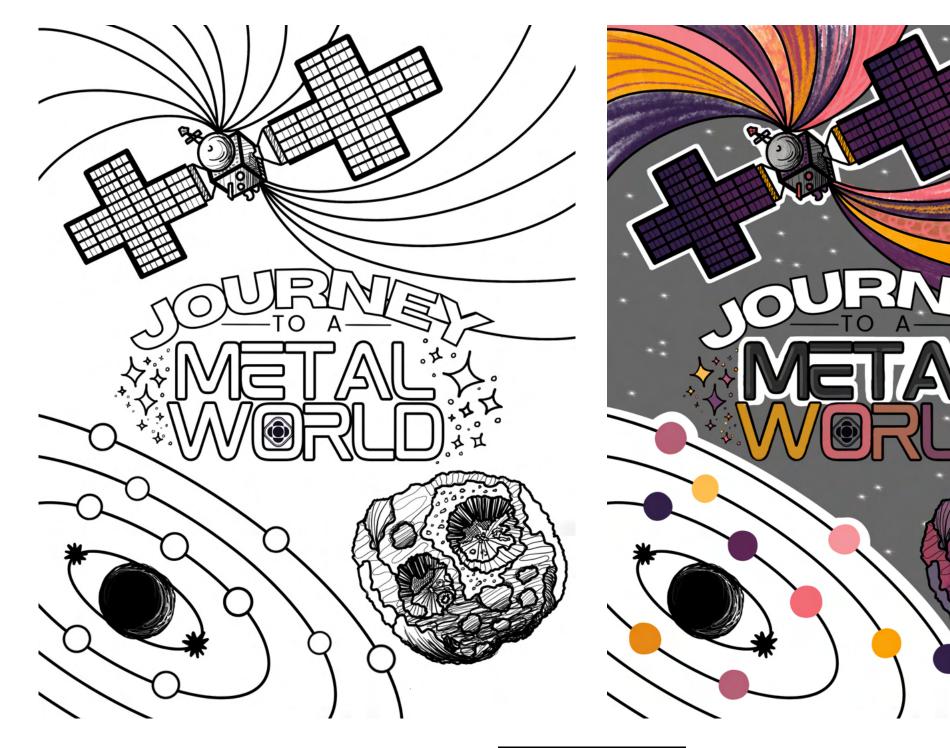
Rebecca Holdren *Digital Art* 

This piece was inspired by the more cartoony-animated art style of superheroes and magical girls. It depicts Psyche as such, and follows her throughout the Psyche mission, from planning to launch to arrival. The first panel shows Psyche as a kid, dreaming of reaching space, planning out her costume, and going to school. It represents the years of effort, planning, knowledge, and hopes and dreams that went into the Psyche mission. The second panel shows Psyche in space as a superhero and represents the completion and launch of Psyche. The third panel shows her arriving at the Psyche asteroid and represents exactly that.

## Exploring Psyche Coloring Sheet

#### Ally Lewis *Procreate and Canva*

After an inspiring meeting with speaker Bill Dunford, who has mastered the art of social media, writing, and art itself in the world of the Psyche mission, I feel as though I finally grasped the importance of science and art working hand-in-hand through highly-technical endeavors. Particularly, Bill emphasized the importance of conveying the detailed work of NASA into bite-sized pieces for the general public to understand, enjoy, and become passionate about. As such, when creating the "Exploring Psyche Coloring Sheet," these notions were at the forefront of my mind. The mission of Psyche is truly awe-inspiring, but to those who are not rocket scientists-myself included-sometimes it is easy to get lost in the weeds of numbers, equations, and highly scientific terms that can quickly fizzle excitement. In creating this coloring sheet, I wanted to create a world of Psyche that was approachable to EVERYONE, from the general public reading NASA news feeds to children with crayons. Anyone can approach this design, become excited about this journey to a new world, and, upon coloring their own sheet, they can actually become a part of the mission themselves. At the end of the day, that is truly what this mission is about: exploring new worlds as a mission not solely for scientists, but for humankind. So, while these designs may seem simplistic or cartoonish, they represent something bigger than the mission itself-a collective whole supporting the exploration of the universe.











