

PSYCHE INSPIRED

A Collection of Artworks
Nickel Class

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A Collection of Artworks

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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

October 28, 2021

Paradise Valley, Arizona

This year of work on the Psyche mission included, as it did for all of us worldwide, the strangeness, challenges, and sometimes the heartbreak of a world in pandemic. And yet, the team has persevered. The spacecraft is being built, beautifully, expertly, by teams of people all around the country and in Europe, and now, it is being assembled and tested at NASA's Jet Propulsion Laboratory.

All along the way the pieces from this group of Psyche Inspired artists has supported and inspired the whole team and our community. Online postings received cheerful and grateful responses. The website welcomes its stream of visitors. And for the internal Psyche team, the connections have been stronger and more helpful than ever.

At Jet Propulsion Lab the spacecraft is being assembled in a huge clean room, and it's possible for lab personnel to visit and watch from a glassed-in gallery high on one wall. We've put a selection of Psyche Inspired art in that gallery, thinking that visitors would enjoy it. But to our great pleasure, the team building the spacecraft in the clean room were the first to comment, in a virtual team meeting, with how much they enjoyed it, and how interesting it is.

Art has its critical place in our endeavors, connecting us, reminding us of our humanity, reminding us of the wonder of space exploration. We hope you enjoy the creativity of this year.

Linda T. Elkins-Tanton

Principal Investigator, NASA Psyche Mission

A Note From Kaxandra

November 17, 2021
Glendale, Arizona

Amidst the uncertainty of the global pandemic, the Psyche Inspired Nickel Class worked tirelessly to produce over 60 artworks that reminded us of beauty, inside and out, and of the shared human desire to explore beyond the sphere we inhabit. With imaginations that seemed to span all the way to (16) Psyche itself, the Nickel Class pushed the envelope, introducing novel aspects of the mission to the public through new mediums and artistic styles.

This year's Psyche Inspired Nickel Class represents the fourth cohort of Psyche Inspired interns. Though these interns came from universities scattered across the country and were in pursuit of various careers, each took to heart the very goal that led to the creation of Psyche Inspired: to include everyone in this unique journey to a metal world through artistic works that communicate the complexities of the mission in a way that is engaging and inclusive.

Accompanied by their new knowledge and experience from working with Psyche mission staff, scientists, engineers, and artists, as well as one another, we know that the Nickel Class will continue to use their creativity to push the world forward in their own unique way. It has truly been an honor working with these amazing individuals, and we are so excited to share the products of their hard work in full display within the pages of this book.

Kaxandra Nessi

Psyche Inspired Student Manager & Content/Writing Aide



Greeks

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.

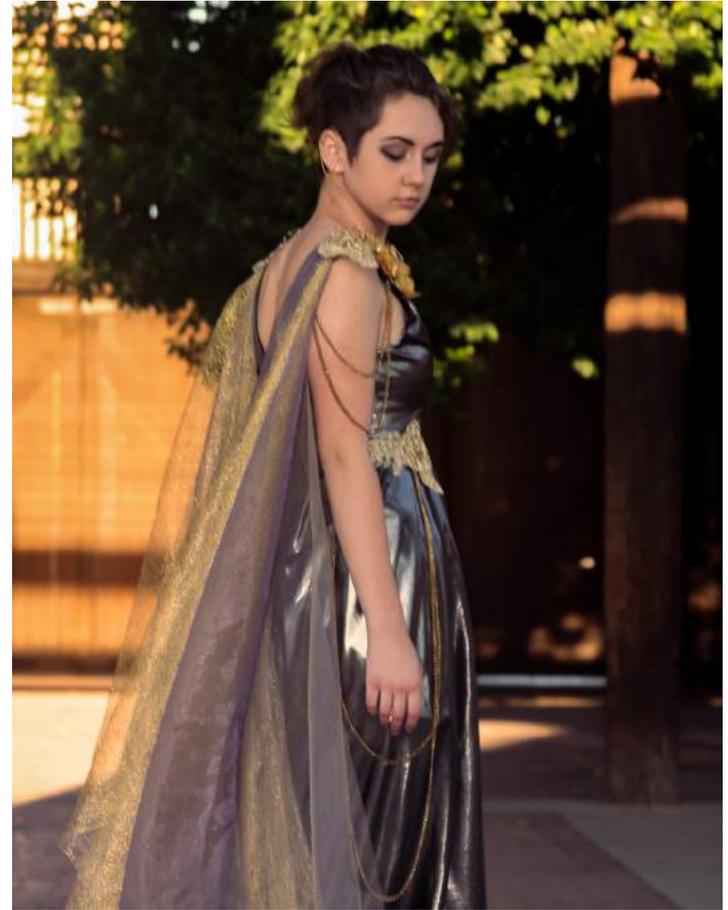
In Her Orbit

Siena Smania

Photoshop

For this project, I used Photoshop to transform a picture I took in a self-photoshoot into a representation of the Psyche goddess. I imagined the goddess of the soul protecting the metallic world as we send a spacecraft to learn more about it. We are in her orbit because she is the one who protects this little metallic world.





Metallic Warrior

Siena Smania

Sewing

When I began this project, I was going for a medieval warrior princess look; however, it ended up leaning more towards being something a Star Wars princess might wear, which is even better and definitely more appropriate. The metallic fabric of the dress is meant to emulate the metallic surface of the asteroid, along with the numerous gold accents in the piece.

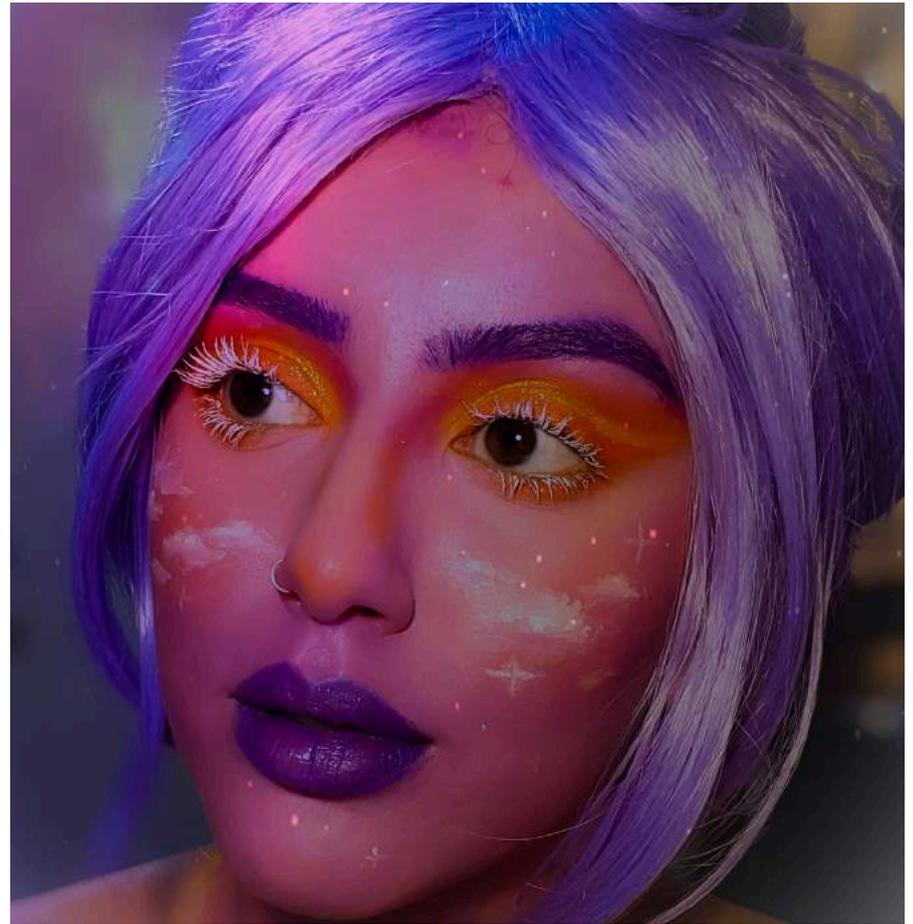
The entire dress was made and patterned from scratch, and although I've been sewing for many years, this is the first dress I've ever made. It definitely took a lot of trial and error, as well as "trusting the process".

Birth of Psyche

Alyssa Thornhill
Adobe Illustrator

My digital work *Birth of Psyche* is a vector image I made in Adobe Illustrator. I was inspired by the insight studying Psyche will give us into our own planet. We are getting a deeper understanding of how planets form. I wanted to represent the birth of Psyche and this newfound knowledge through light, which appears through the collision of the two asteroids. Psyche was the goddess of the soul as well, so I wanted to represent her as a spirit by making her more opaque.





Space Girl/ Looks of Psyche

Alyssa Thornhill

*Face paint, Gold Leaf, Scar Wax,
Eyeshadow*

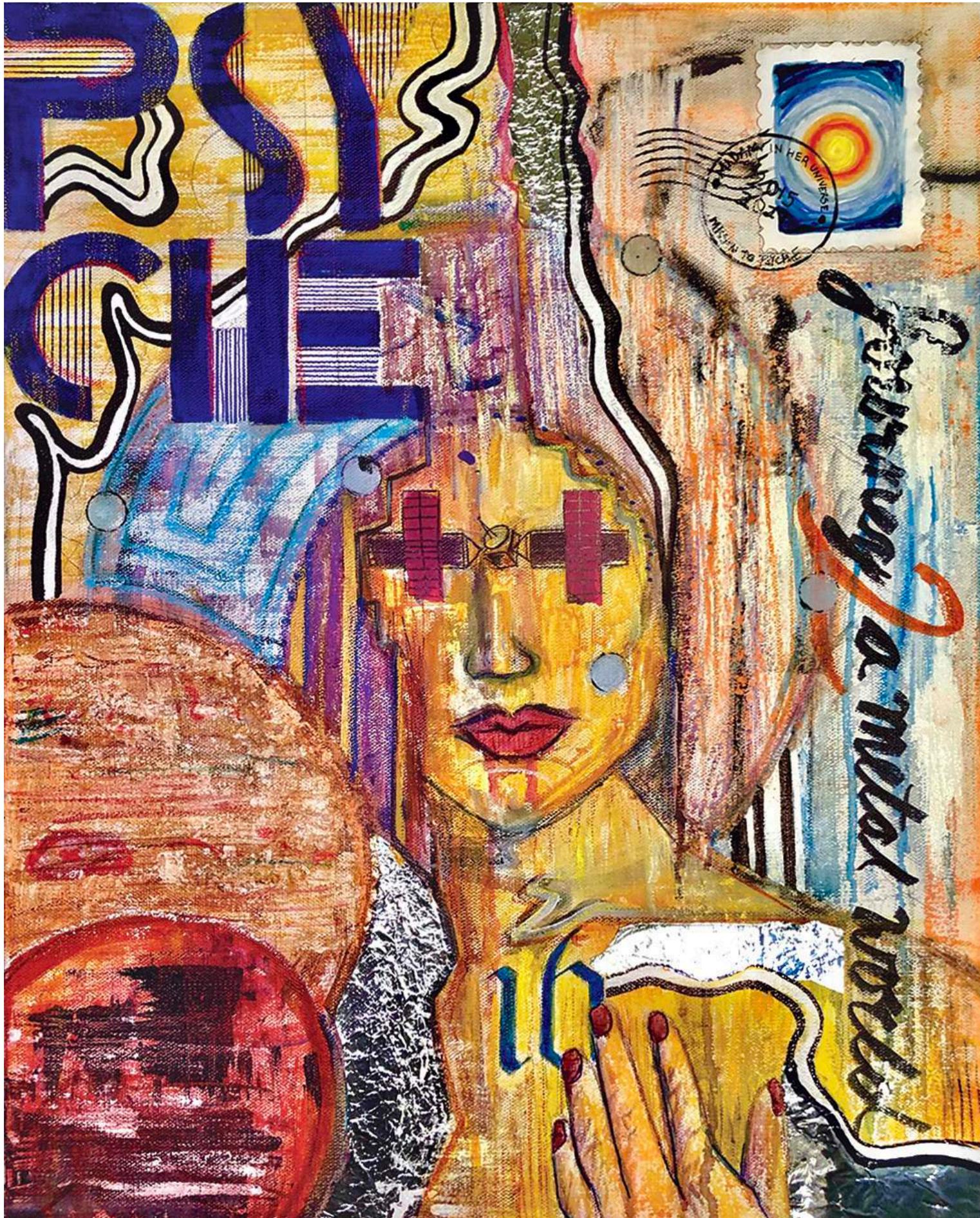
Makeup has always been a creative outlet that I admired, so I wanted to combine both my passion for art, makeup, and space into one. One cannot ignore the beauty of Psyche's surface, which inspired the grey look with gold leaf. Using the Psyche mission's color palette, the other look is meant to represent the Greek goddess the asteroid was named after.

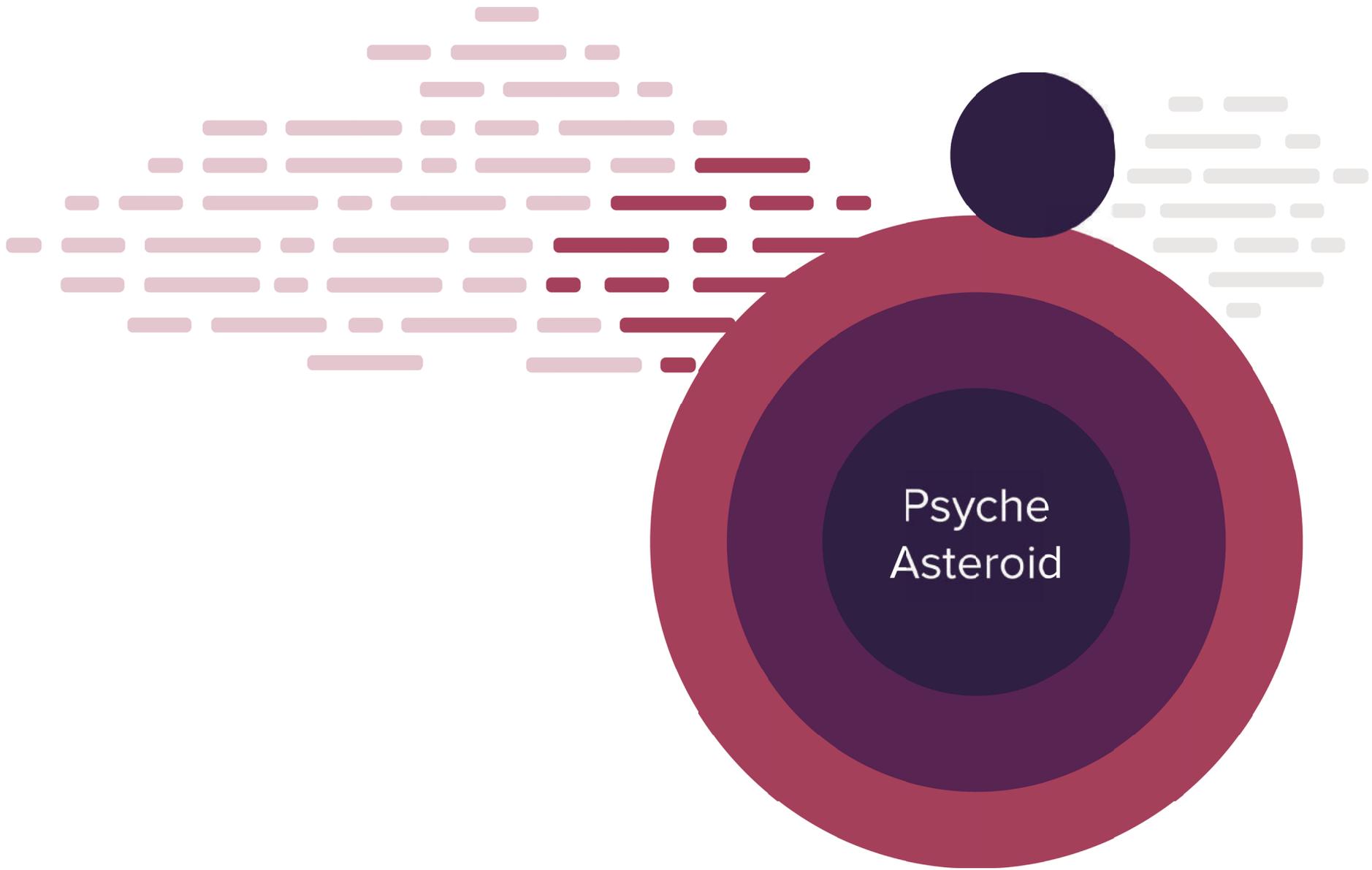
Madam in Her Universe

Brianna Young

*Mixed Media: Acrylic, Oil, Pastel,
Tape, Charcoal, Tin Foil, Marker*

For this project, I created a multidimensional, mixed media painting based on the Greek goddess Psyche. The center of the piece is an up close, semi-transparent portrait of Psyche surrounded by her universe. However, the painting is not just about the Goddess, but what she represents: the soul. Thus, there are many other motifs related to the soul of asteroid (16) Psyche and its mission in this piece as well.