### Psyche Discord Emote Pack

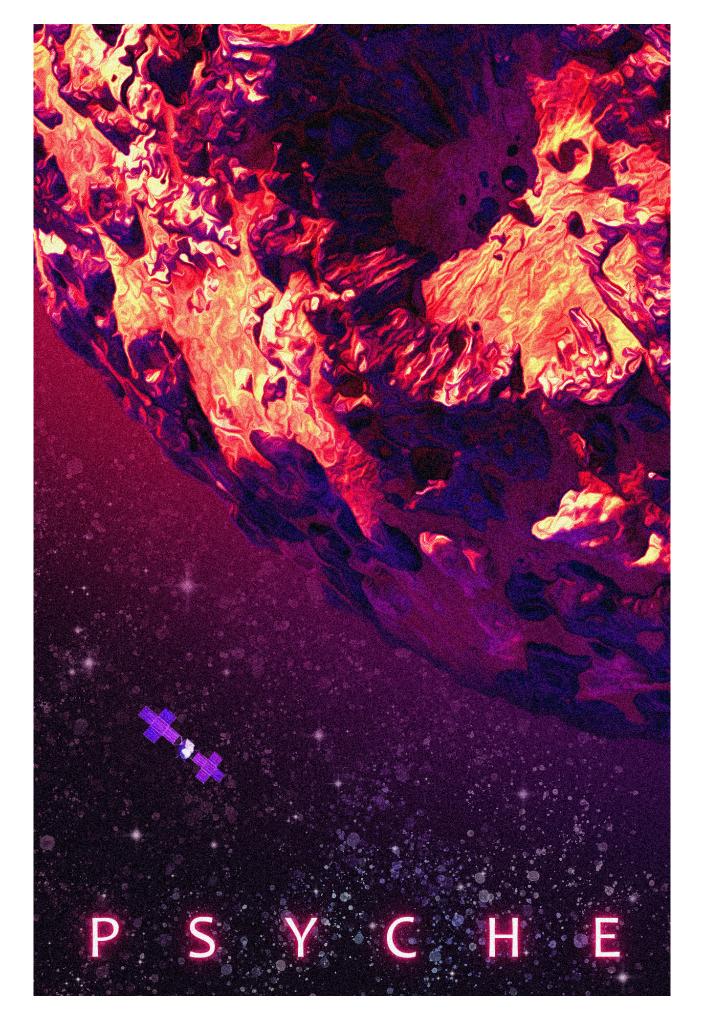
Mickey Zavala Digital Art

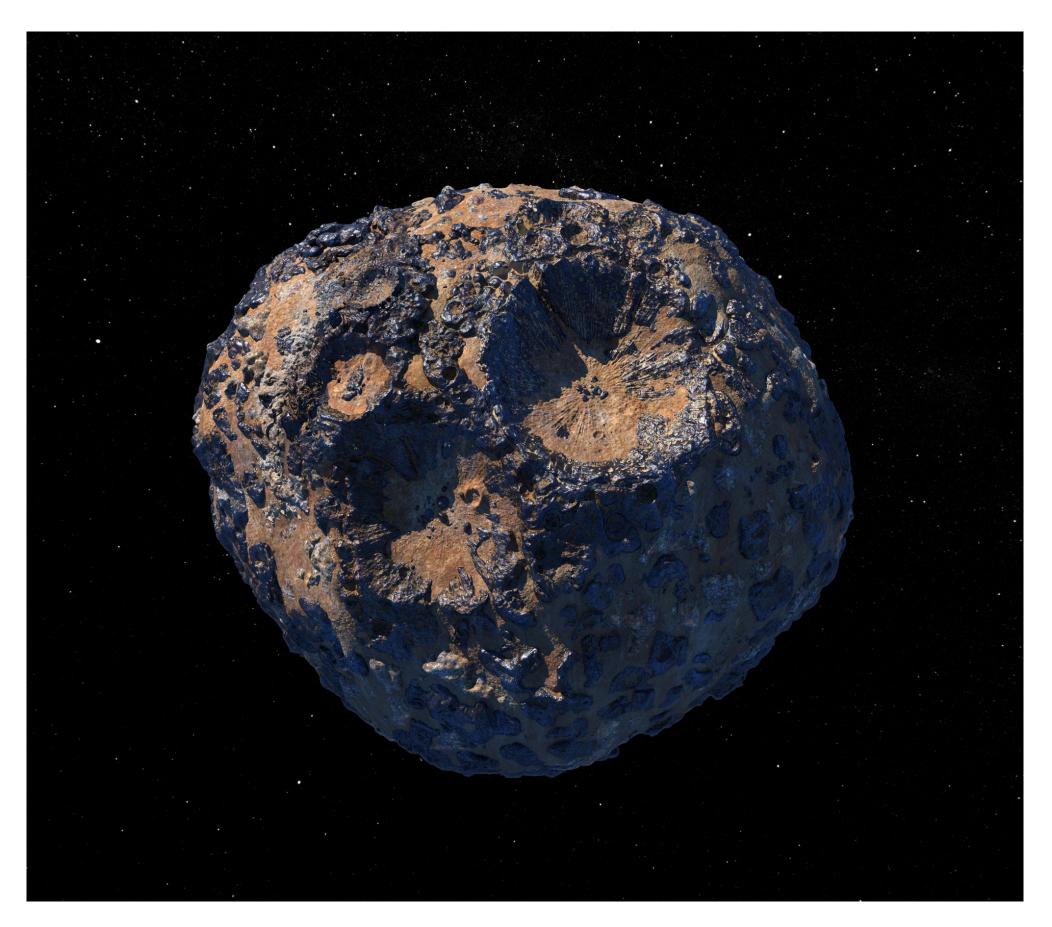
Free Psyche Discord emote pack for your personal servers!

## **The Arrival**

Simon Angel Pitts *Digital Illustration* 

Inspired by space movie posters, "The Arrival" pictures the eventual meeting of the Psyche asteroid and the spacecraft.





## **The Asteroid**

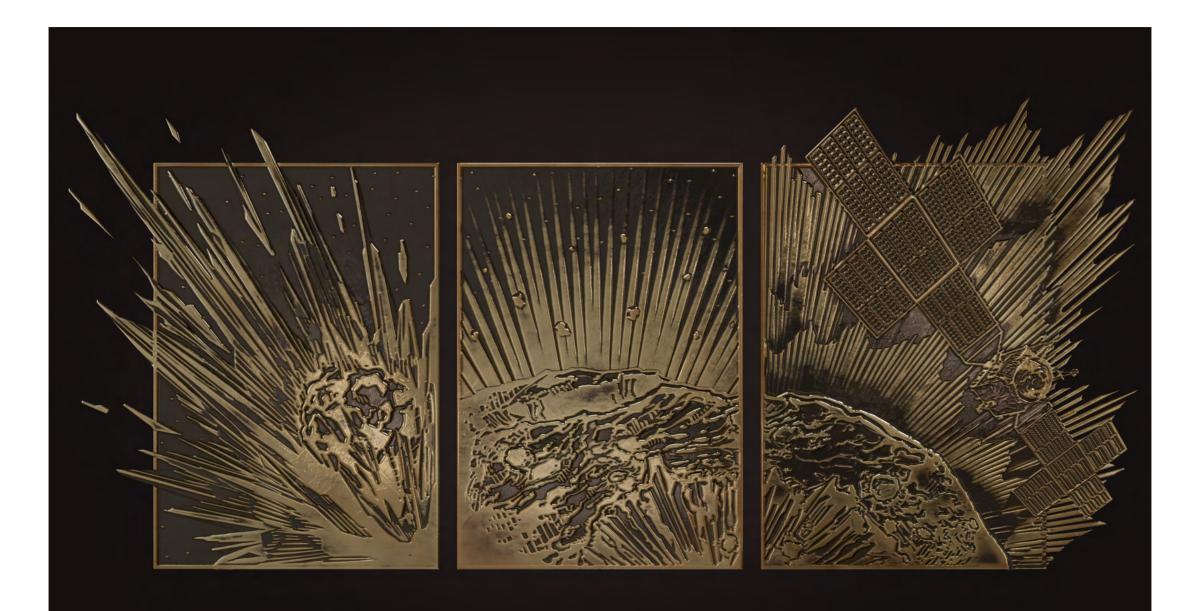
Psyche is unique because scientists believe that this asteroid may be the core of a planetesimal that was bombarded, stripping the mantle away and leaving exposed core material. No one has seen the Psyche asteroid yet, so we will not know what it looks like until the spacecraft arrives, but many of the student artists have drawn inspiration from several artist conceptions on the Psyche website.

### Inspiration from Information: The Wonders of Psyche

Ally Lewis *Digital Medium – Procreate* 

After researching the Psyche asteroid, I realized the sheer volume of groundbreaking information that Psyche offers us. As such, I wanted to depict the information that will result from the Psyche asteroid. Designed with Procreate, the artwork shows Earth collecting information from Psyche through a telescope. This is represented by winding trails of color that symbolize the information we will unlock from the asteroid.







# **Story of Psyche**

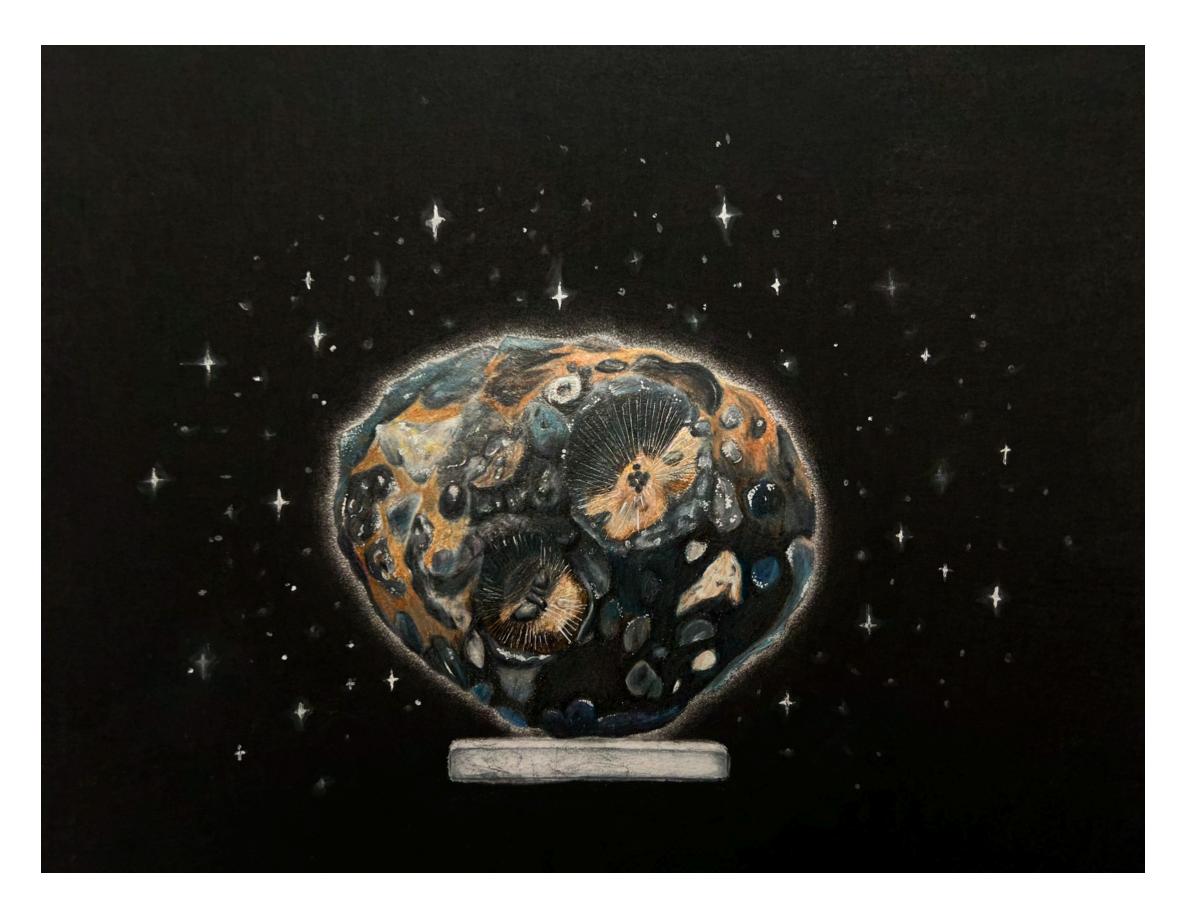
Paige Manley Digital 3D – Photoshop, ZBrush, Substance Painter, Blender