Formation

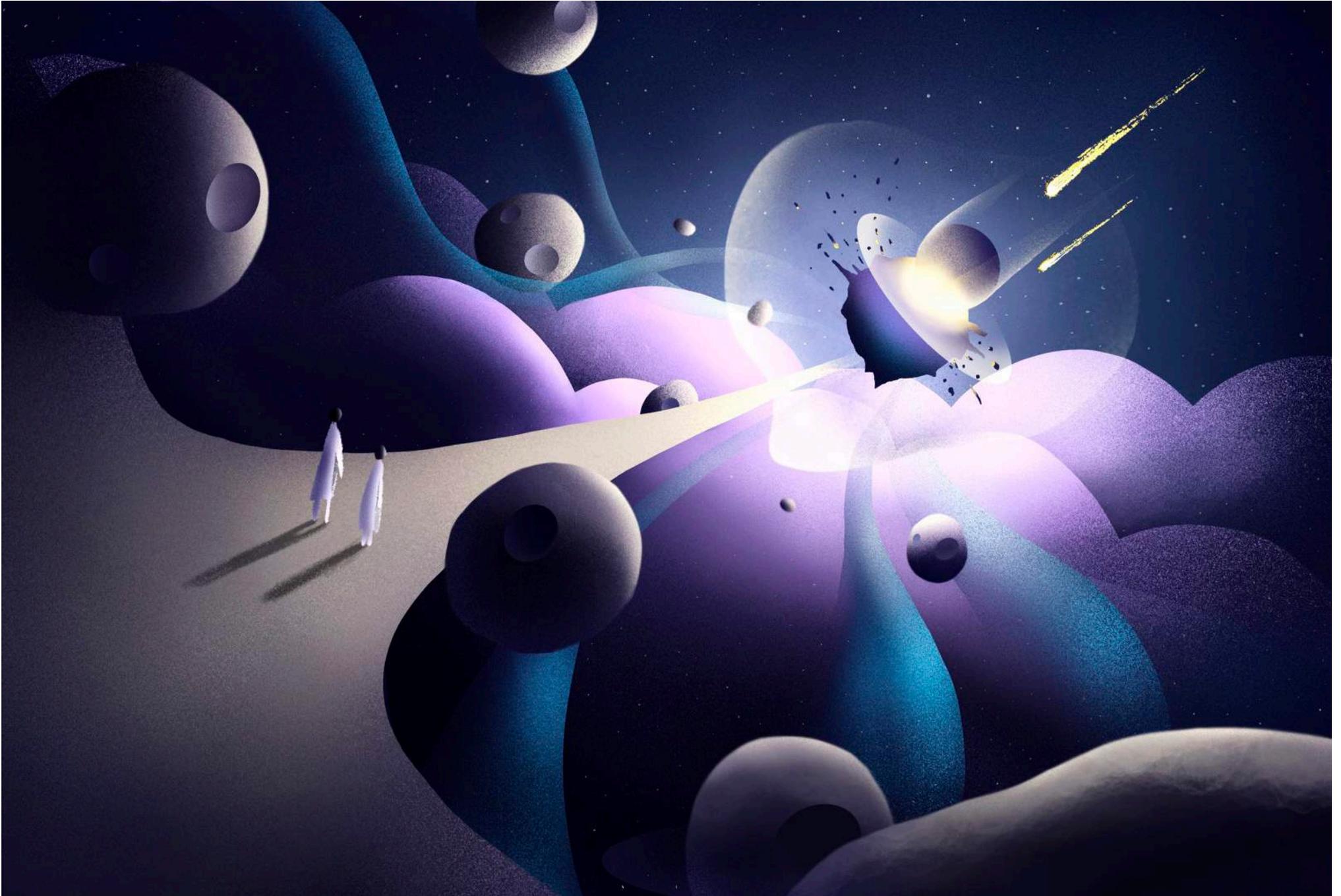
The Psyche asteroid may be able to show us how Earth's core and the cores of the other terrestrial planets came to be. This is because scientists think that Psyche may consist partly of metal from the core of a planetesimal, one of the building blocks of our solar system. How Psyche formed remains a mystery, but one scenario is that long ago, a planetesimal was subjected to multiple violent hit-and-run collisions that stripped away its mantle, leaving behind core material.

Collision

Anne Elliott

Digital Media /Procreate

The Psyche asteroid is hypothesized to be the remains of an early planetary core that became exposed via collisions that stripped away its outer layers. In this illustration, I wanted to convey the beauty of space exploration, and how visiting Psyche could help us discover the origins of the Earth. I have also envisioned what this illustration could look like as a hero image for an article about the mission.





Heart of Gold

Sam Hollasch
Digital Media

The Psyche asteroid is hypothesized to be the remains of a protoplanet formed in the early solar system that underwent collisions that shed it of its outer layers, leaving exposed core material behind. The Psyche asteroid was named after the titular figure in Greek mythology – the goddess of the soul. I was inspired by the name and the story of the asteroid's creation – the idea that Psyche is the exposed heart of a long-vanished planet. This illustration shows the luminous metal core just after the moment of impact, when its light first breaks through a cloud of debris.

Molten Cradle

Sam Hollasch

*Woven textile, synthetic yarn,
metal beads*

A colorful woven tapestry mounted with copper piping. The tapestry depicts Psyche as a white ovular shape with rings of yellow, orange, red, purple, and blue radiating from the center. The yarn is piled on the edges of these rings to create a thicker, irregular texture. Thin yarn in accenting colors and metal beads of various sizes are woven in various places to create the image of dust and molten debris.





Toward Collision

Cameryn Laborte

Isomalt, Cake, Chocolate

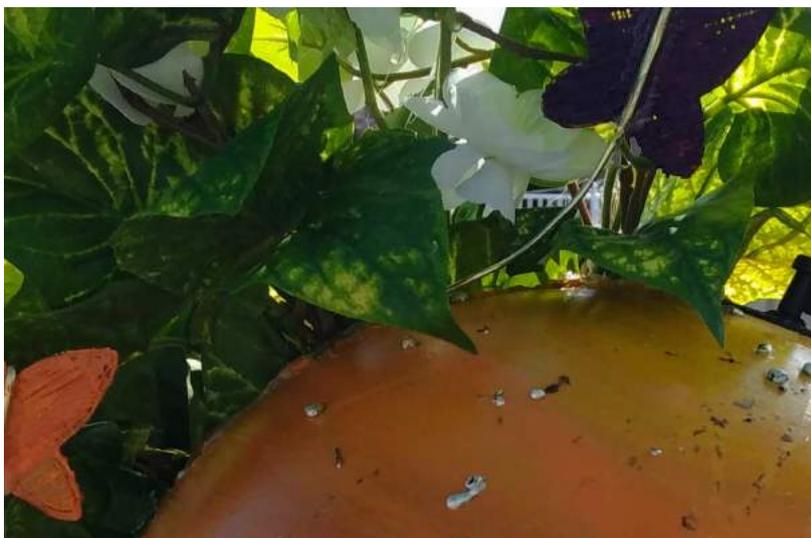
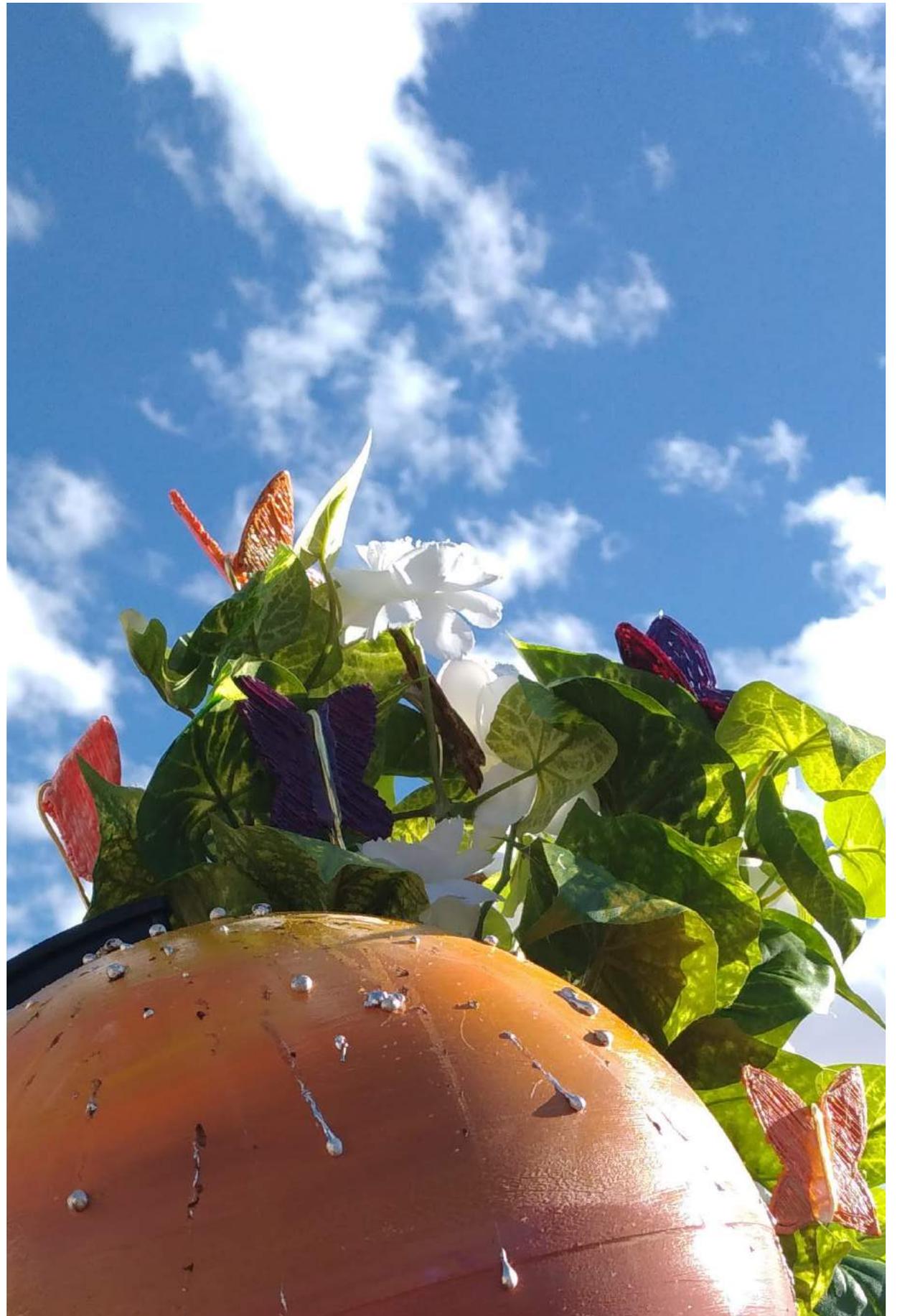
I wanted to show the hypothesis that Psyche may be the product of collisions that stripped the mantle off a protoplanet, leaving behind core material. I textured chocolate, broke it, and colored it to represent the hypothesized core. I packed a chocolate hemisphere with cake and frosting to represent the mantle. The crumbled cake shows how some rocky asteroids are composed of many individual stones. To show movement, I used an isomalt red sugar sail.

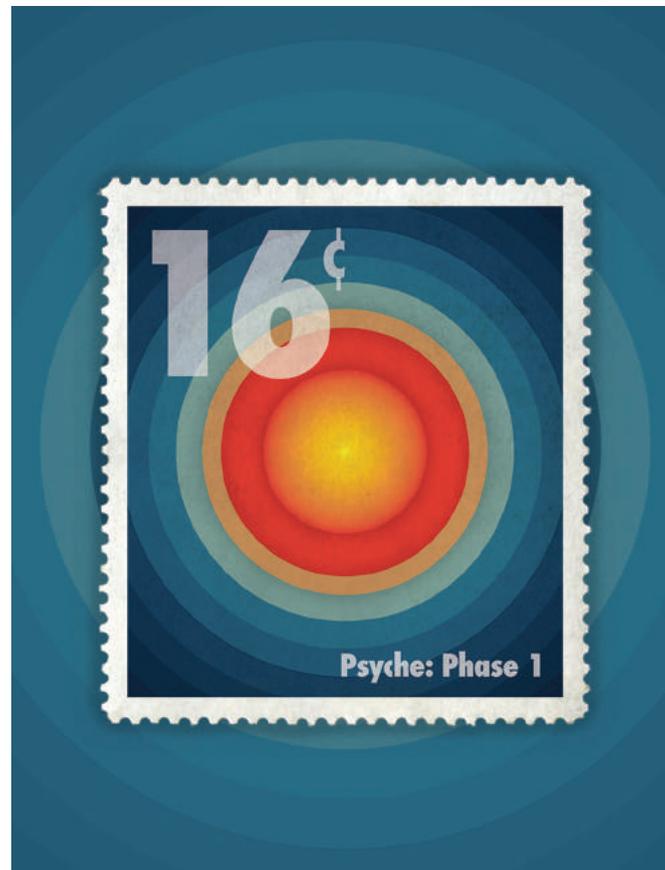
Outer Soul

Sarai Rankin

*Sculpture: repurposed globe,
acrylic paint, liquid solder, craft
flowers, wires, liquid plastic*

Following the hypothesis that Psyche may have been a planetary core, I wanted to show the potential of Psyche had it completed its formation. A globe is painted in Psyche mission colors, and it is drizzled with metal to remind everyone of the metal core center. The cutout is filled with flowers to represent cultivation and butterflies, a symbol for the soul. These elements come together to show the amazing things that come from planets.



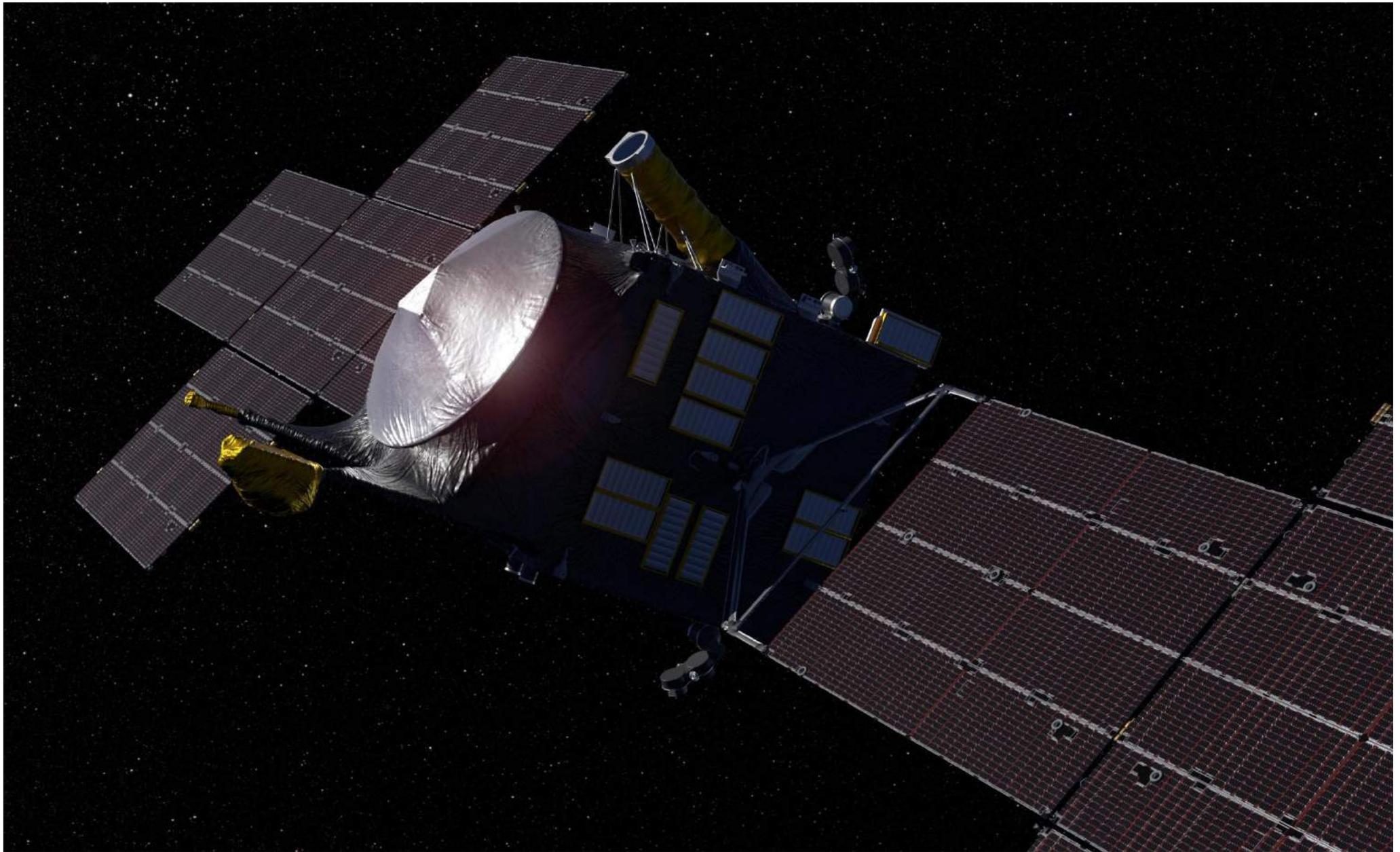


The Formation of Psyche

Brianna Young

*Digital Media: Created in
Illustrator and Photoshop*

For this project, I created a book of eight postage stamps. These stamps illustrate how Psyche may have come to be. I used postage stamps because they are tiny, but a necessary part of mail circulation. Using postage stamps will help express that Psyche is far away and tiny on a planetary scale, but is an important step towards the future of space exploration.