This piece explores Psyche's past, present, and future as an asteroid through three separate panels inspired by metal engravings. The first panel on the left is Psyche's past, where another asteroid is colliding with Psyche, creating an explosion of molten metal. While the exact formation and appearance of Psyche is still uncertain, the asteroid was most likely part of multiple collisions when the solar system was forming, which created many craters. In the second panel in the middle, the asteroid is as it currently is, existing in the asteroid belt among other asteroids. The final panel on the right is the future of Psyche, where the Psyche spacecraft has arrived and is studying the asteroid. To create this piece, I began by drawing a grayscale alpha that was then utilized as a mask on a 3D model to "pull out" the design. I created a material that looks like metal and then lit and rendered the model.

# **On Display**

Danielle Gu Colored Pencil, Pastel, Gel Pen on Drawing Paper

"On Display" is a mixed media piece that examines the potential impact of future discoveries about the composition and nature of Psyche. The central focus of the piece is the Psyche asteroid, which is depicted on a display mount typically utilized for rocks or gemstones in a museum. The composition of Psyche "on display" is meant to probe the importance and innovations of the mission and invite the viewer to imagine what the most notable scientific contributions attributed to Psyche will be in years to come. In this work, the asteroid is drawn in colored pencil, and the background was created with a combination of pastels and gel pen. In drafting this piece, I opted for a simple, clean composition to emphasize the asteroid and the power of recognition. Museums and their displays have the ability to influence what we take away from historical events what will we learn from Psyche?





## **Core Values**

#### Leila Mirza *Ceramics/Stoneware*

Ceramic art is inherently experimental—you never know what will emerge from the kiln. Embracing the risk, I worked with clay types and glazes that were new to me. In doing so, I sought a connection to the explorative, uncertain nature of the Psyche mission. Studying celestial bodies like (16) Psyche, the building blocks of our solar system, is incredibly exciting because of what we might learn about the cosmos and our place in it. After researching the mission and the metal-rich Psyche asteroid, I was incredibly drawn to the anticipated, but not yet confirmed, chemical makeup of its core. My asteroid vessel was thrown with a gritty, black stoneware clay. Metallic glaze bursts from the core in the hope that we will strike gold.

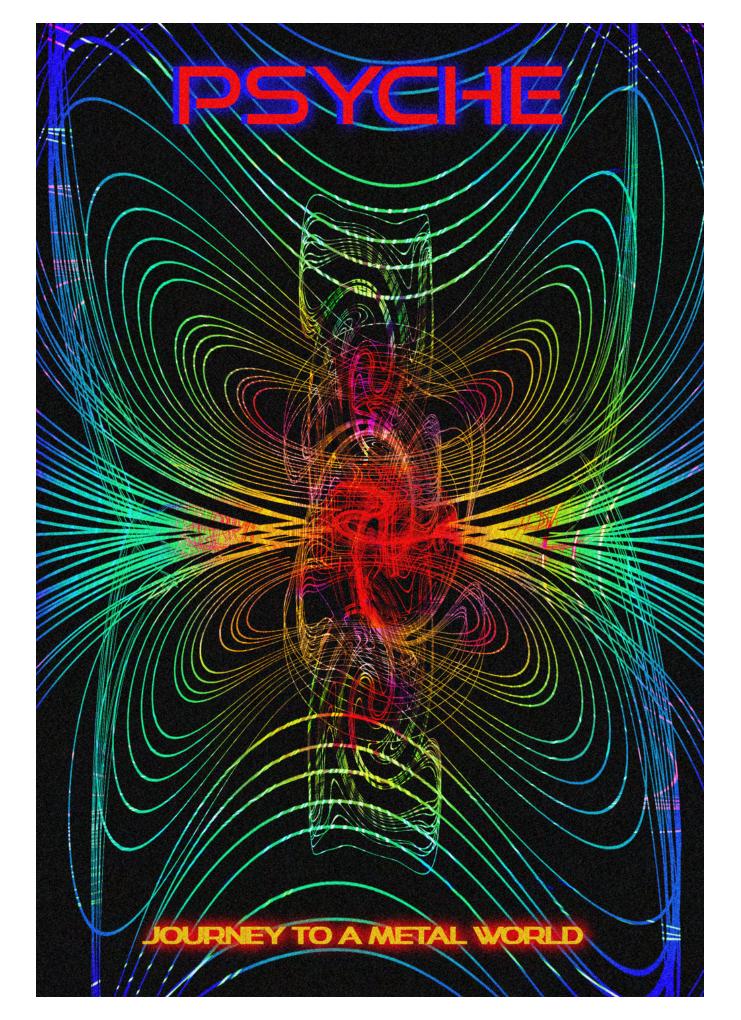
# **PsyChristmas**

#### Alexandra Szabo Glass Ornaments, Acrylic and Spray Paints, Paper, Mini LED Lights

Aside from Psyche, many other inspirations helped me bring this project to life, including my professor, who recommended the Psyche Inspired program to me. She loves Christmas ornaments, and I thought it would be nice to dedicate this project to her. I chose glass baubles to work with because of their good quality. For the acrylic paint on the outside, I used the colors of Psyche to represent the era of Heavy Bombardment, one of the most important phenomena in history, filled with incredible information about the birth of our solar system and our life on Earth. I also wanted to show the metallic elements that scientists are expecting to find in Psyche, so I used glitter on the inside of the bauble for this. Psyche's distinctive craters also caught my attention, and I used craft paper that I spraypainted prior to forming them and gluing them to the side. The small LED-lights are on the side of the craters to highlight this distinctive feature. I hope you'll enjoy my festive piece.







## **Magnetic Abstraction**

Simon Angel Pitts *Digital Illustration* 

I was greatly inspired by the visualizations of the asteroid's magnetic field. When I first saw them, I thought of a peacock feather. I was drawn to the colors and intricacy of the lines. I wanted to approach this project with abstraction, and attempted to give the piece a retro feel.

## **Butterfly Effect**

Leila Mirza *Stoneware Clay and Acrylic Paint* 

While I generally stick to throwing pieces on the wheel, I decided to step out of my comfort zone and try hand-building in order to capture the raw, crude, and imperfect nature of a celestial body. Based on simulated photos of the asteroid, I recreated the distinct crater-ridden surface. Then, I sculpted small butterflies and painted them in the vibrant Mission to Psyche colorway. I left the asteroid unglazed to create a deeper contrast between the surface and the shapes that it supports. While butterflies are a symbol of the goddess Psyche, they also represent change and transformation. I painted the butterflies in the mission colors to symbolize our presence and metaphorical touchdown on the asteroid. The "butterfly effect" describes the idea that something small can influence a much larger system and alter the course of the future. Given the uncertainty of what lies on (16) Psyche, the possibilities for unprecedented discovery are endless.



[The following message has been translated into Standard American English.]

There is a low ring of light that radiates from your home planet. You may have never known this, and may never know its soft edge in your lifetime. For your neighbors, they only speculate what lies beyond that nebulous ocean of atmosphere.

Are you alive?

Are you *aware* you are alive?



## From, Psyche

Mickey Zavala *Word Document* 

"From, Psyche" is a letter written from the perspective of an extraterrestrial species that might have existed on the planet Psyche would have formed. The letter explores what the planet might have looked like, what kind of creatures would be present, and how the relationship between the beings of Earth and Psyche might have evolved over time.

# The Light of Psyche

Meagan Martin Glass, Wood, LED lights

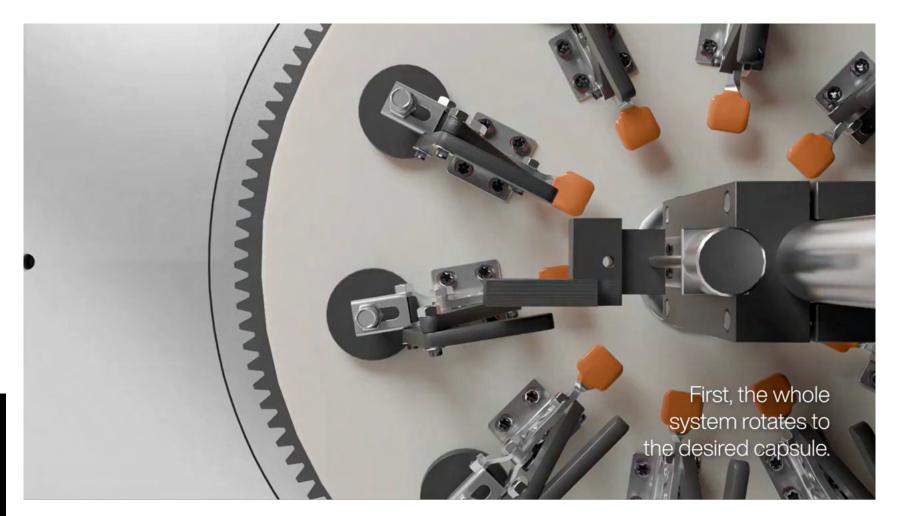
"The Light of Psyche" is a blown glass lamp in the shape of the Psyche asteroid set on a wooden base. This work was inspired by the physical form of the Psyche asteroid as well as the strong emotional connection society has to Psyche as a beacon of hope, inspiration, and wonder – a true representation of the human soul.

The blown glass form was created through the use of a 3D print of the Psyche asteroid, a silicon mold of a negative of the form, a wax positive of the asteroid, and a one-use plaster mold. The glass form was blown in the plaster mold and finished via cold working. The wooden base was shaped via a router and stained with natural wood stain. The LED light is inlaid in the base in a recessed port.











Mission to Psyche Capstone: Sample Return from Hypothesized Surfaces

RIT MSD 2023-24

### Sample Return From Hypothesized Surfaces Visualization

Paige Manley *Digital 3D – Blender and Substance Painter* 

This project was completed in collaboration with a Multidisciplinary Senior Design (MSD) team at the Rochester Institute of Technology (RIT) who are developing a prototype for a future mission to Psyche that will store samples collected from the asteroid. The purpose was to create a highly realistic and accurate 3D visualization of their system while also allowing it to remain visually interesting through lighting, materials, and cinematic shots.

To complete this project, I began by converting the team's CAD model into a more optimized 3D object in Blender and then created materials in Substance Painter. Based on screen recordings supplied to me by the team and guidance from them on additional movement, I animated the system, including the opening and closing of the clamp. To further illustrate the system's purpose, I included a simple simulation of metallic rocks being deposited into the capsule.

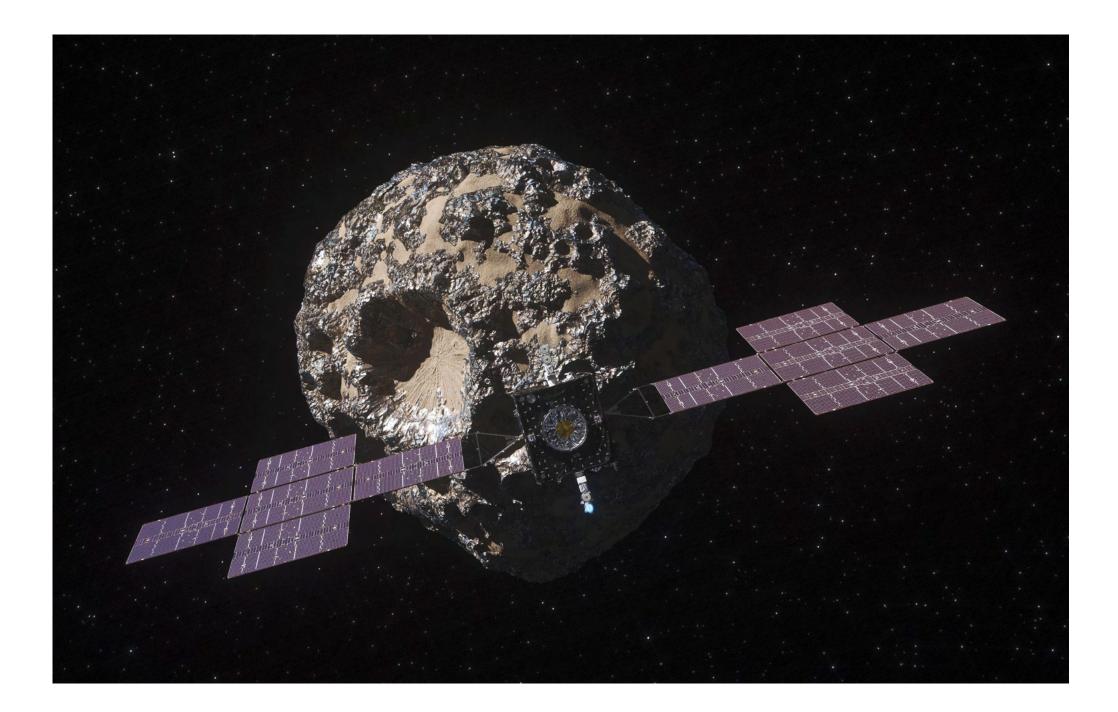
# **Uncovering Psyche**

#### Aditi Mungale *Acrylic Painting*

"Uncovering Psyche" is an abstract exploration of the emotions experienced by Annibale de Gasparis, the discoverer of Psyche, as he first gazed upon the celestial object. Around the asteroid, there are vibrant colors and illustrated depictions of stars to represent the exuberance de Gasparis must have felt when he first gazed upon Psyche.

This piece is also a representation of a leading hypothesis of Psyche's formation. Our current leading hypothesis is that Psyche is the remaining core of a planetesimal that was slowly differentiated. As such, Psyche is painted in muted colors, and the surrounding colors represent the "ghost" of its former planetary shell.