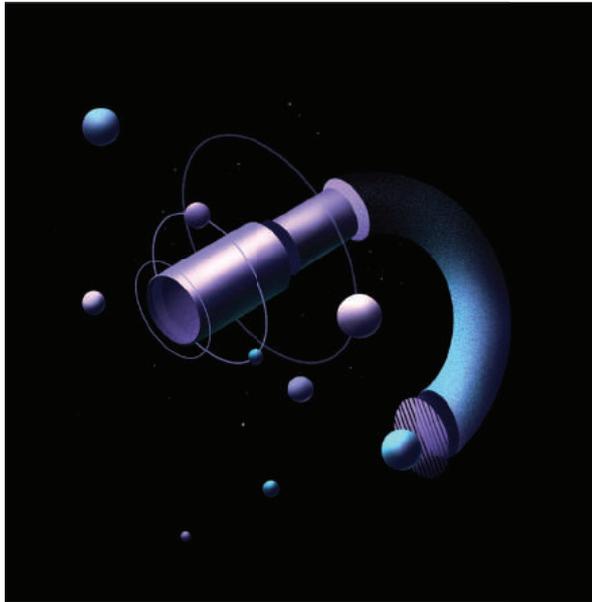
Instruments & Science Investigations

To study the Psyche asteroid up close, the Psyche spacecraft is equipped with multiple instruments and investigations. These include the multispectral imager, gamma ray and neutron spectrometer, magnetometer, a radio science experiment, and the Deep Space Optical Communications (DSOC) technology demonstration. With the aid of these instruments and investigations, the mission seeks to determine whether Psyche is a core, or if it is unmelted material, determine the relative ages of regions of Psyche's surface, determine whether metal bodies incorporate the same light elements as are expected in the Earth's high-pressure core, determine whether Psyche was formed under conditions more oxidizing or more reducing than Earth's core, and characterize Psyche's topography.

Deciphering Psyche

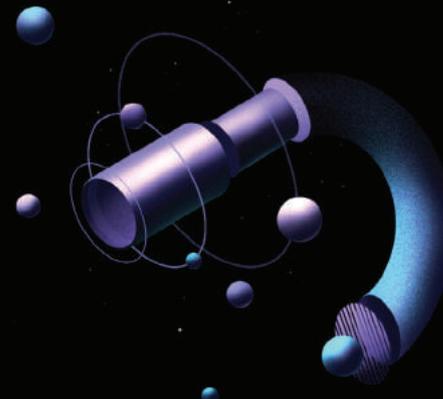
Anne Elliott
Digital Media

These illustrations depict artistic representations of three instruments (the multispectral imager, gamma ray and neutron spectrometer, and magnetometer) that will be used to determine what Psyche is made of and whether or not it is remnant material from an early planetary core.



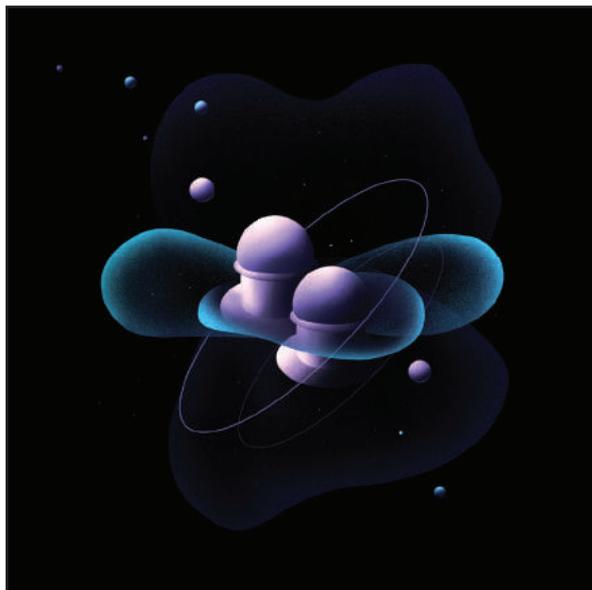
MULTISPECTRAL IMAGER

The multispectral imager provides high-resolution images using filters to discriminate between Psyche's metallic and silicate constituents. It consists of a pair of identical cameras designed to acquire geologic, compositional, and topographic data.



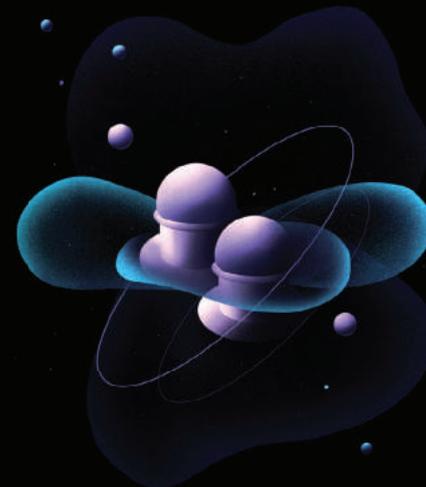
GAMMA RAY & NEUTRON SPECTROMETER

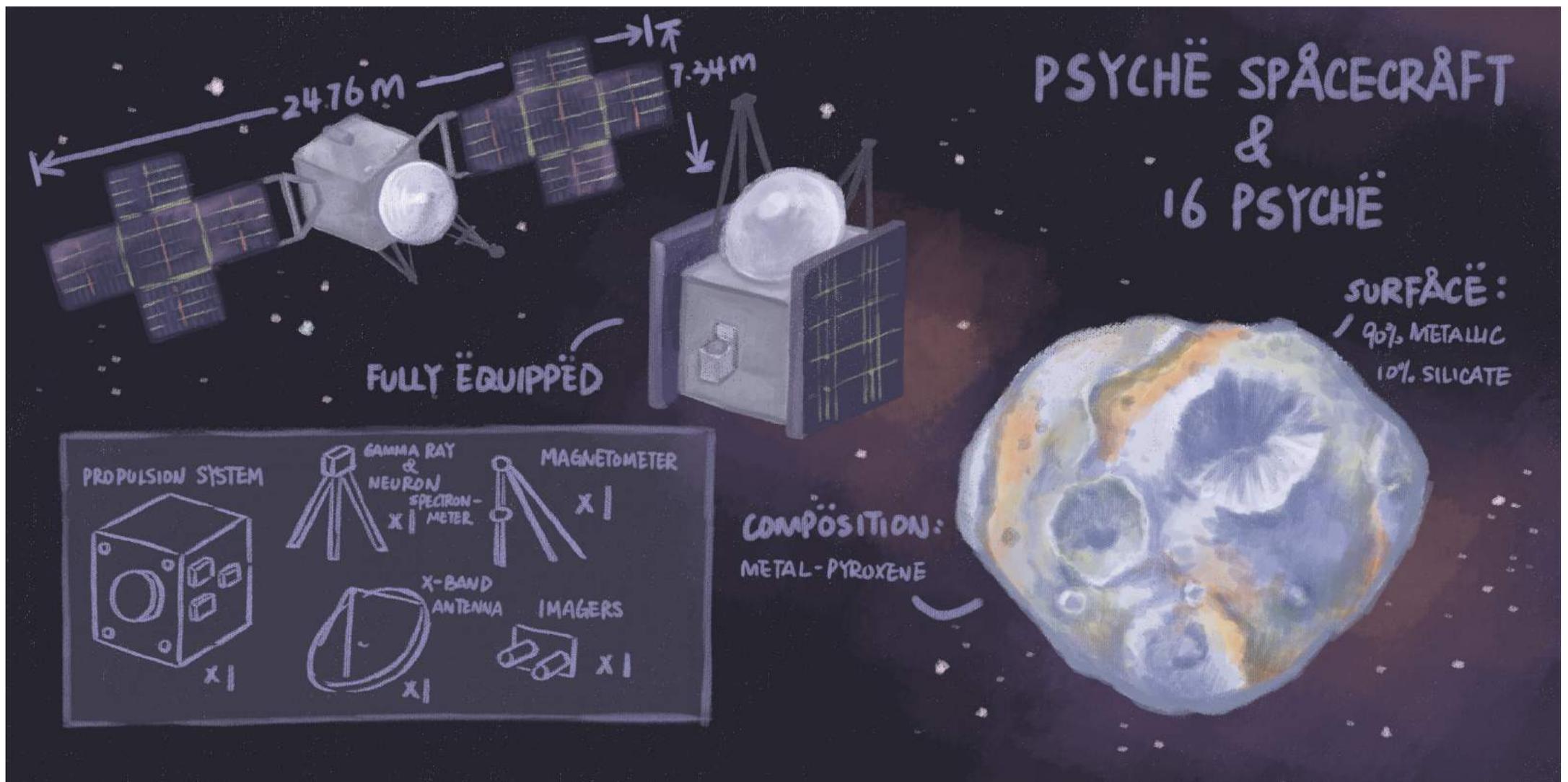
The gamma ray & neutron spectrometer will detect, measure, and map Psyche's elemental composition. It is mounted on a 2-meter boom "arm" to distance the sensors from background radiation created by energetic particles interacting with the spacecraft.



MAGNETOMETER

The magnetometer is designed to detect and measure the remanent magnetic field of the asteroid. It is composed of two identical high-sensitivity magnetic field sensors located at the middle and outer end of a 2-meter (6-foot) boom ("arm").





Psyche Assembly Manual

Xiwen (Julie) Hu

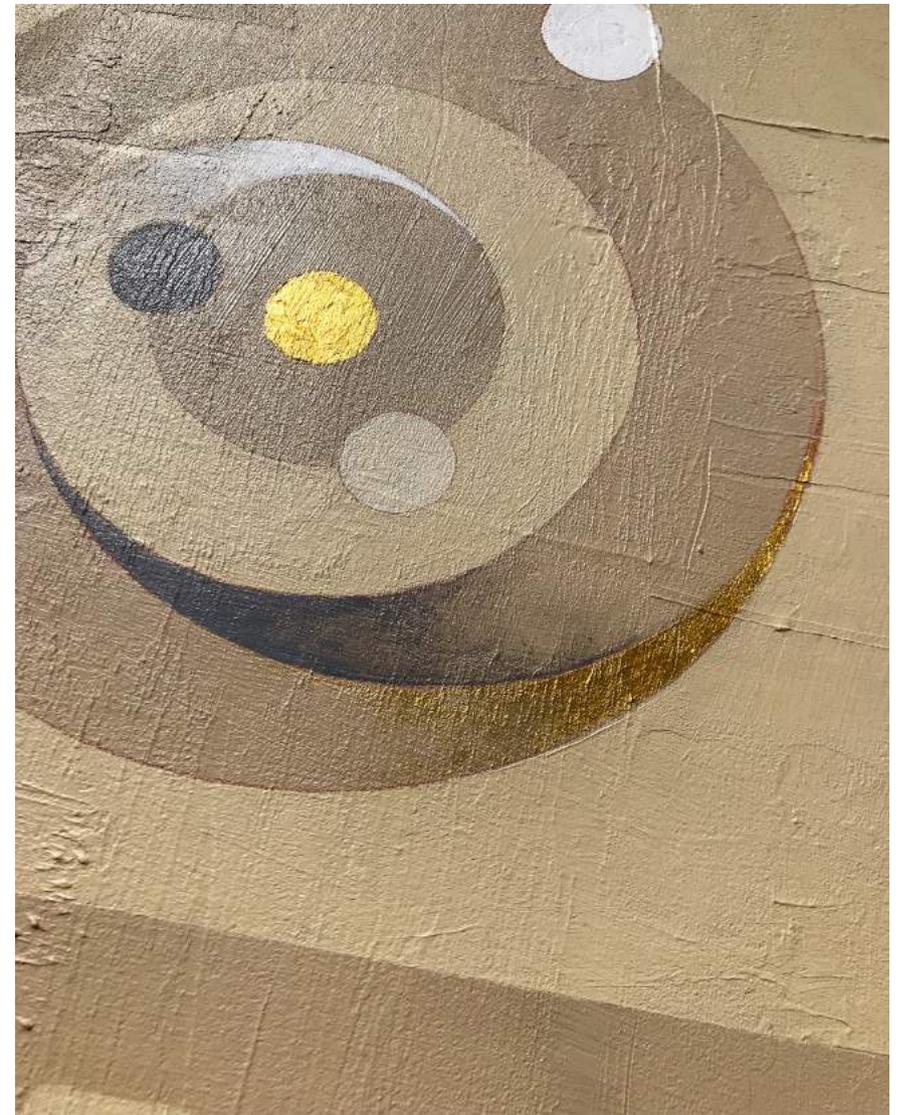
Digital Media: Adobe Photoshop

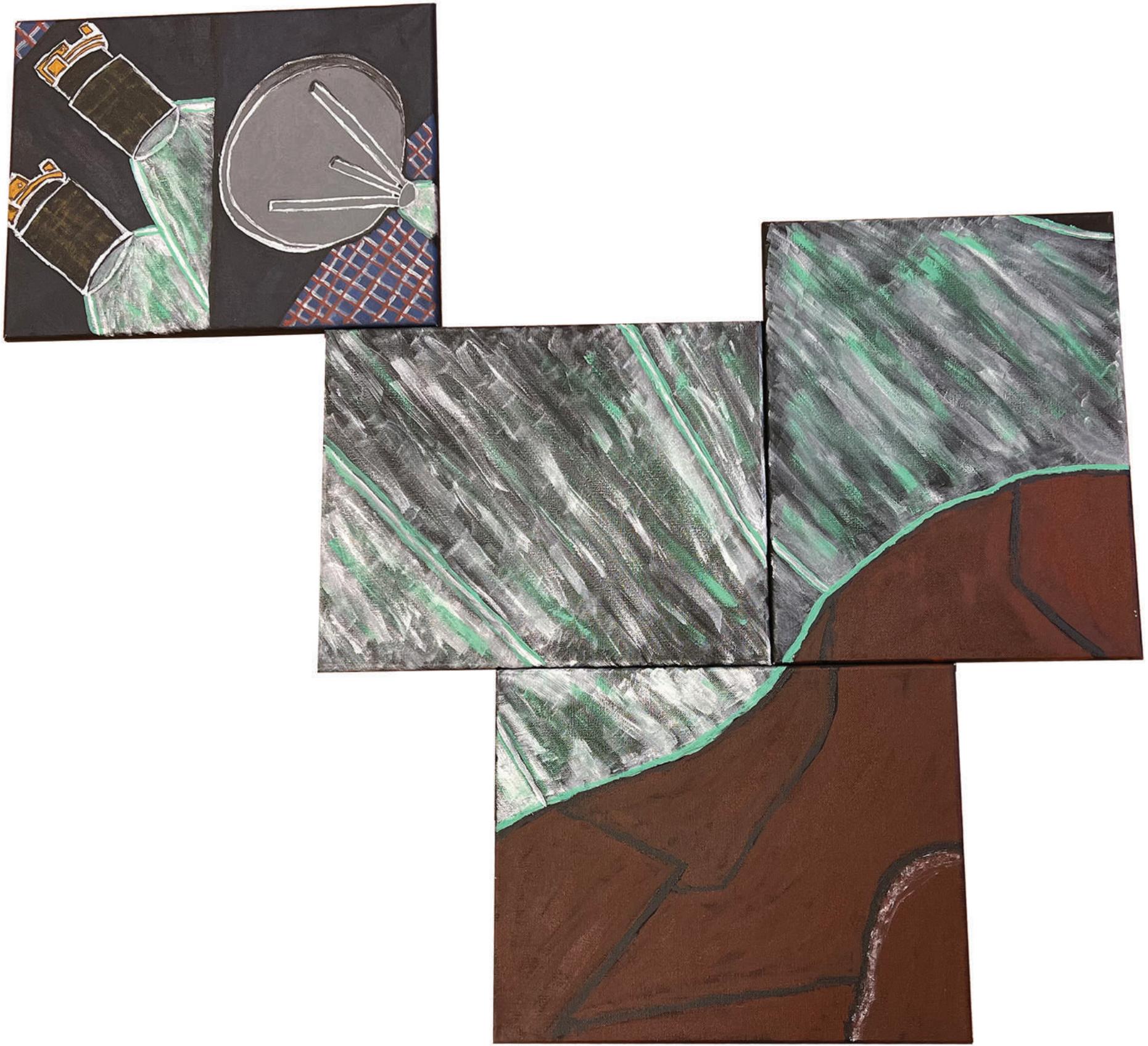
For this infographic about the Psyche spacecraft and the (16) Psyche asteroid, I mimicked the IKEA furniture manuals to showcase the mechanical components of the spacecraft, and the chemical components of the asteroid.

Movement at Psyche

Zarina Karapetyan
Sand, Metals, Acrylic

This piece was inspired by the idea of research and note taking: the beginning stages of the Psyche mission. Leonardo Da Vinci's notebook was a key inspiration for this piece, with the red and grey writing invoking a similar style of writing to his sketches. The writings include statistics and details of the Psyche asteroid, along with a sheet of brass, aluminum, and slab of sand to represent the different metallic and earthly materials the asteroid may be composed of. The circular diagram shows the Psyche mission launch map in context with the Sun, Earth, and Mars. When viewing this piece, it feels like you're looking at a topographical map, as well architectural plans. This piece also harbors the symbol for the Psyche asteroid on the right hand corner, the semi-circle representing the symbol for the soul in Greek and the star on top representing a butterfly's wing. The $\Psi\upsilon\chi\eta$ for the Psyche goddess of the soul. All together, these elements create a painting that feels like a sheet ripped from a plan book, though elevated to highlight the research that goes into a space mission.





Some Science of the Psyche Mission

T.M.S.

Painting: Acrylic Paint, Black Canvas

Video: Stop Motion Video, BandLab, GarageBand, iPhone

This painting is of the Psyche spacecraft's multispectral imager and X-band high gain antenna. The two instruments are on different sides of the spacecraft, so a split image was chosen to demonstrate the two instruments collecting data. We are not sure what to expect from Psyche, so the information gathering process is still continuing. The painting is also meant to be changed and/or built upon with other canvases, or anything else the imagination holds.

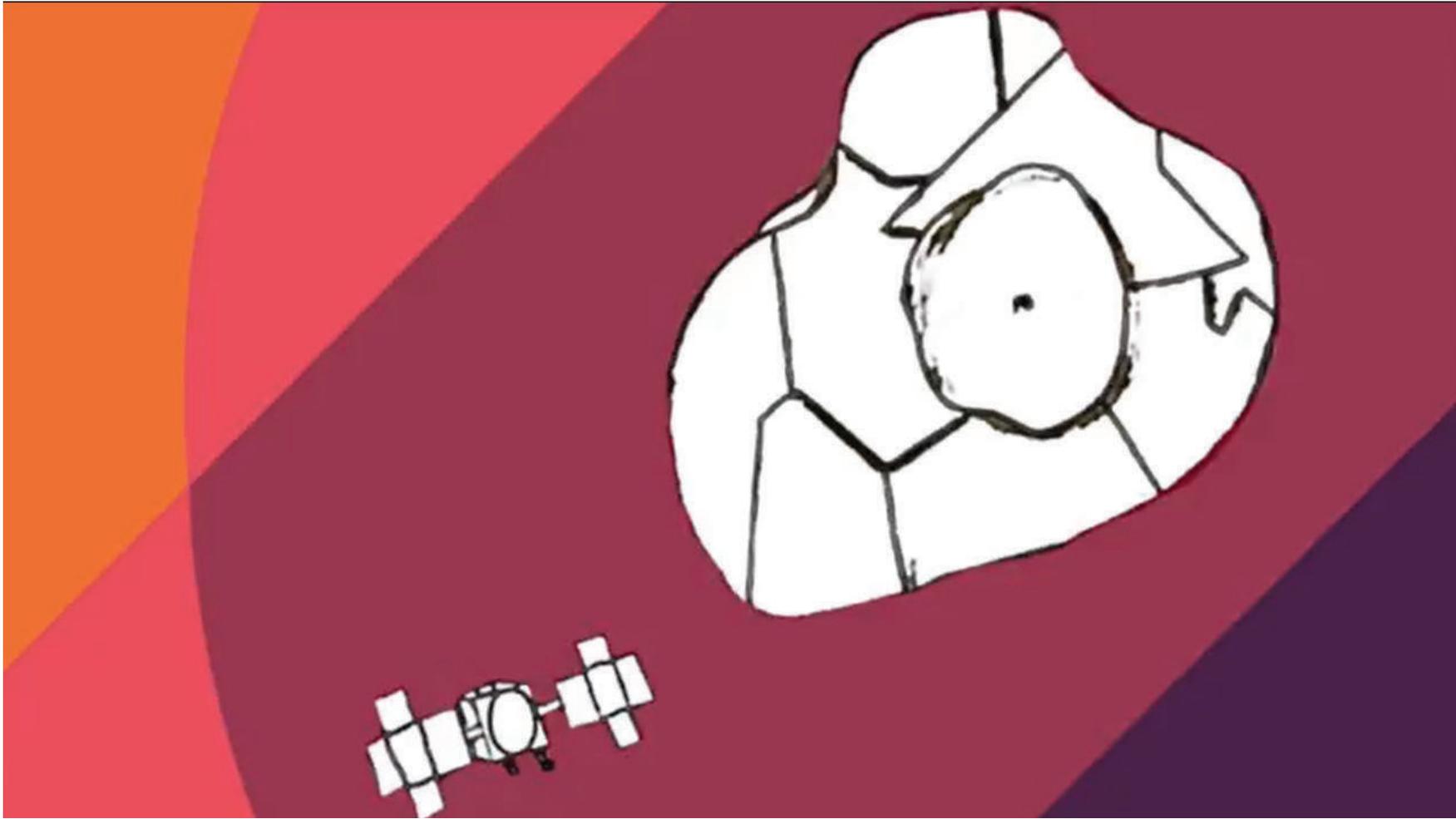


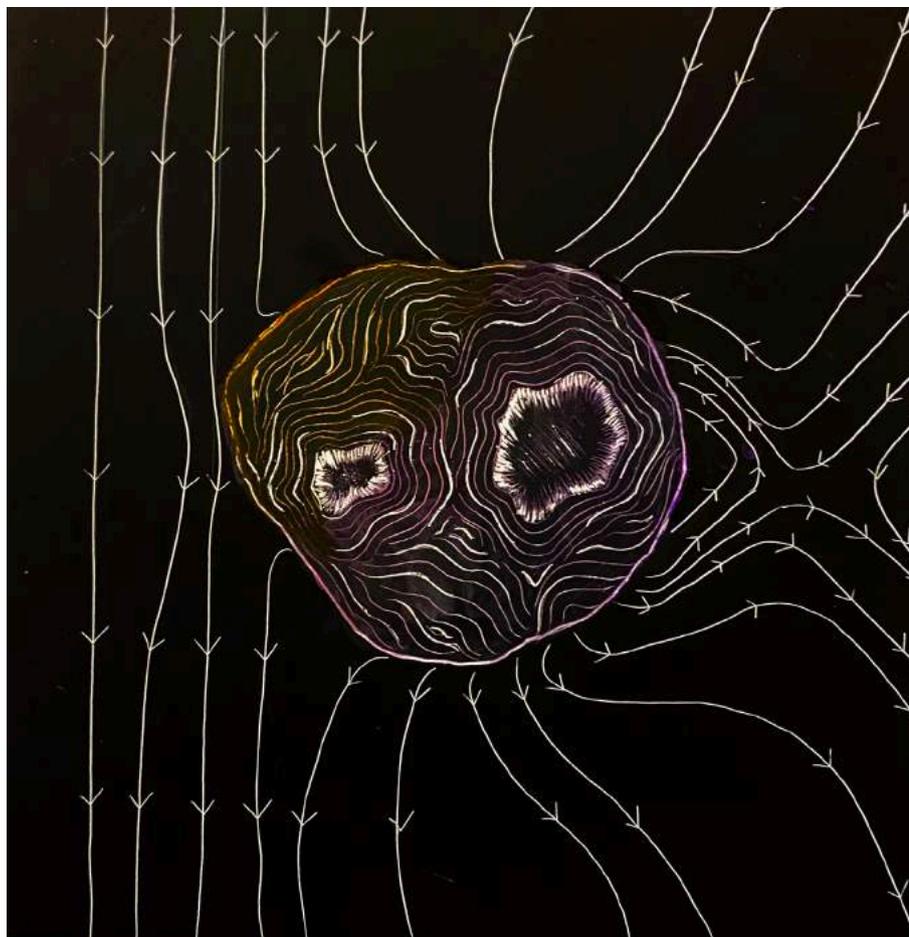
Psyche Science Goals and Objectives *Asteroid Chillin'*

T.M.S.

BandLab, Clips, Movie, Paint 3D

“Psyche Science Goals and Objectives (Asteroid Chillin’)” is a song with a fun twist talking about Psyche’s science goals and objectives. I thought it would be neat to bring music to a STEM list.





Psyche's Magnetic Field

Aarti Patel

*5 x 5 scratchboards, scratch tools,
and acrylic paint*

Psyche's Magnetic Field is a vibrant collection of 3 pieces that portray varying simulated magnetic fields of the Psyche asteroid influenced by solar winds. These 3 pieces referenced actual simulated data and images with slight variance provided by the Magnetometry Investigation Team (MIT). Each piece is done using a 5 x 5" scratchboard piece with initial sketches of the asteroid done in the center. By using scratch tools, the sketch is carved out and highlighted with acrylic paint. The blended orange, pink, and purple are meant to signify the Psyche mission's logo and colors.

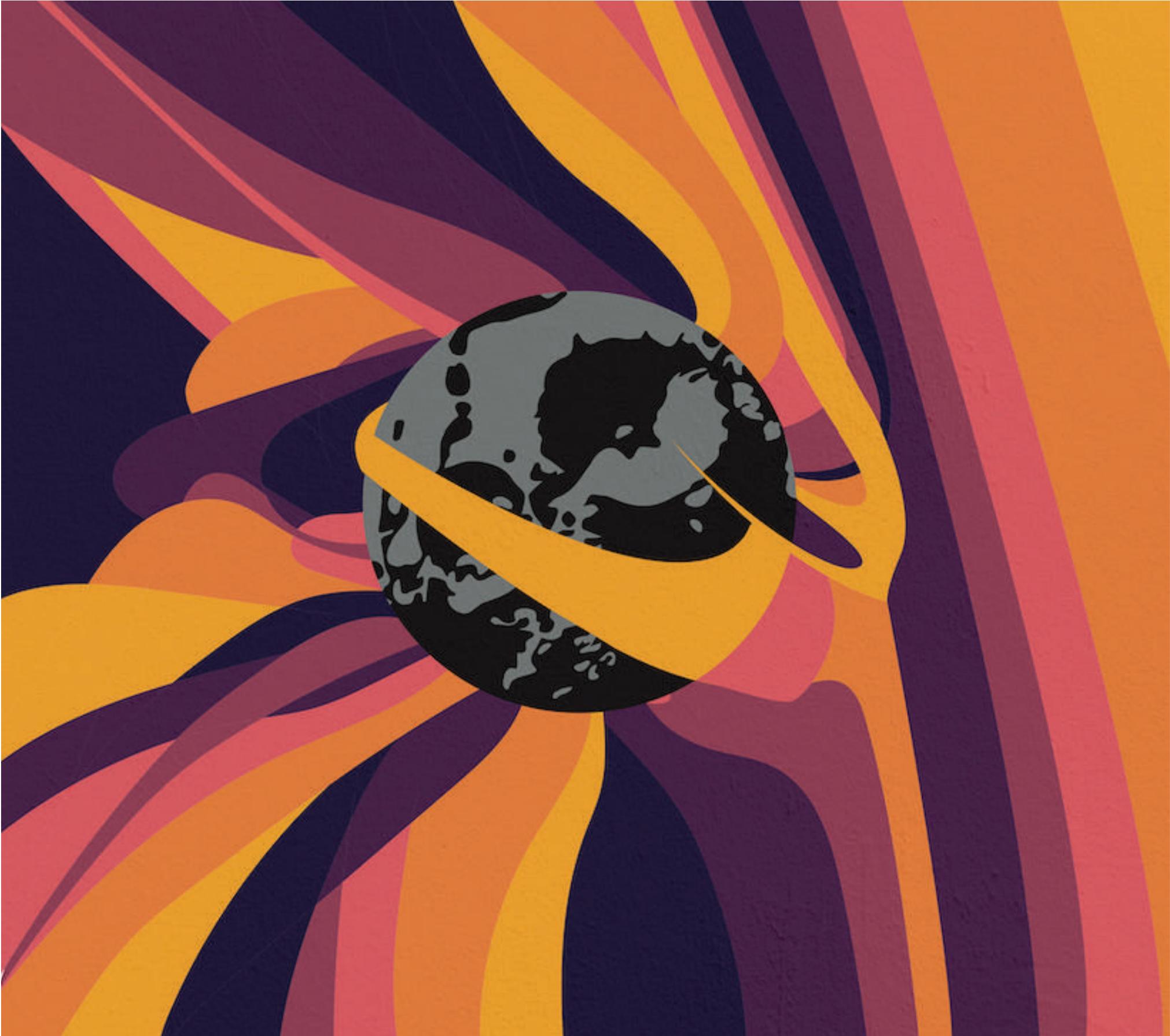
Trail of Psyche

Alyssa Thornhill

Embroidery on organza fabric

Trail of Psyche shows the magnetic field of the asteroid through embroidery on organza fabric. The trail behind Psyche represents its path and the solar wind hitting the surface of the asteroid. The stitching is meant to look more abstract since we don't know exactly what Psyche looks like.