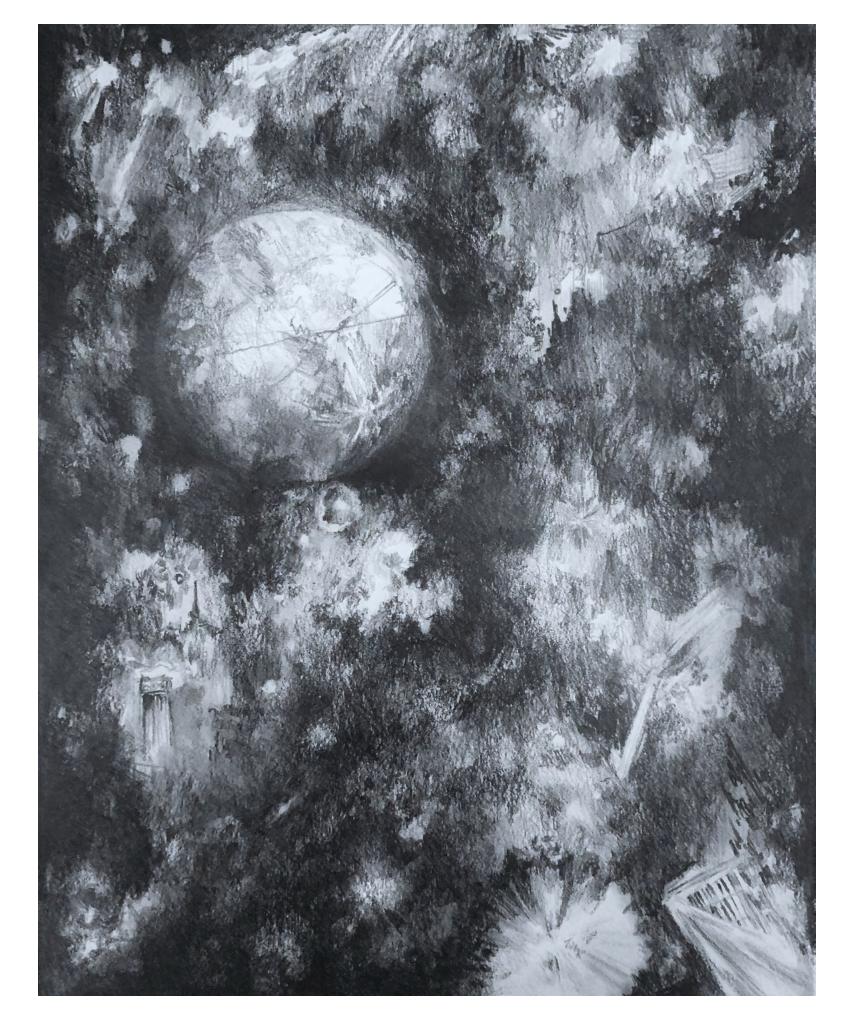
## The Mission

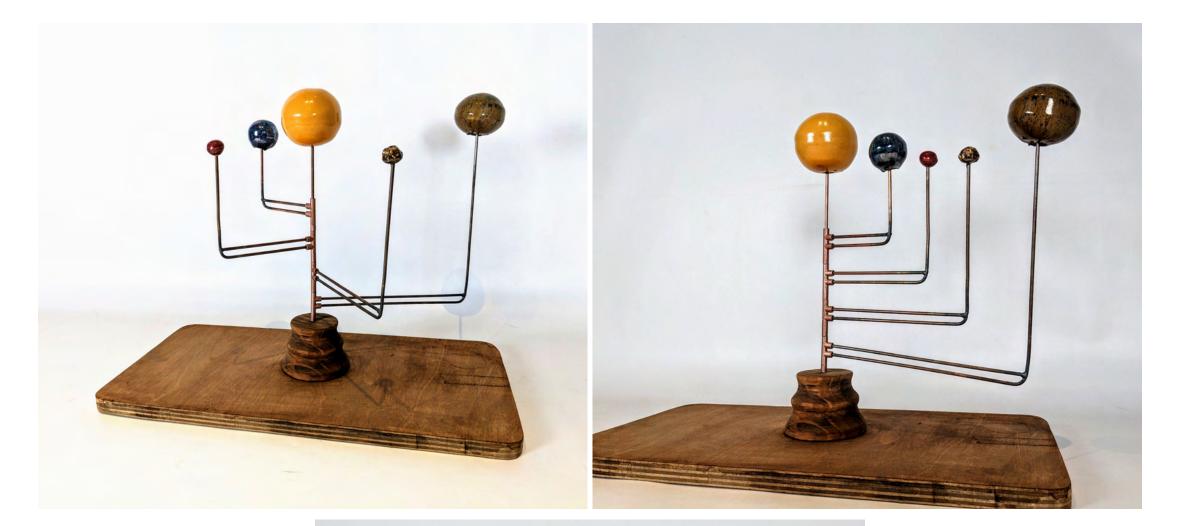
The Psyche mission was chosen by NASA on January 4, 2017 as one of two missions for the agency's Discovery Program, a series of relatively low-cost missions to solar system targets. The Psyche spacecraft will be used to study the Psyche asteroid after a period of cruising through the solar system using solar-electric (low thrust) propulsion.

#### Componere

Aditi Mungale *Graphite* 

"Componere" is Latin for "composition" or "bringing all the parts together". This artwork explores the relationship between the various textures that make up the Psyche mission. From the solar panels of the Psyche spacecraft to the unique craters of the Psyche asteroid, every component of this graphite drawing represents an element of the mission. I utilized graphite for "Componere" because of its metallic appearance on paper that is reminiscent of Psyche's metal composition. The goal of this art piece is to challenge the viewer to think of all the tiny details and elements that represent the Psyche mission.









#### **Gazing Upwards**

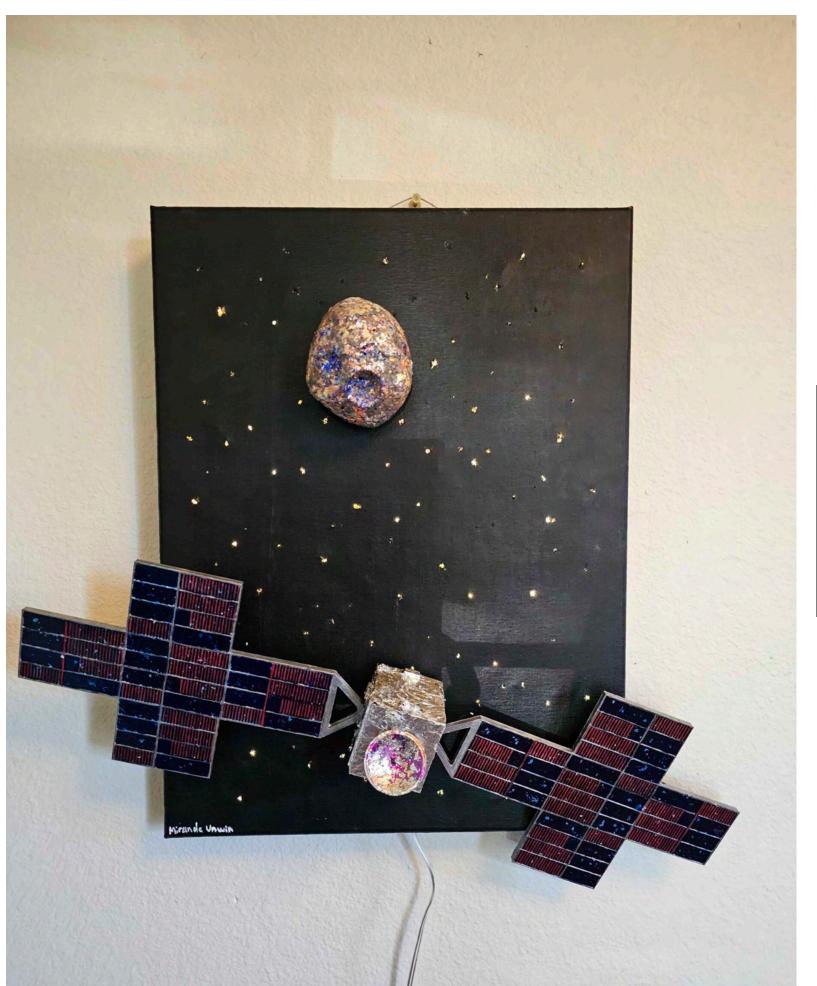
Meagan Martin Wood, Clay, Ceramic Glazes, Ceramic Lusters, Gouache Paint

This work is inspired by the long history of the human desire to look at the stars and try to capture and represent the beauty and wonder above as we now look to Psyche. It symbolizes the very human urge to gaze upwards and dream. This orrery is a nod to a popular visual and tactile representation of planetary orbits and rotation. Made from wood, clay, ceramic glazes, ceramic lusters, and copper, this work is intended to invoke the nostalgia of a historical orrery; however, it centers on Psyche and its orbit. This work allows for the rotation of the planets in a loose representation of their orbits via 3D-printed bearings attached to the copper tubing. The wooden base is stained with natural dyes and is attached to the base plate for stability. This work was made in the hopes of capturing some of the beauty of the celestial bodies above and recognizing ourselves as part of a long history of dreamers who have reached for the stars – centering Psyche and working to pay tribute to all who have worked to forward this mission, which will inspire the next generation of dreamers.