Magnetic Psyche

Mikayla Hymanson

Digital Illustration

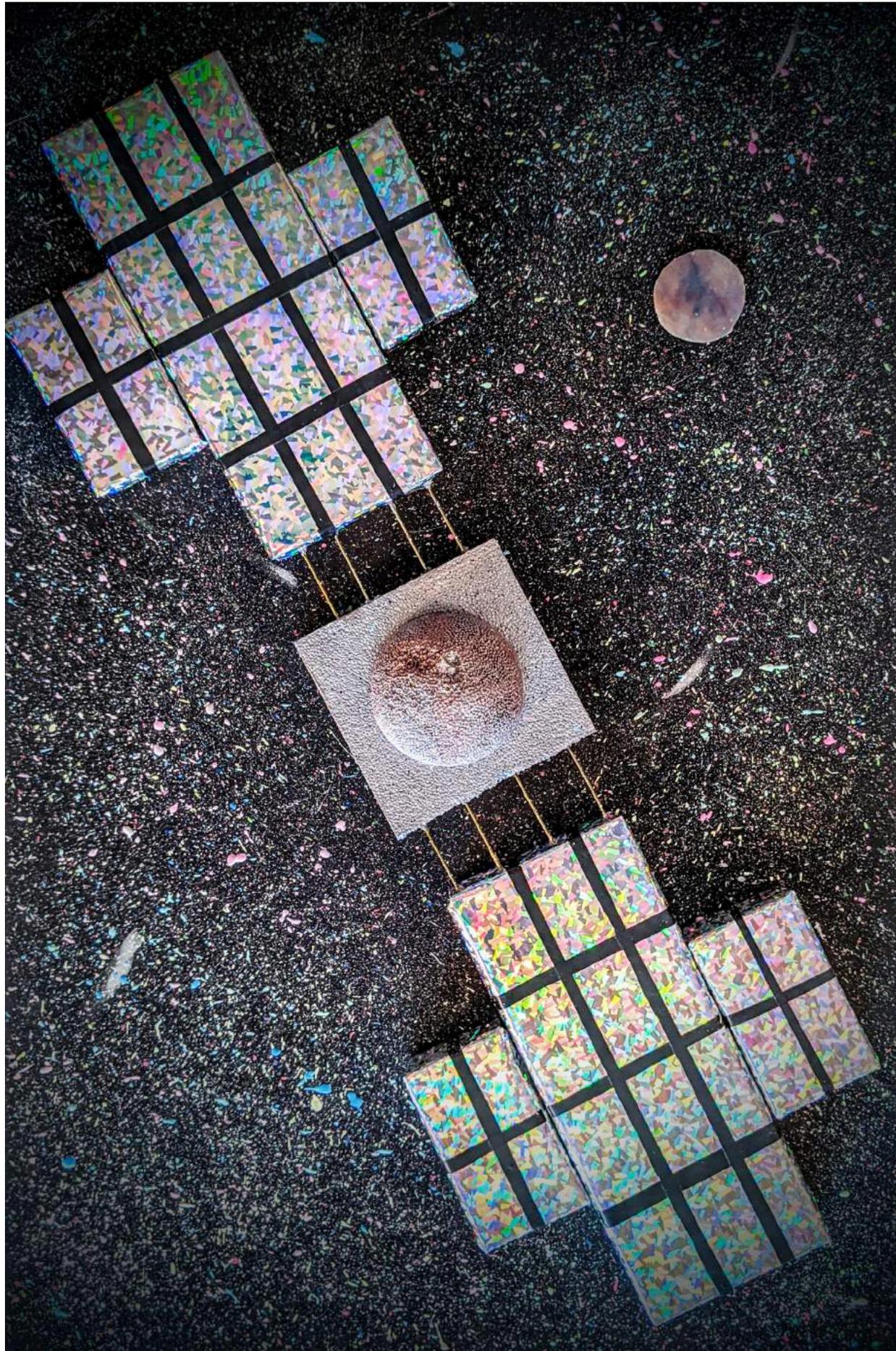
Inspired by the magnetic field that may be around Psyche, *Magnetic Psyche* showcases what the field might be like through colors. I used the colors of the Psyche mission to convey the magnetic field, which is not visible by eye. This visual may help us better understand the shape of the magnetic field and how it relates to Psyche.

Satellite Approaching Psyche

Mitchel Medvec

Acrylic Paint, Tile, Styrofoam, Metal Wire, Electrical Tape, Silicon, Duct Tape, Wooden Canvas

This piece is a multimedia painting of the Psyche spacecraft as it approaches the Psyche asteroid. The background is made up of many different colors of acrylic paint splattered onto a wooden canvas. It is an abstract way to represent the entropy in space. The spacecraft is made up of styrofoam and metal wire, and it is decorated with different metallic paints.





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. The site visit is an intense, highly technical in-person review done by a select group of science, technical, and industry experts. They review every detail of the proposed mission, from concept and design, to execution and science application, as well as how the mission personnel from different institutions work together as a team.

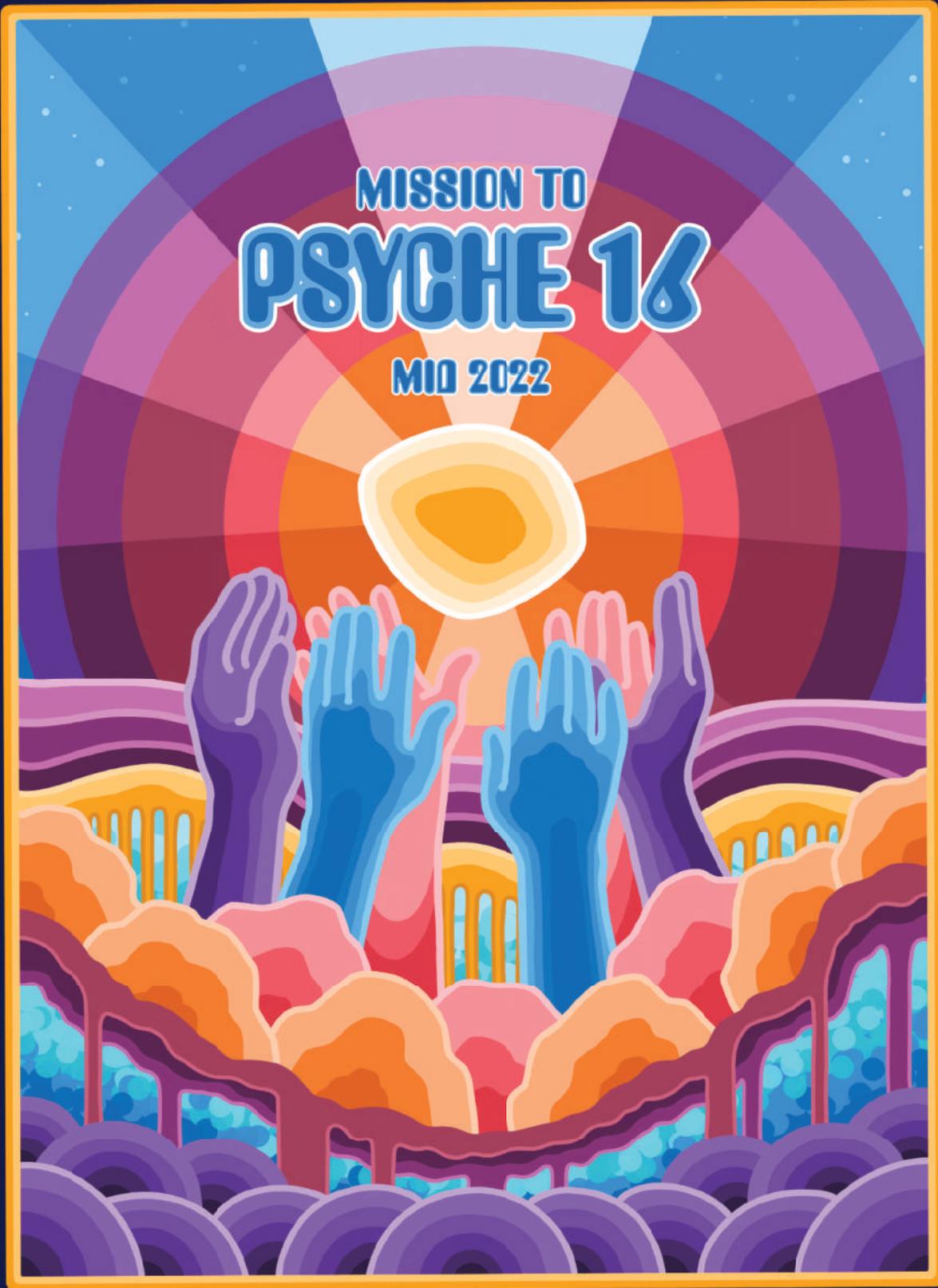
As the mission continues to progress, more team members are added as needed. Currently, the Psyche team is comprised of many hundreds of individuals and seventeen different partners with a variety of specialties, including science, engineering, management, business, outreach, and education. Each member 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 On Tour

Sam Hollasch

Digital Illustration

For this piece, I was inspired by music tour posters – the kind that would be used to advertise an artist traveling the world to perform. I decided to create a tour poster for the mission to Psyche. I wanted the color and pattern to be bright and exciting, to catch the eye of the viewer, and to invite the viewer to join in the anticipation for Psyche’s launch. I tried to emulate a psychedelic art style, similar to that of the Beatles’ Yellow Submarine. This illustration was drawn by hand and colored digitally.





A Psyche's Dozen

Cameryn Laborte

*Gingerbread and butter cookies
with icing, food coloring gels, and
powders*

Inspired by the people of the Psyche mission, I created gingerbread molasses and butter cookies using icing and an edible watercolor technique to symbolize not only the person, but the lesson I took away from each of them. Marisol Arenas demonstrated the importance of continuous learning and growth, even against adversity. Lindsay McLaurin shared the importance of connecting with others, sharing the excitement of the mission, and feeding off of feedback. Tom Prettyman's presentation showed that interplanetary comparisons of data connect what we learn from separate missions. Kristina Larson drilled the importance of communication between distinct, interlocking areas. Dr. Lindy Elkins-Tanton helped me realize the connections between the arts and sciences and how our exploration of space offers a greater understanding of ourselves. Ravi Prakash recalled his varying experiences, pointing out that every opportunity offers something to learn. While I've only decorated a handful of people involved, the people of the Psyche mission offer so much in their work and in what they can teach, and I wanted to honor that.

The Alma Mission

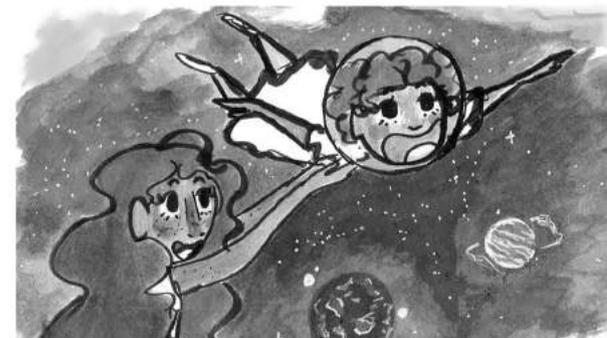
Alyssa Thornhill

Ink, pencil, and paper

The Alma Mission is a story about a little girl named Alma and her sister having a conversation outside under the stars. Alma's sister, Felicity, tells her the story of a lonely protoplanet searching space for a friend. One day the protoplanet saw someone in the distance, and to their surprise, it was space debris. As the girls embraced, the protoplanet and space debris collision created something amazing: Psyche. Alma is amazed by the story and Felicity explains she learned about this through a friend in the Psyche mission. Alma declares she will learn all she can about space and one day work on a mission; however, Alma realizes she doesn't know exactly what she wants to do. Felicity explains to Alma that she learned there are so many designers, engineers, and other occupations behind the scenes. In a mission, there is room for her there or anywhere if she puts her mind to it. The sisters hug and Felicity tells Alma that she and their family will always be there for her and to follow her heart and do what makes her happy. Felicity sweeps Alma into her arms and holds her in the air as if she is flying before the sisters head in for the night.

I was inspired to make this story since this mission showed me how many different people with different expertise work together for something so important and how significant each role is. I believe educating the younger generation to follow their passions and continue learning is very important. Art and storytelling is a great way of reaching and connecting with younger audiences.

The Alma Mission





The Mission

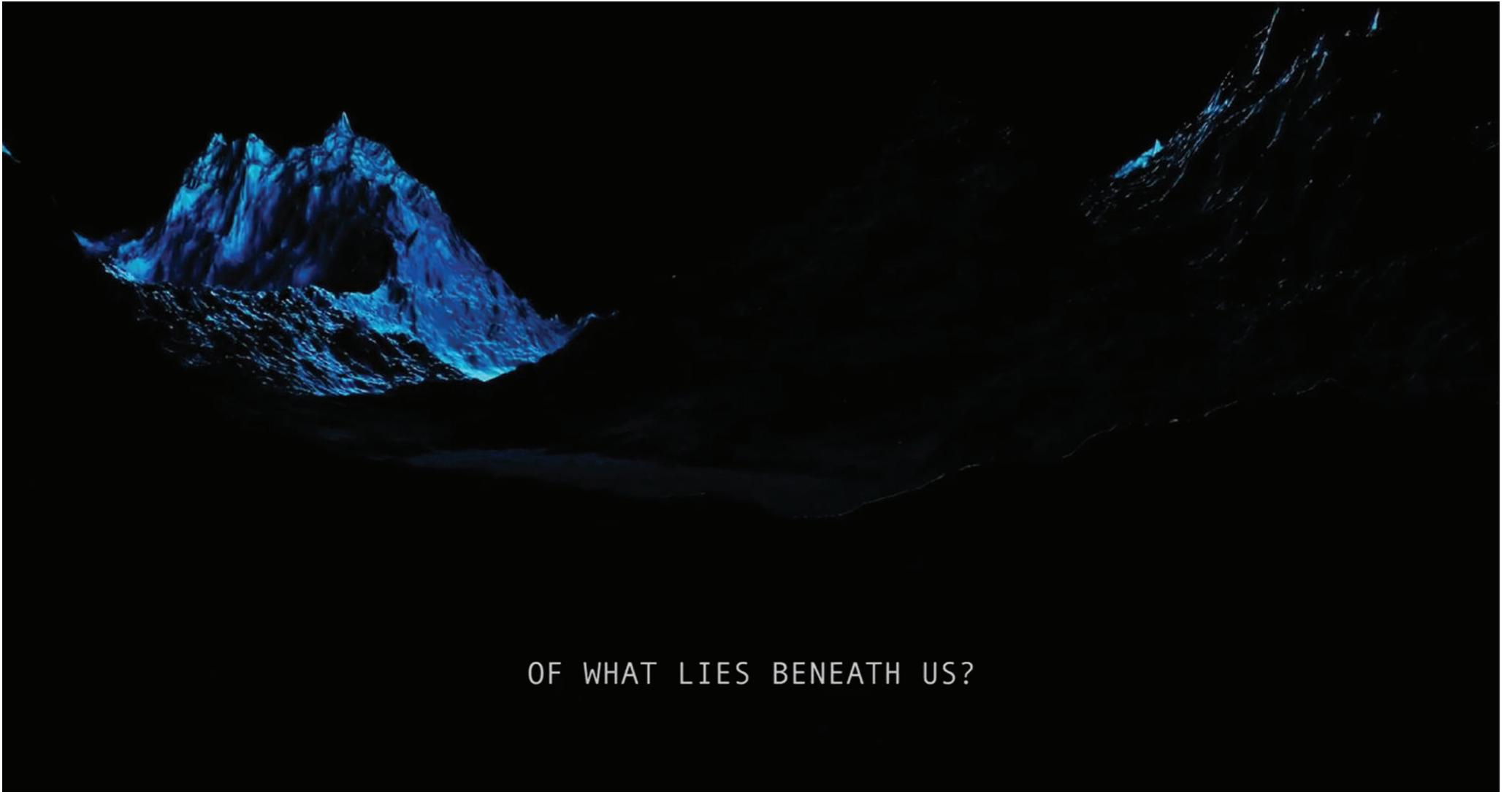
The Psyche mission was chosen by NASA on January 4, 2017 as one of two missions for the agency's Discovery Program, a series of relatively low-cost missions to solar system targets. The Psyche spacecraft is targeted to launch in mid-2022 and travel to the asteroid using solar-electric (low thrust) propulsion, arriving in early 2026.

Psyche: Journey To A Metal World

Anne Elliot

Adobe After Effects

This video was made to inspire people to learn more about the Psyche mission. I created abstract 3D representations of the asteroid Psyche and pieces of Earth to generate excitement around the idea of discovering more about Earth's core.



OF WHAT LIES BENEATH US?





Countdown To Psyche

Anne Elliot

*Cinema 4D, After Effects, HTML/
CSS/Javascript*

I designed and coded a countdown timer that displays the time until the Psyche launch (August 2022), along with information about the current mission phase with a link to learn more. A 3D model of the Psyche asteroid rotates as you scroll. The asteroid model I used was created using radar from Arecibo Observatory; I used Cinema 4D to animate it and bring it to life. This project is meant to create more excitement and interest around the Psyche mission! To view the website, visit countdowntopsyche.com.

A Little Introduction About the Psyche Mission

Xiwen (Julie) Hu

Photoshop

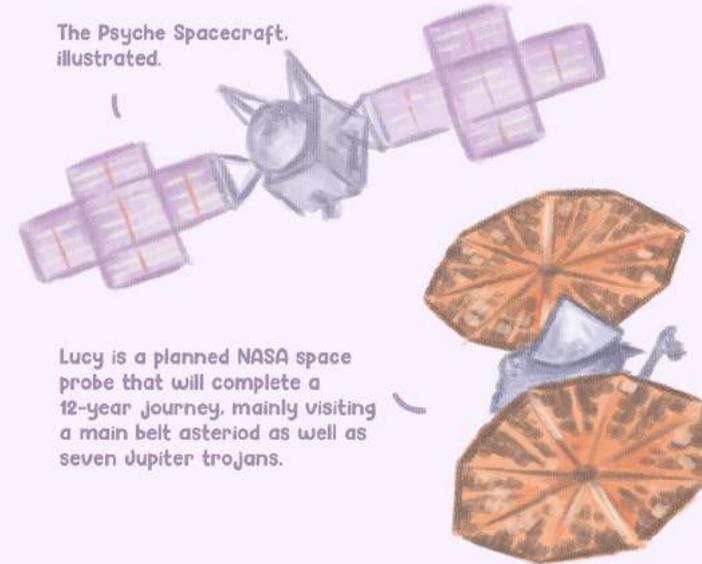
An infographic introduction about the history of the Psyche mission, the trajectory of the mission, and the aim of the mission.