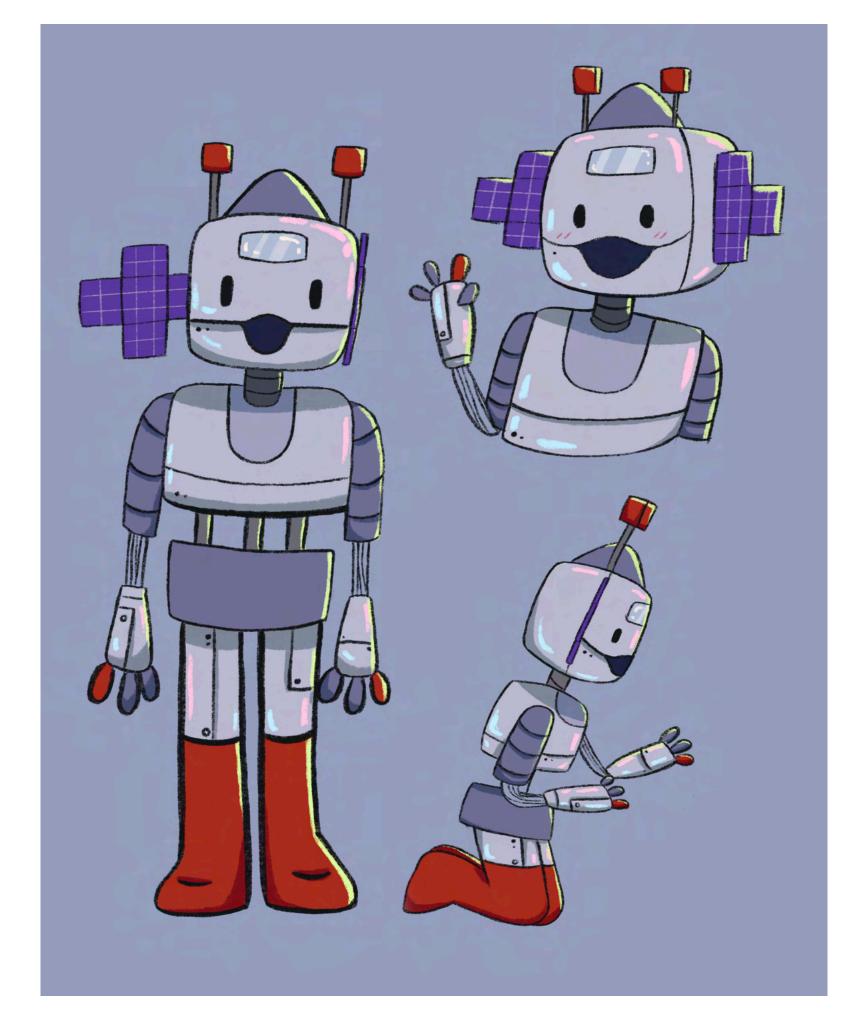
#### **Inspired in Space**

Miranda Unwin 3D Print, Acrylic Paint, Foil, LED Lights, Canvas

This artwork represents the Psyche spacecraft's mission to orbit the Psyche asteroid. The twinkling LED lights in the background represent the distant stars in the vastness of space. The Psyche spacecraft is adorned with silver, gold, and copper foil to represent the various instruments onboard the craft that will examine the asteroid. The solar panels of the spacecraft are painted in acrylic deep blue, silver, and red paint to represent their wiring on the spacecraft. The Psyche asteroid is painted in red/brown grainy sand to simulate an earth-like crust. The surface is also covered in purple, blue, silver, and copper specks to represent the various elements we may find on the surface of the asteroid. The antenna of the Psyche orbiter reflects the same colors as the asteroid to represent a mirror image of the surface of the asteroid.







#### **Friend Psyche!**

Mickey Zavala Digital Illustration

A cartoon re-imagining of the Psyche spacecraft.

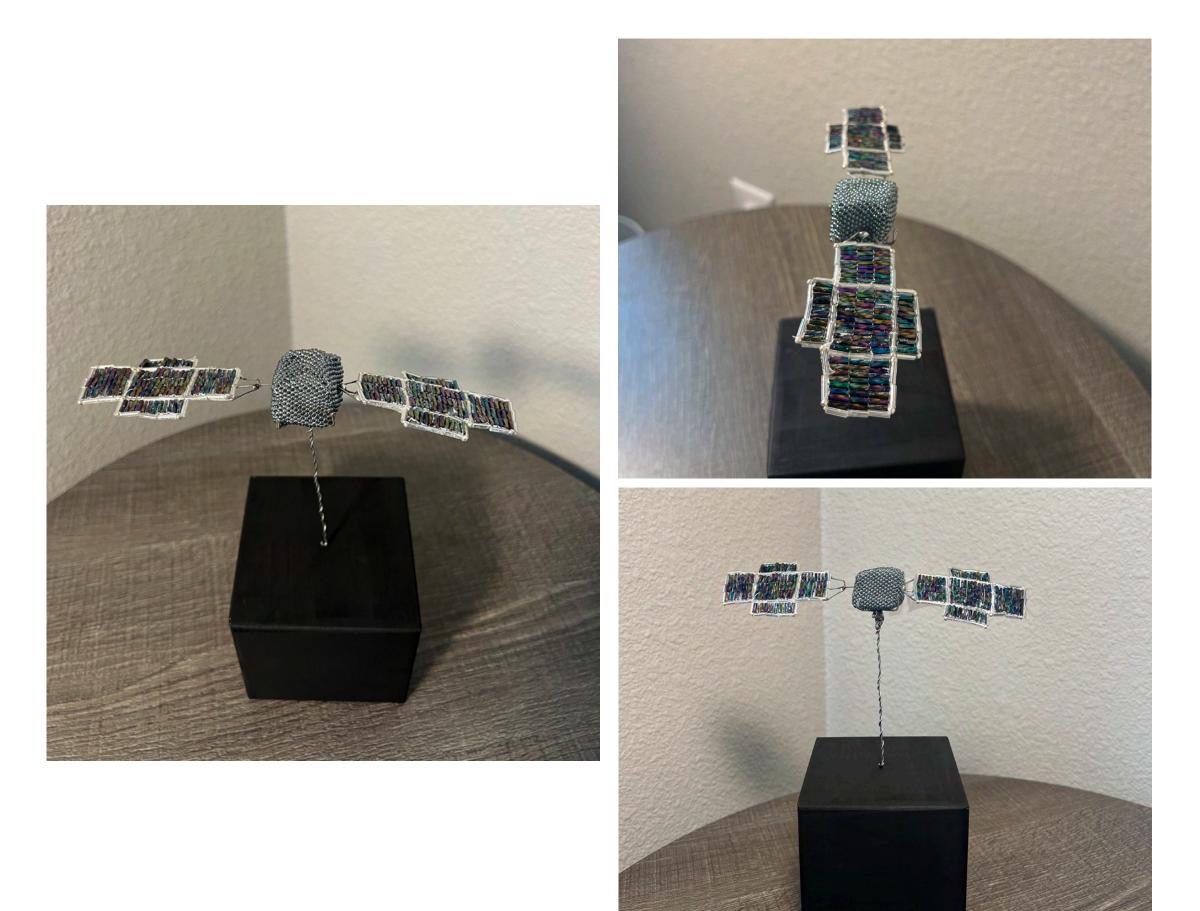
#### Secret Ingredient Resin Bowl

Alexandra Szabo *Epoxy Resin and Crushed Glass* 

The "Secret Ingredient Resin Bowl" resembles the colors and shapes of life. The bright colors represent (16) Psyche and the sparkly glass edges stand for star dust. But what is the secret ingredient? In these sections we usually talk about inspirations. This time I wanted to take time for the inspiration's inspiration, the root of how I got here. I'd like to remind us all how hard it is to find time for relaxing and creative activities these days. Art sets our mind free, no boundaries; we can be whoever we want to be.

My original project was a mod podge bowl, which completely failed. I am glad that this happened, because it made me seek other opportunities and found the brand new world of epoxy resin. It was very flimsy, and it would not keep its shape, but inspired me to look for something else. This is the beauty in the world of art and sciences: when one thing fails, it doesn't mean it's over. It's just a new beginning. (The secret ingredient is YOU. You can see your reflection in the bowl).