A LITTLE INTRODUCTION ABOUT



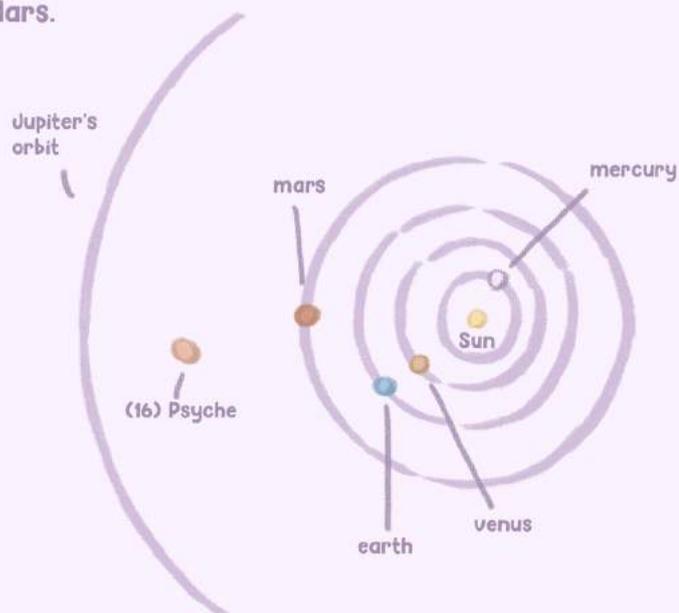
The Psyche mission started as part of a call for proposals for NASA's Discovery Program. In January 2017, Lucy and Psyche were selected for the 13th and 14th Discovery missions. The launch of Psyche is planned for mid-2022.

The Psyche Spacecraft, illustrated.



Lucy is a planned NASA space probe that will complete a 12-year journey, mainly visiting a main belt asteroid as well as seven Jupiter trojans.

Currently, the mission is estimated to launch in August 2022, and arrive in early 2026 to perform 21 months of science from orbit. The (16) Psyche asteroid, the target of study, is located between the orbits of Jupiter and Mars.



The main aim of the Psyche mission is to characterize (16) Psyche's geology, shape, elemental composition, magnetic field, and mass distribution. Specifically, the science objectives include determining whether Psyche is remnant core material, how old it is, whether it formed in conditions similar to the Earth's core, and what its surface is like.



Representation of the relative size of (16) Psyche



Breathless

Mitchel Medvec

*Piano, Guitar, Violin, Drums,
Vocals, music recording and
producing software*

“*Breathless*” is an instrumental piece that captures the incredible intricacies of the Psyche mission and the mysteriousness of space and the Psyche asteroid. The piece starts off with a violin solo and vocals to represent the launch and the beginning of the journey for the Psyche spacecraft. Next, drums start to play, representing the incredible power of the rocket boosters. The piece then builds up to a brief “breathless” moment when the spacecraft reaches space and starts to float. The drums and other instruments then come back in to represent the spacecraft heading towards the asteroid in the depths of space. “Breathless” finally comes to an end with a call and response between an electric guitar, representing the sharpness of the Psyche spacecraft, and the trumpets/violins, representing the incredible vastness of the Psyche asteroid.

Psyche Logo Mosaic

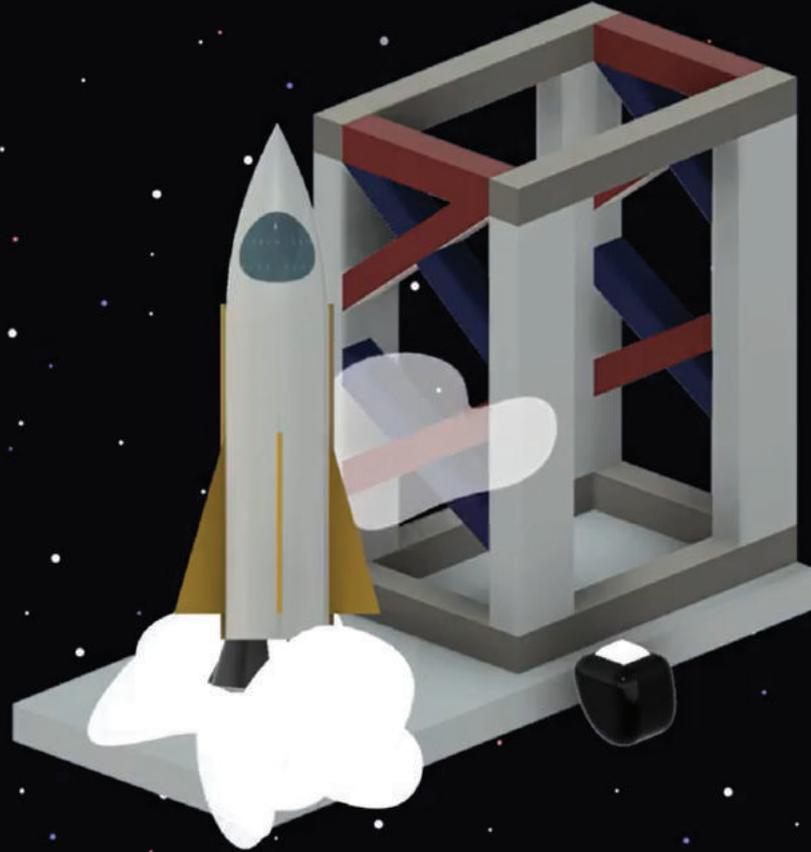
Mitchel Medvec

*Ceramic tile, wood, white grout,
spray paint, and wooden letters*

The *Psyche Logo Mosaic* is a multimedia mosaic, inspired by the Psyche logo. The intention for this piece was to create an abstract, spin-off of the logo. The materials used in this project were ceramic tile, white grout, wood, and spray paint. For the letters “Psyche”, pieces of wood were sprayed with copper and nickel metallic spray paint to make the letters look like they were taken from the asteroid.



Asteroid Astronauts Launching to 16 Psyche in 2050



SCAN ME

Welcome To 16 Psyche 2050

T.M.S.

Multimedia/Visual Arts/CAD

This multimedia presentation is meant to get people excited for the current mission to (16) Psyche, as well as to push beyond imagination and to reach to make dreams reality in human spaceflight to asteroids. I hope you enjoy watching!

Draw Your Mission to (16) Psyche Storyboard Book

T.M.S.

*Photoshop/Pencil/Posterboard/
CAD/GPS; Bandlab*

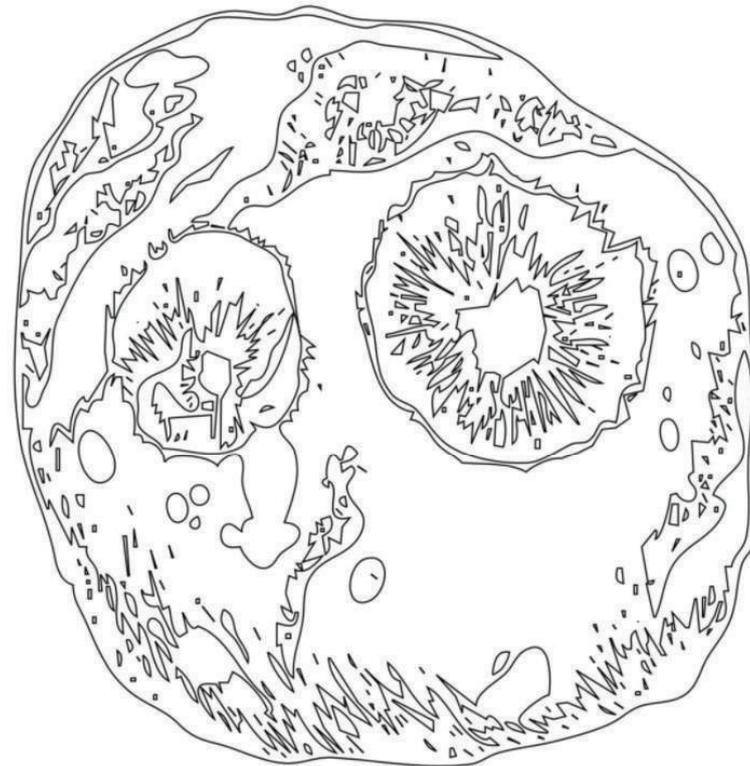
Draw Your Mission to (16) Psyche is about giving the reader space to create their journey with what Dr. Lindy Elkins-Tanton thinks are the most important things about the Psyche mission that people should know. It is meant for everyone to feel included. I hope this book accomplishes this goal. An audio file accompanies the booklet to listen to while one works.

4. The Psyche asteroid is hypothesized to be made largely of metal.

Color the Psyche
Asteroid



SCAN ME



4



Psyche Vintage Travel Poster

Daniel Zepeda-Cuba
Digital Media

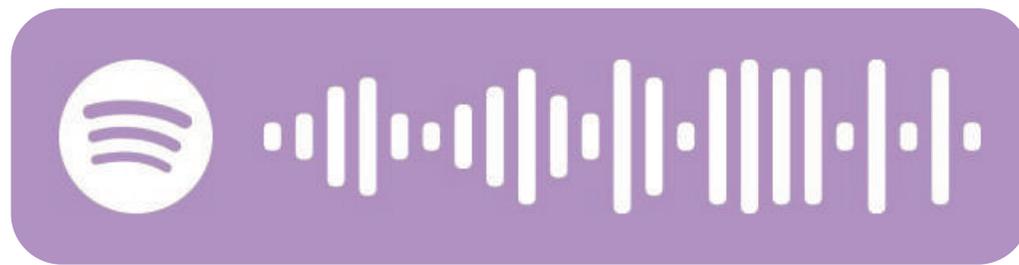
This piece is a vintage travel poster for (16) Psyche. The intent was to make the poster feel aged with vintage style graphics and colors in order to allude to the fact that Psyche is a planetary core formed long ago. I wanted the asteroid to be the main focus of the poster, but I still wanted to add the fact that we are well on our way to visiting the asteroid by including the spacecraft hovering close by. I then chose to animate the poster to add a feeling that all the elements within were floating in space and create this surreal feeling of seeing the poster in motion. The concept originally began as a postcard, but I later transitioned the idea into a larger poster to better capture the scale of the asteroid.

Psyche Logo Light Box

Daniel Zepeda-Cuba
Laser Cut Paper

For my project, I decided to create a laser-cut paper lightbox of the Psyche logo. My intention with this project was to present the logo in a unique and interesting way. I took the original design and colors of the Psyche logo and divided every shade of the gradient into a separate layer and formatted it for laser cutting. In order to capture the differences in the logo's colors from the dark purple to the bright orange, I needed to make the darker colors further away from the light via more layers of paper, and I needed to make the lighter colors closer to the light with thin layers of paper.





Psyche on Vinyl

Mikayla Hymanson

Digital Art, Illustrator, Photoshop

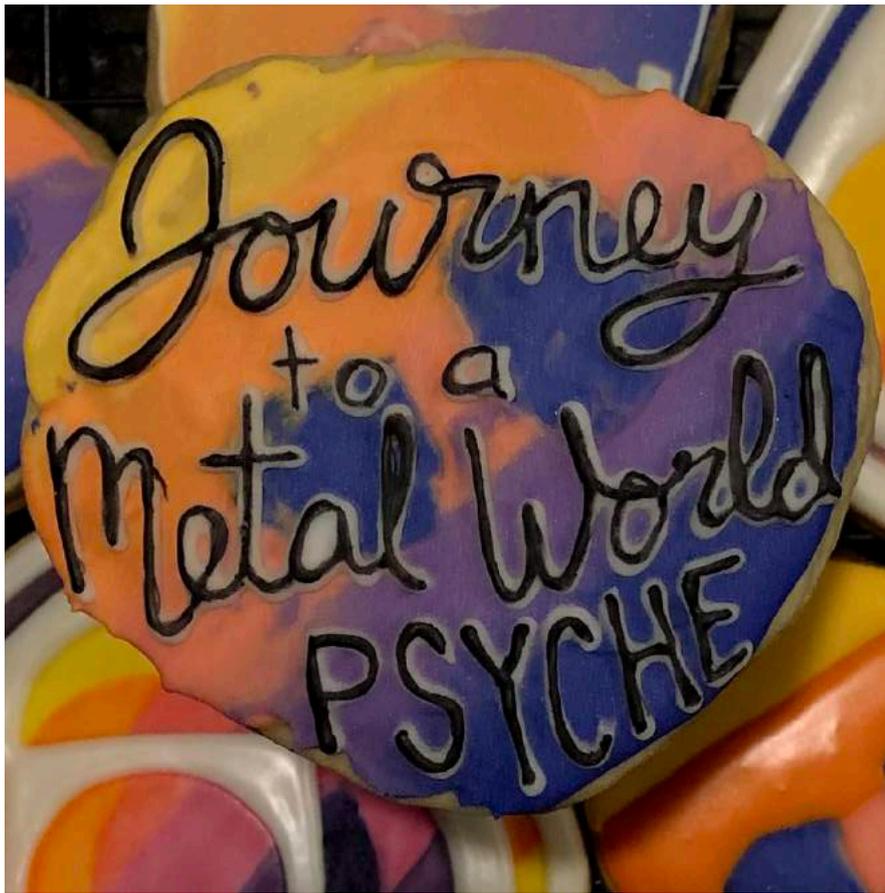
The Psyche spacecraft will soon enough give us better insight into the composition of the Psyche asteroid. In my concept artwork for an album inspired by Psyche's unique qualities, the silhouette of the spacecraft acts as a window into space, mirroring how the mission will allow us to learn more about the possibly metallic asteroid. The sphere of colored layers behind the spacecraft represents how going to Psyche may reveal information on how the Earth's core was formed billions of years ago. Along with the album artwork, I created a Spotify playlist of songs relating to the Psyche mission and everything space. You can listen to the playlist using this link:

Cookie Psyche Excitement

Cameryn Laborte

Butter cookies and icing

I relate the excitement of sharing Psyche to the sharing of good food. With that, I created a set of decorated cookies to look like the mission badge and the Psyche asteroid. I designed and 3D printed custom cookie cutters, with the mission badge cutter having a stamping feature for greater accuracy of the design. After baking, I used icing of the same colors as the mission badge. I tried smearing the icing to create gradients similar to the badge. For a more detailed approach, such as the black lettering and most accurate badge cookie, I used an edible watercolor technique.





TwentyTwentyTwo

Sarai Rankin

Digital Art

TwentyTwentyTwo is a digital painting of the Psyche spacecraft hovering just above the Psyche asteroid. Drawn using Medibang Paint Pro, I wanted to make it seem like Psyche had just risen over its own horizon. I took inspiration from movie posters, having the “release” (launch) date be the biggest part of the image along with a tagline. The subtitle reads “What lies at the center of it all?” This is purposely vague in hopes that it will capture people’s attention and will follow whatever platform they see the image on to find more information on the mission.

Logo Loop & Neon Psy-gn

Sarai Rankin

Digital Art, FireAlpaca

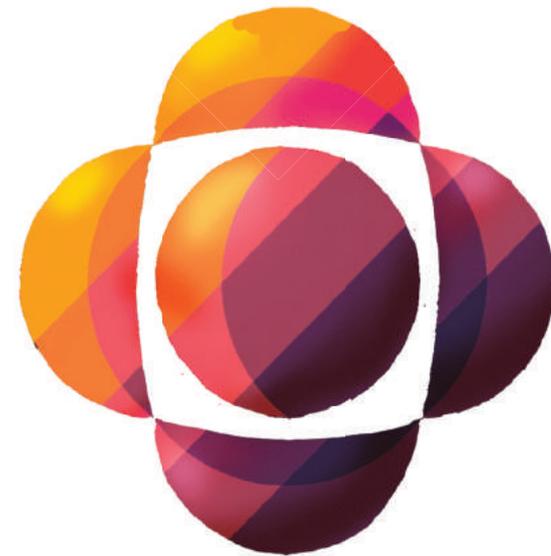
“Logo Loop” and “Neon Psy-gn” (pronounced “sign”) are both animated gifs celebrating how exciting the Psyche mission is. I wanted to make them eye-catching to draw people into the mission. All the frames were drawn and assembled in FireAlpaca. Initially, the gifs were

supposed to be used as live wallpapers for people’s phones (and they are currently my phone’s home and lock screen), but I also believe they can be used in other areas as promotional material!

“Logo” would make an interesting intro/closer clip to a video presentation, and “Neon” could be a cool addition to a webpage. Overall, the gifs have a lot of potential to be unlocked, just like the information we will retrieve from Psyche!