#### **Psyche Beaded**

Danielle Gu Glass Beads, Copper Wire, Wood

My project is a beaded sculpture of the Psyche spacecraft, mounted on top of a hollow wooden block. In creating this project, I wanted to challenge myself to create a sculpture out of a new medium. I have worked with beads in the past, especially in jewelry, but I knew that sculpture and 3D forms would provide a different challenge. As I began this sculpture, I started with the 3D cube in the center, which contains the thrusters, sun sensor, X-Band High Gain antenna, and more on the real spacecraft. I used a peyote stitch technique and created two halves of the cube that I later stitched together. Then, I created two solar arrays out of chrome and silver bugle beads that I attached through the middle of the cube, creating the spacecraft. Finally, I placed the spacecraft on a wire prong on top of the wooden cube, completing the sculpture! Throughout the process, I also consulted several diagrams of the spacecraft to build accurate proportions into the final product.

#### **Evolution of Psyche**

Kayla Wardle *Digital Art* 

"Evolution of Psyche" is a multi-part digital art piece designed to honor and celebrate each phase of the Psyche mission. The piece features six postcard sized double sided prints. Each card represents one of the six phases of the mission and as a whole, they convey the timeline and evolution of the Psyche mission.

Each print serves as a visual narrative, encapsulating the essence and significance of its corresponding mission phase. Different art styles and illustration designs were used to represent the unique aspects and significance of each phase, while the Psyche mission's official colors served as a common thread to tie the pieces together. The illustration on the front of each postcard presents a vibrant and dynamic representation of the specific phase, while the reverse side offers insightful details, technical milestones, and anecdotes related to that stage of the mission.

The cards were designed to be double sided prints that could serve a similar purpose as a flier or business card. The goal of the design is to provide a quick way to teach the public about different aspects of the mission and, at the same time, invite them to learn more. "Evolution of Psyche" not only serves as an aesthetic art piece, but also as an educational tool, inviting viewers to appreciate and learn about the work that went into each mission phase. This artistic project aims to spark curiosity, appreciation, and insight about the incredible journey that is NASA's Psyche mission.







#### **Psyche Shirt Design**

Esha Raut Plain Black Shirt, Yarn/String of Varying Thickness for Embroidery

This piece reimagines Psyche in a concert-ready merch format (which is as heavy metal as embroidery gets). Here's a fun fact: the Psyche lettering glows in the dark!

### Heart-Felt Symphony

Miranda Unwin Colored Felt, Sewing Thread, Cotton Filling, Pipe Cleaner, Velcro

"Heart-Felt Symphony" is a 3D interpretation of the multifaceted pieces of the Psyche mission. Four major pieces of the mission have been represented in felt: The Psyche asteroid, the Psyche spacecraft, the Falcon Heavy rocket carrying the spacecraft, and the DSN (Deep Space Network) antenna. Each felt character has a unique facial expression to add fun and humanistic characteristics.





#### Eternity

Alexandra Szabo *Coulter Pinecone, Resin Display, Stainless Steel Jewelry, Acrylic Paint* 

Celebrate the spirit of exploration and discovery with the "Eternity" collection. Let these exquisite pieces be a reminder of the endless possibilities that await us in the vast expanse of space and the enduring beauty of the natural world. Jewelry made of hand-picked Coulter pinecone scales is just as unique as we are. They can be a great addition to enhance any attire.

#### **Psyche Celebration Mood Board**

Ally Lewis *Procreate, Canva, Prints, a Bulletin Board* 

After reflecting on the incredible experiences I had during my time as a Psyche Inspired intern, as well as the success and excitement that the Psyche mission itself experienced this past year throughout launch, I felt compelled to create a work of art that captured the essence of these experiences and accomplishments. I knew that I wanted this final piece to feel like a true celebration, but it took some deep thought and consideration to determine which medium would best convey that feeling - until I happened across some "mood boards" throughout my social media feeds. Mood boards, which can be created virtually, on paper, or with prints, are usually created at the start of the year, the start of a school semester, or even at the beginning of each month when the creator wants to visualize and set good intentions on how they want their future to look. In this project's case, I wanted the mood board to appear as though the scientists who proposed this mission years ago created it as a visualization, or even a manifestation, for success. Complete with prints from various past projects, including some pieces that never made the cut, as well as the incredible Psyche postcards from fellow Tungsten Class intern Kayla Wardle, the "Psyche Celebration Mood Board" should appear as an explosive celebration on a board – but at one point in time, it would have been a visualization for success for the team members who truly brought this mission to life years ago!



# PSYCHE



#### **Psyche Teaser Trailer**

Esha Raut *Video* 

This teaser trailer reimagines Psyche as the main character of a movie!

#### **3D Psyche**

Aditi Mungale Ink, Watercolor, Watercolor Paper

"3D Psyche" is an exploration of all the different components that make up the Psyche mission. Each panel of this paper sculpture has an illustration of what makes Psyche unique. For instance, some of the panels contain references to the myth of Psyche, such as Psyche flowers and Eros's wings. Other aspects of this piece reference the surface, journey, and location of the Psyche asteroid. I also included drawings of the scientific parts that make up the Psyche spacecraft, including diagrams from actual research papers produced by the Psyche team. At the top of this sculpture, there is a blank square to represent that the story of the Psyche mission is not yet complete. The inspiration of this piece comes from Ludwig von Hohenfeld's Polyhedra sun dial. I wanted to reinterpret the classic sun dial in context of Psyche, and demonstrate the beauty of this metal asteroid.









#### PsycheBot, Roll Out!

Kyra Correa 3D Printed Resin and Acrylic Paint

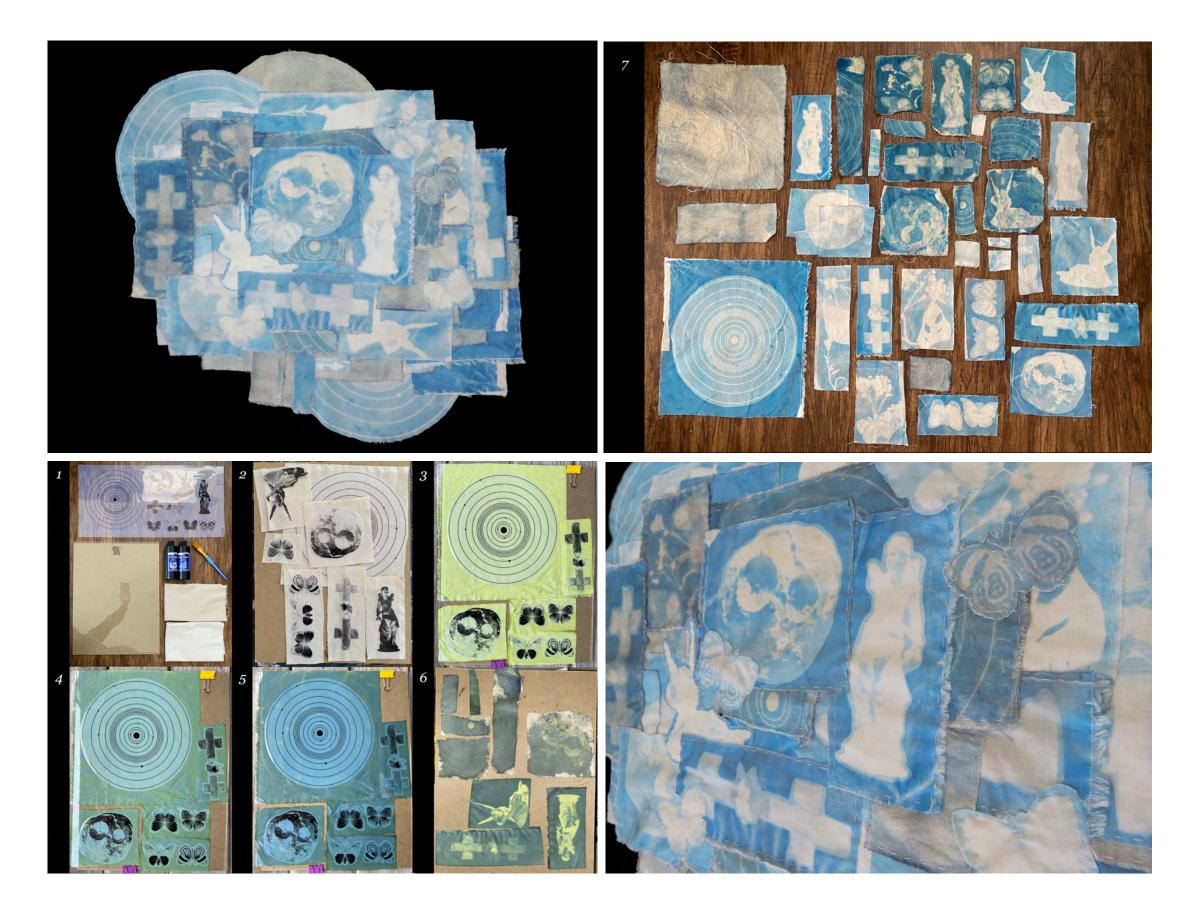
"PsycheBot, Roll Out!" is my love letter to mech media! She is a fully-articulated doll version of the Psyche spacecraft, a la "Transformers." The solar array wings on her back and magnetometer/spectrometer booms on her head give her the appearance of a butterfly, referencing the goddess Psyche. Her body features most of the spacecraft's scientific instruments—can you find them all?

### **Blueprint of Psyche**

#### Paige Manley *Cyanotype (Sun Prints) on Fabric*

This piece explores the different aspects of Psyche through images created on fabric using the cyanotype process and then combined in a collage using a needle and thread. To represent the mission, I included images of the asteroid and the spacecraft. To represent the mythology, I included images of statues of the goddess Psyche and butterflies, which are the main symbol of the goddess. Additionally, I included images of various plants as well as of the solar system.

To create the cyanotypes, I began by creating and printing digital negatives onto transparent paper of all the images I wanted to print (see photo 1 in the process image). I then cut pieces of fabric to match the size of each image (2). After this, I mixed together the chemicals needed to create a cyanotype and painted them onto the fabric in a dark room in order to not expose them too early. Once the fabric was dry, I placed the negatives on top of the fabric on a board and then held them in place with a piece of glass (3). I took the fabric outside and let it sit in the sun, with exposure times varying between groups (4-6). Once exposed, I rinsed out the chemicals and let the fabric dry (7). When the fabric was dry, I sewed the pieces together using a needle and thread.











#### **Psyche Cookie Cutters**

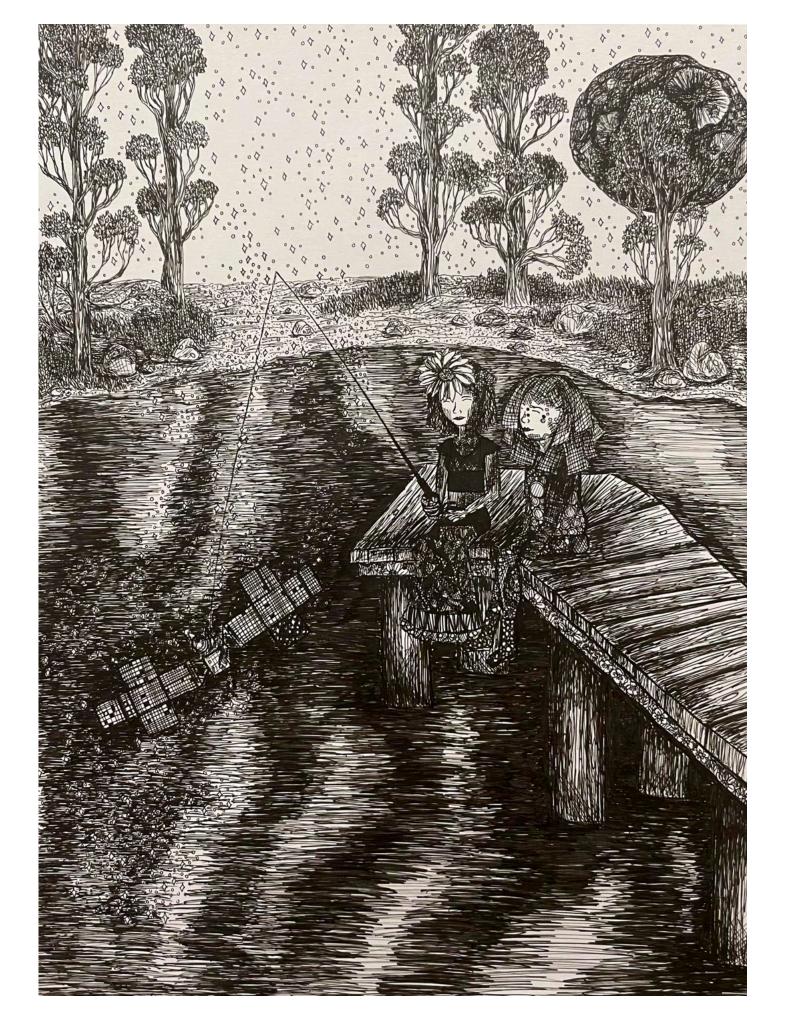
Miranda Unwin 3D Printing, PLA, Tinkercad, Cookies

My idea behind this 3D-printed cookie cutter was to create something fun and interactive that everyone can use to become Psyche Inspired. I currently work in a kitchen, and having this background inspired me to make art that is food-related for this project. I am excited about three-dimensional design and three-dimensional printing, it adds a new depth and challenge to creating art beyond a two-dimensional setting.

#### **Hooked on Psyche**

Rebecca Holdren Ink Pen

Space travel, and the Psyche mission itself, is something that captivates people, hooks them. "Hooked on Psyche" uses fishing as a metaphor for space exploration. In the piece Earth and Psyche are depicted sitting on a dock fishing together, representative of them exploring the world via Psyche. Psyche, the spacecraft, is cast off into the water, synonymous to Psyche being sent into space, as both space and water are often considered final frontiers. The piece also features stars dotting the water and sky, with Psyche the asteroid in the sky, a thin flower border on the dock, Psyche's hair consisting of solar arrays, and Earth having a flower in her hair. The piece is made with ink pens and drawn on bristol board.







Aditi Mungale University of Texas at Dallas Computer Science



Alexandra Szabo College of San Mateo Psychology







Ally Lewis Ohio State University Food, Agricultural, and Biological Engineering





Angela Huang Olin College of Engineering Mechanical Engineering

View all the interns' pages: https://psyche.asu.edu/get-involved/psyche-inspired-tungsten-class/





Becca Holdren Arizona State University Political Science



**Cindy Furukawa** *Arizona State University* Mechanical Engineering







**Danielle Gu** University of Texas at Austin Business and Art History

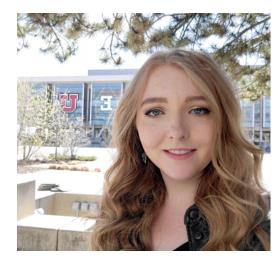




Esha Raut Illinois Institute of Technology Psychological Science

View all the interns' pages: https://psyche.asu.edu/get-involved/psyche-inspired-tungsten-class/





**Kayla Wardle** *University of Utah* Biochemistry



Kyra Correa Kansas City Art Institute Illustration







Leila Mirza Barnard College of Columbia University Undeclared





Meagan Martin Olin College of Engineering Engineering with Industrial Design

View all the interns' pages: https://psyche.asu.edu/get-involved/psyche-inspired-tungsten-class/





Mickey Zavala Arizona State University Astrobiology



Miranda Unwin Laramie County Community College Art







Paige Manley Rochester Institute of Technology 3D Digital Design



Simon Angel Pitts Kansas City Art Institute Illustration



# Index

Aditi Mungale

Alexandra Szabo

Ally Lewis

Angela Huang

Cindy Furukawa

Danielle Gu

Esha Raut

Kayla Wardle

24, 106, 110, 134

66, 94, 118, 128

52, 78, 86, 130

18, 26

20, 28, 34, 64

22, 58, 90, 120

40, 50, 124, 132

10, 36, 74, 122

# Index

Kyra Correa

Leila Mirza

Meagan Martin

Mickey Zavala

Miranda Unwin

Paige Manley

**Rebecca Holdren** 

Simon Angel Pitts

30, 68, 72, 136

32, 44, 92, 98

46, 56, 102, 112

12, 80, 100, 116

42, 114, 126, 140

70, 88, 104, 138

16, 54, 76, 142

14, 60, 82, 96