PSYCHE
PSYCHE





Psych-Tee

Sarai Rankin

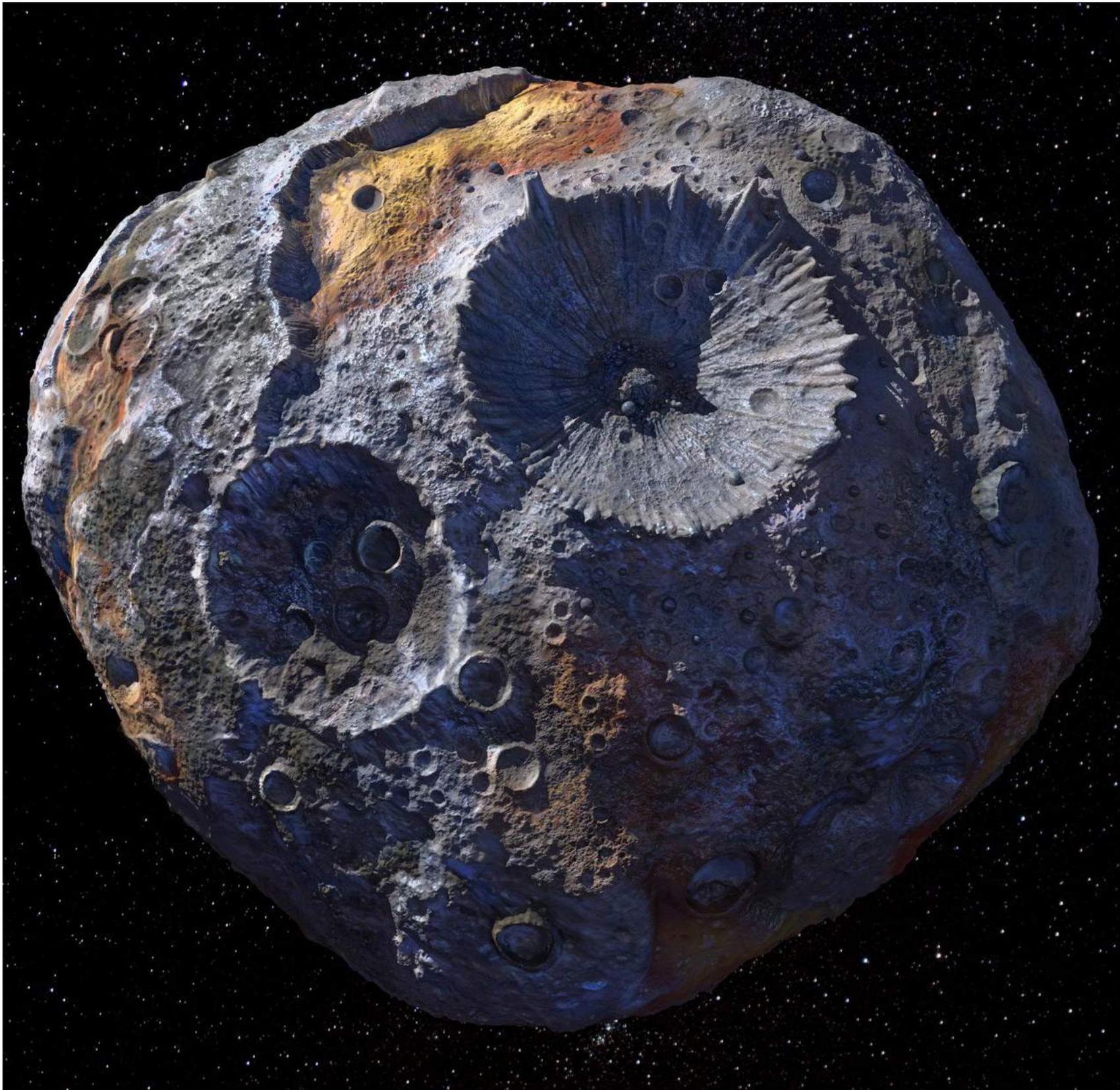
Embroidery, Raglan T-Shirt

I wanted to have a design on the shirt that was eye-catching enough to have people ask me where it was from, so I could get to tell them all about the Psyche mission! The front design is the asteroid with the satellite's panels branching off of it, and the back design is a borderless satellite taking off. I left an outline off of the solar panels and the back design because it made the shirt seem more welcoming and open. I also added the satellite's dimensions in kilometers on the sleeve. I hope that when people see the numbers, or the unfamiliar logo, it will invite them to strike up a conversation about the shirt and the Psyche mission as a whole.

The Asteroid

Asteroids themselves are thought to be leftover material from the formation of the solar system. Therefore, asteroids can be composed of a variety of elements, offering scientists unique opportunities to study our solar system's formation. One such unique asteroid is (16) Psyche.

If Psyche were a perfect sphere, it would have a diameter of 140 miles (226 km), or about the length of the state of Massachusetts (leaving out Cape Cod). It would also have a surface area of about 64,000 square miles, or about 165,800 square kilometers. However, its size isn't the reason for our fascination with this body. Rather, 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.

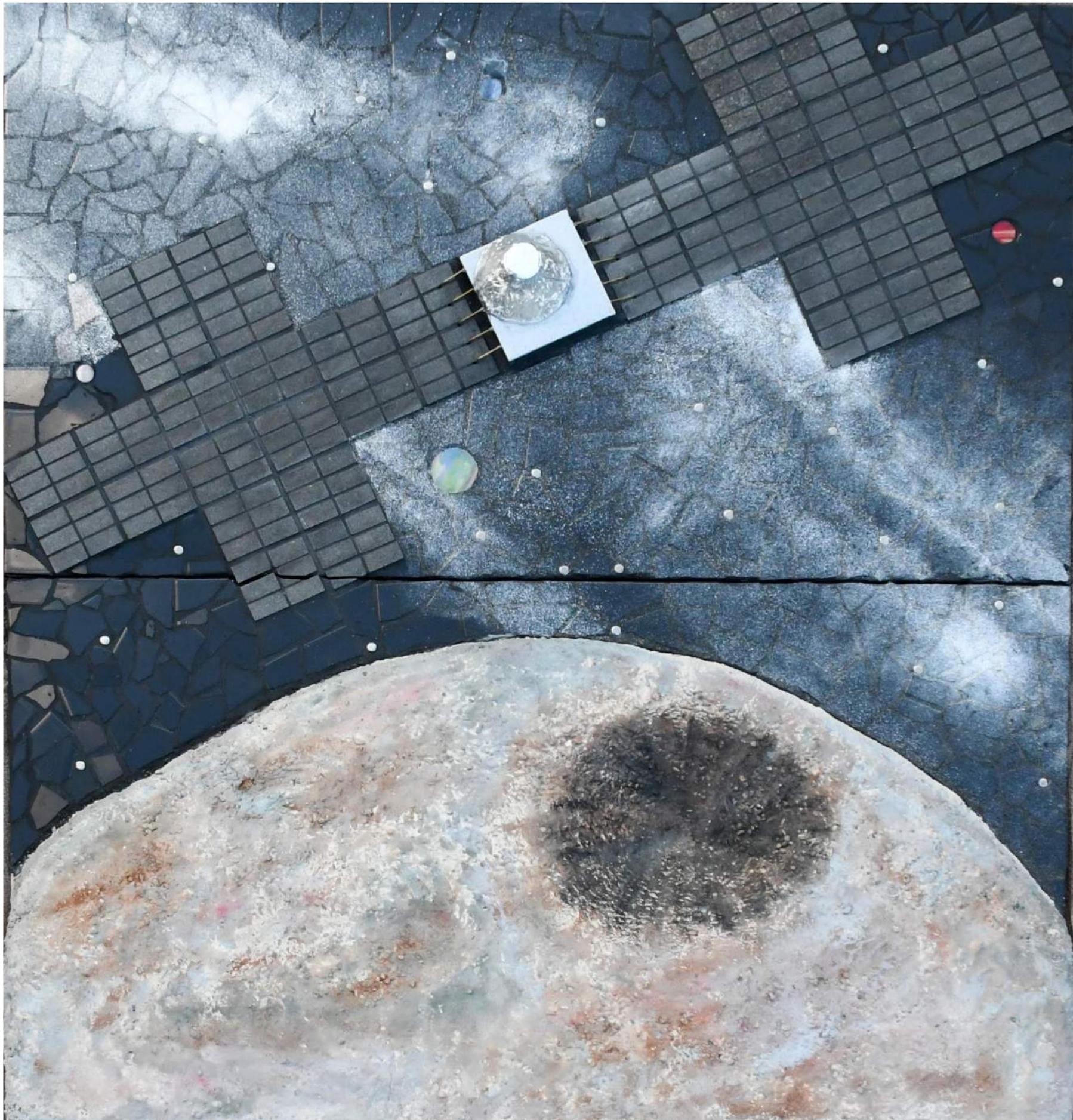


Approaching the Asteroid

Mitchel Medvec

*Mixed Medium: Ceramic Tile,
Metallic Paint, Copper Wire,
Grout, Silicon, Wood, Concrete,
Styrofoam, Tin Foil*

This project is a multimedia mosaic of the Psyche spacecraft approaching the asteroid. The hardest part of this project was fitting pieces of tile on a board of that scale. A 6 x 6 wooden board was used as a canvas, which is very big considering I was using tiles about a square inch in size. The asteroid was shaped using styrofoam. A thin layer of concrete was then poured onto the styrofoam and painted to appear metallic. The spacecraft was made using tile, tin foil, and copper wire.





The Butterfly & Star

Zarina Karapetyan
*Acrylic, Ink, and Texture
on Canvas*

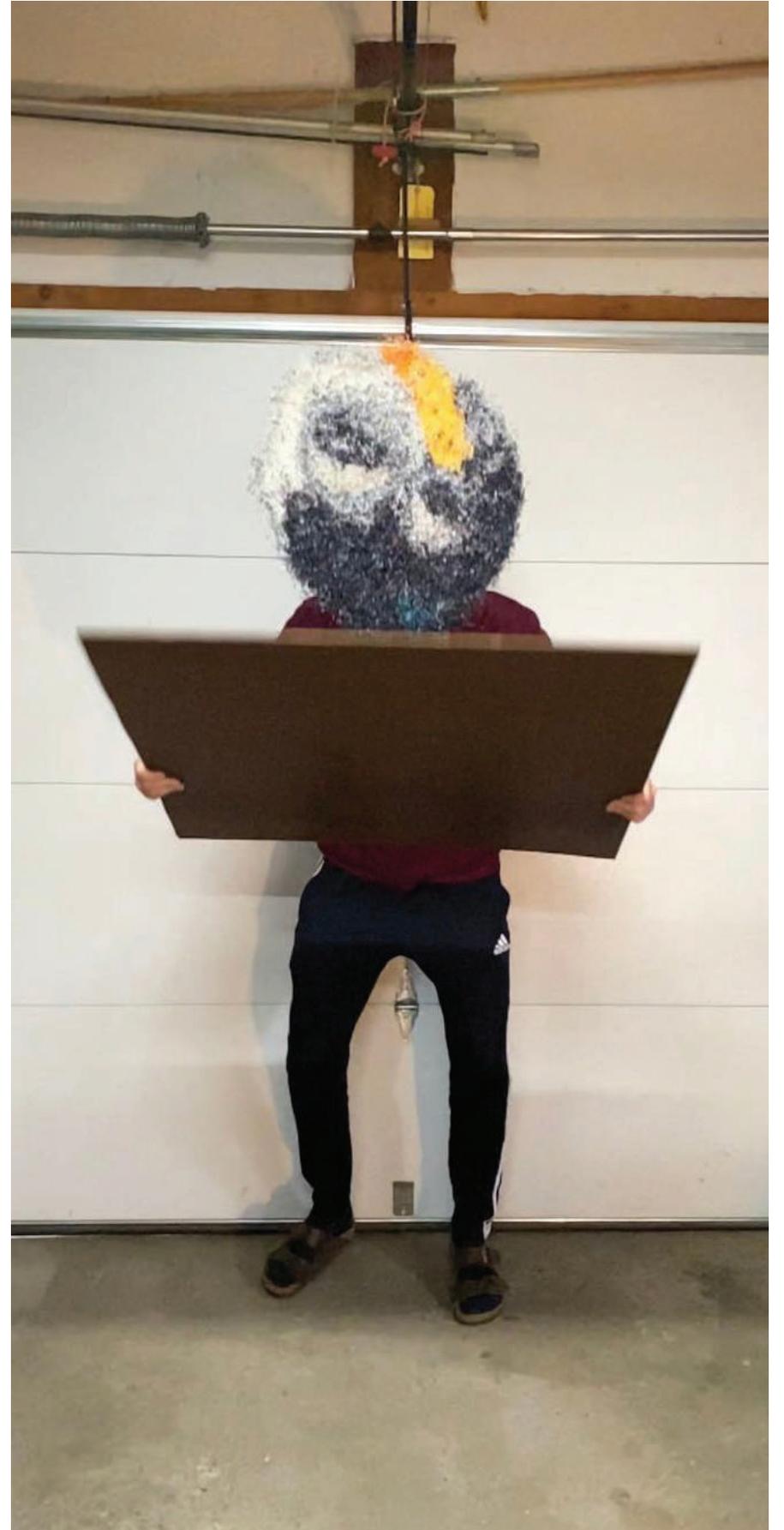
The Butterfly and Star depicts the symbol of the (16) Psyche asteroid. The symbol is a semicircle with a star on top. The semicircle is a representation of a butterfly's wing - a reference to the Greek word, Psyche, which means "soul." The painting showcases this symbol in a bold white font wrapped with the three primary colors: red, yellow and blue. These colors give a sense that the symbol is slightly vibrating. The background is painted black with little white stars, representing space and the infinite universe behind it.

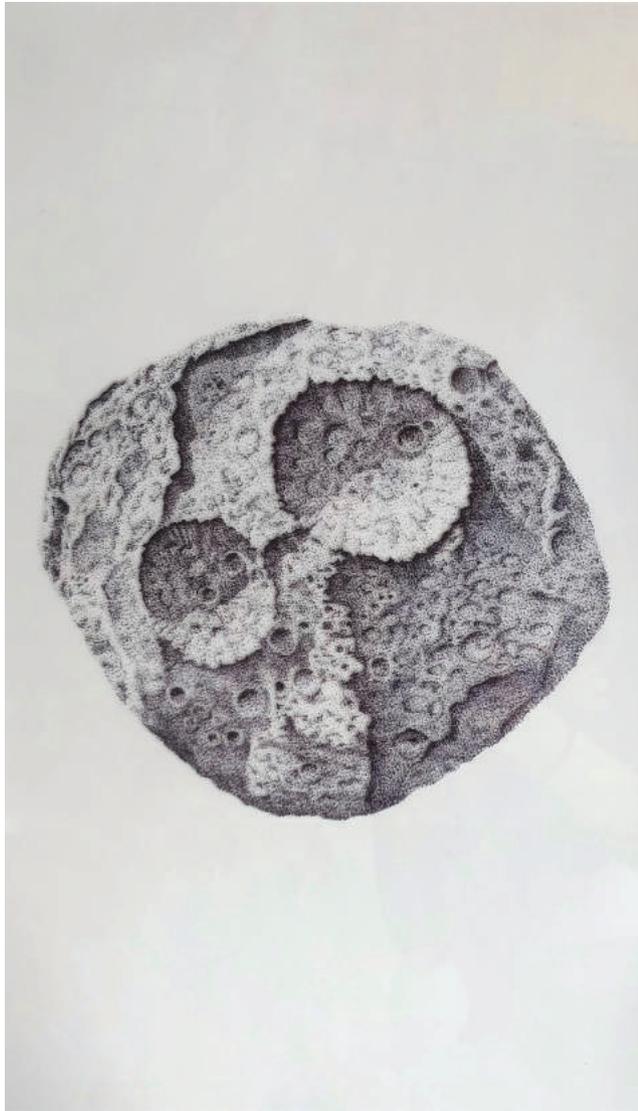
Psyche Rice Throwing Art

Mitchel Medvec

Food coloring, vinegar, rice

This project was made using over 3 pounds of rice, vinegar, food coloring, and a lot of patience. It took many hours and 3 tries to make the rice actually look like the Psyche asteroid when it was thrown in the air. The project was frustrating at times, but I am very happy with how it turned out.





Constructed

Lydia Pitts

Ink on Plexiglass

This project was inspired by previous visual representations of Psyche seen through the lens of how we build our current interpretation of the asteroid. We understand and form our visual interpretations of Psyche through collected data. I utilized pointillism to represent this consolidation of data points. Black ink on plexiglass creates the fine dots that construct the form of Psyche. This piece is transparent, but when positioned in the light, shadows from the dots in the shape of Psyche can be seen.

Dimensions: 11" x 18".

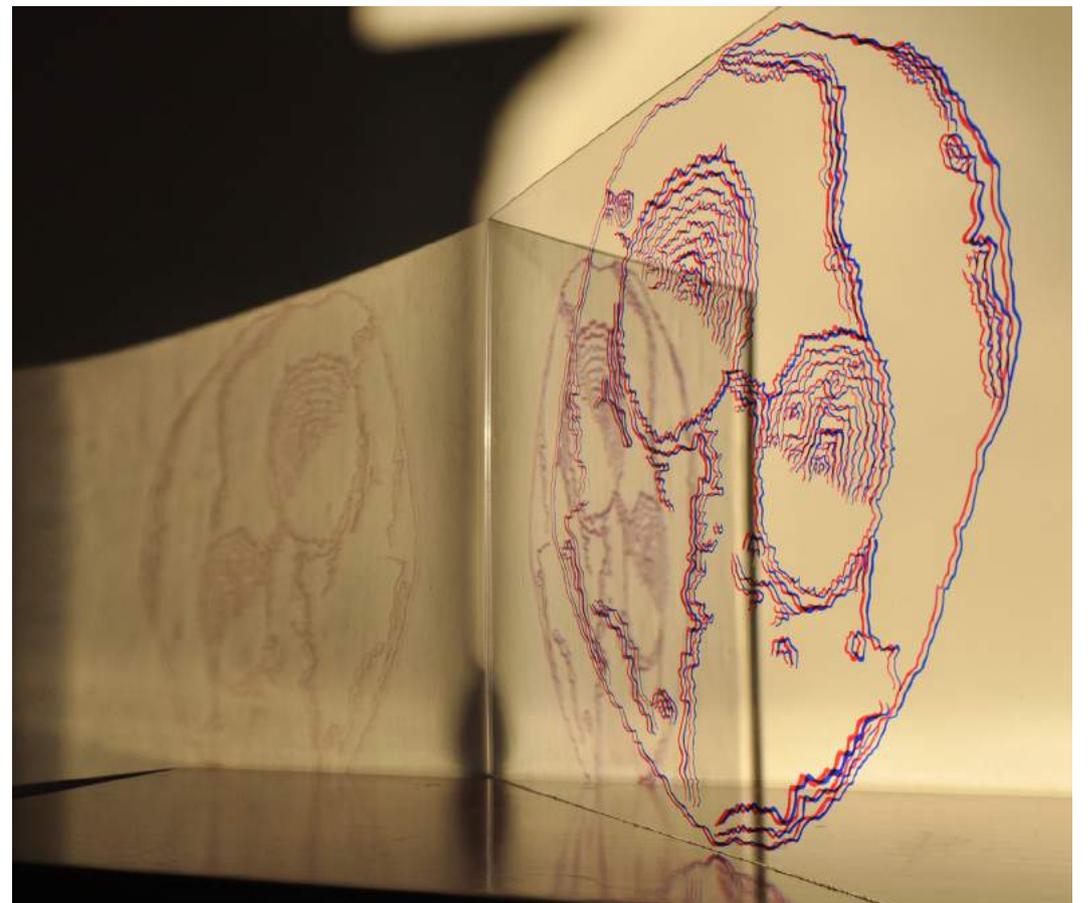
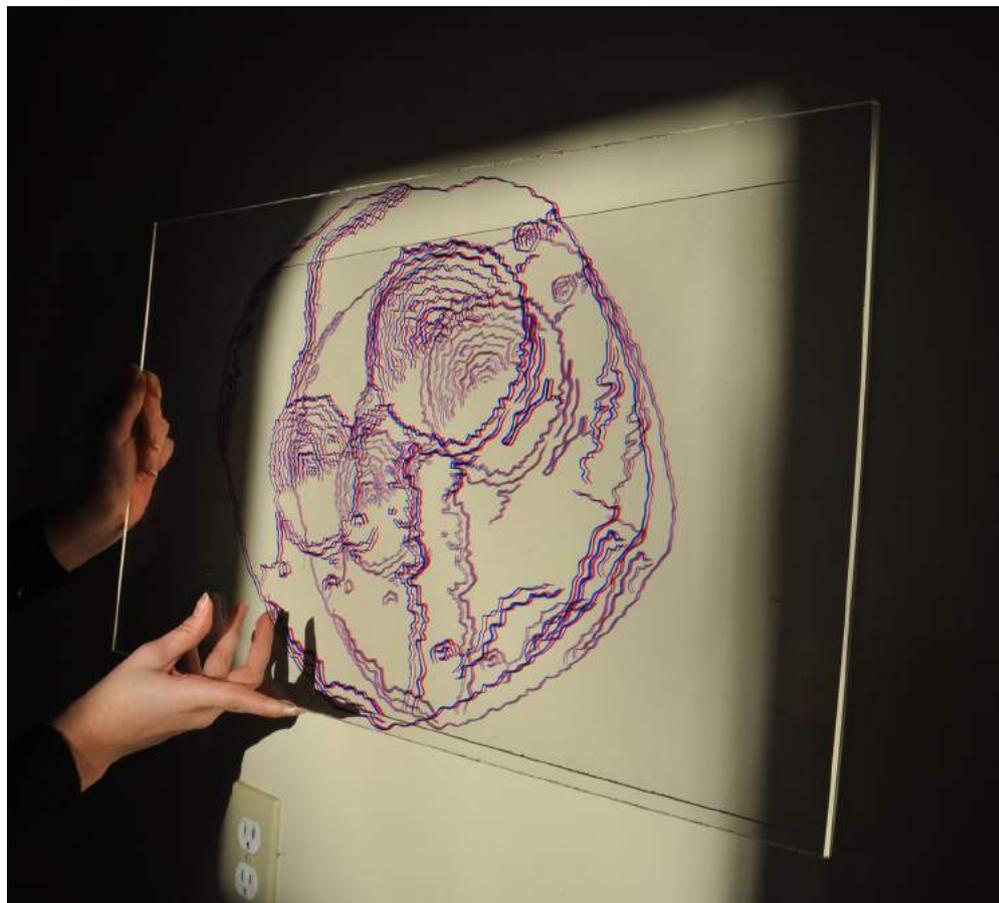
Align

Lydia Pitts

Ink on Plexiglass

Align builds the form of Psyche through ink lines. Red lines mirror the blue lines and are separated by 0.25 inches of plexiglass. As one moves around the piece, the relationship of the red and blue lines shift. This relationship is also highlighted as light passes through, casting red and blue shadows.

Dimensions: 24" x 13.5".





In Motion

Siena Smania

Animation via Zoetrope

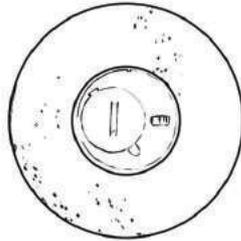
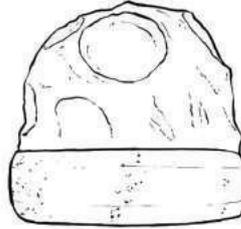
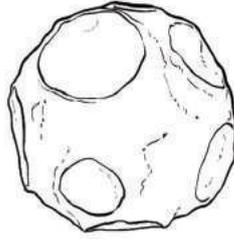
When I was a child, my family used to travel a lot. Whenever we went to a new place, we were bound to find an antique store. One item that I always found astonishing were these antique spinning animations called zoetropes. Zoetropes were one of the several pre-film animations that displayed the illusion of motion. I was in awe the first time I saw the wheel spun to create an animation similar to old cartoons I had seen on TV. It captured my imagination, just as I hope to capture the imaginations of many with this Psyche-inspired zoetrope. Figuring out how to construct a zoetrope that could spin fast enough to produce an image in motion was half of the project itself. In the end, I actually ended up using a spinning cake stand, which is typically used for icing and displaying cakes. For drawing each of the frames, I used the digital art tool Procreate.

Origin

Daniel Zepeda-Cuba
Digital Art

This minimal design was created with the idea of expanding upon the symbols created by astronomers for the first few discovered asteroids. (16) Psyche's symbol was a semicircle with a star above. My idea was to add to the logo to create a piece exploring the origins of Earth, and the shared foundation our planetary core may have with Psyche. At the center of Earth - the core - and at the surface of our planet, strands reach out to the stars, grasping for a better understanding of the structure of our own world.





PSYCHE LIGHT



Psyche Light

Sam Hollasch

*Sculpture/Product design; made
from clear-set resin and cork*

This is a light, or mood lamp, made from cork and clear-cast resin. The base is laminated cork that has been sanded smooth with a natural finish. The dome is sculpted to mimic the cratered surface of the asteroid Psyche. The texture is double-layered: both the outer and inner surfaces were cast from heavily sculpted molds. The outside is finished with a hard-set clear coating, and the inside is frosted to reduce transparency. The shifting, translucent surface of the dome diffuses a soft orange light, which flickers gently at the heart of the form.

For this project, I was inspired to create a representation of Psyche's potential as a source of knowledge and discovery. There is still much that remains unknown about the asteroid, and there is opportunity there to learn more about the universe, and about ourselves. The light of this little lamp represents that journey of discovery.

The Metal Asteroid

Mikayla Hymanson

Nails, nail caps, plywood

The Metal Asteroid is a sculpture of Psyche that is composed of nails and nail caps. The 3 ft. tall sculpture is meant to represent how Psyche might look. Because Psyche is hypothesized to be likely largely made out of metal, I used a variety of metal nails to mimic this proposed composition. The circular nail caps were arranged to form Psyche's most notable features and shadows. Using pointillism techniques, "The Metal Asteroid" can be viewed as abstract from up close or from afar, where the nail caps come together to form a complete view of the asteroid. To get the full effect of the sculpture, it is mocked up as hanging on a wall.





Psyche in the Night Sky

Aarti Patel

Acrylic painting done on a wooden panel with a cut out collage of a constellation

Psyche in the Night Sky is a piece that shows Psyche in a new light with respect to the stars and the placement of objects in the sky. Not only do we see stars and planets when we look up at the sky, but we also see other bodies, such as asteroids. (16) Psyche is currently in the constellation of Taurus, and like most bodies in space, its placement changes and can be communicated with respect to constellations and other space bodies around it. My piece shows Psyche in a new perspective: as a map of the constellations to highlight the differing placements of bodies in space.

Rock N' Rug

Brianna Young

Material: Yarn and Gridded Latch

Hook Rug Canvas.

Medium/Genre: Latch Hook

The small area rug I crafted is a rough, oblong circle shape that stretches approximately 41 inches wide and 34 inches high. I used eight different colored yarn to construct my rug: white, yellow, brown, royal blue, light gray, dark grey, black infused with purple, and black infused with tinsel. Each yarn bundle was not a single, solid color; the yarn was textured with brown or tan specs as well as infused with a lighter and darker hue of the overall color. For example, the blue yarn had lighter shades of baby blue and yellow infused in between the royal blue color. The overall rug is a yarn replica of the rendered photos of the psyche asteroid. The top left corner is light grey and white with a golden stripe leading to the center of the asteroid and both of its craters. The larger crater rests on the side of the asteroid, slightly above on the smaller crater on the left side. The bottom right of the asteroid is covered by shadows, leaving it to be a dark blue, brown, and black color.



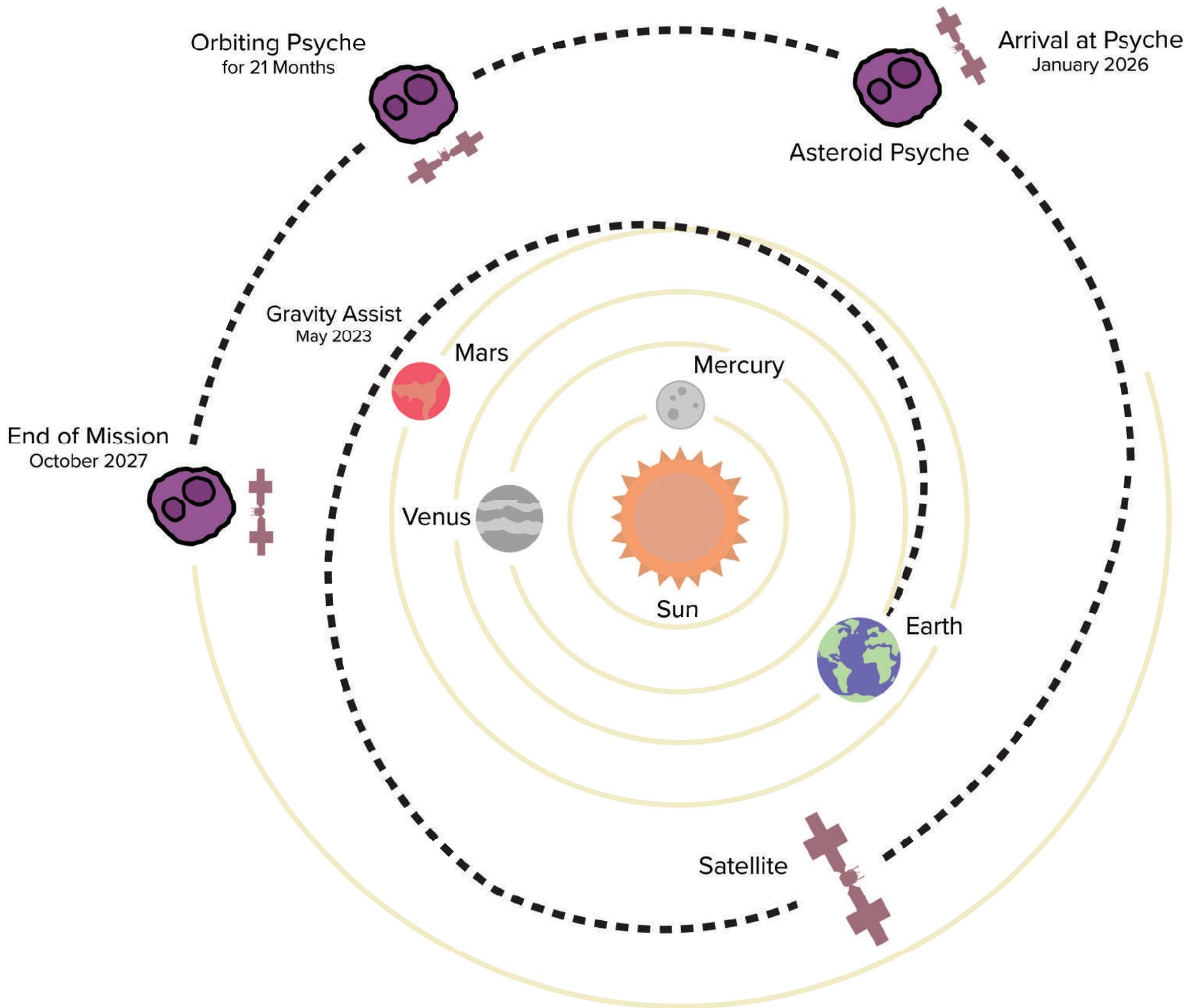
Art of an Asteroid

Aarti Patel

*Digital illustration using Adobe
Illustrator*

The *Art of an Asteroid* showcases Psyche in an artistic light with brushes of paint and mandala patterns placed in craters, grooves, and edges of the asteroid. The digital piece was done using Adobe Illustrator and layering techniques to incorporate different levels and tones of color and to bring a more artistic view of Psyche. The purpose of this piece is to portray Psyche in a delicate manner, as if one were looking at a delicate piece of art. With all the craters, grooves, and roughness found on the surface, I wanted to portray the beauty and to shine a light on the creative, natural patterns that could potentially exist from the intense formation of the Psyche asteroid.





Journey

The Psyche spacecraft is targeted to launch in the summer of 2022. After separating from its launch vehicle, the spacecraft will undergo a 90-day operations checkout before traveling to the asteroid using solar-electric (low-thrust) propulsion. On its journey, the spacecraft will be heavily monitored, communicate with Earth, undergo operational readiness tests, have its instruments calibrated, and undergo navigation and trajectory calibration as needed. The spacecraft is projected to complete a Mars flyby and gravity assist in 2023 prior to arriving at the asteroid in 2026.

Walking Among the Stars

Xiwen (Julie) Hu
Song

A song written in the perspective of the Psyche spacecraft exploring the vast nothingness of the universe and the meanings behind the universe that humans create through space exploration.

Walking Among the Stars



Walking Among the Stars

Hello hello
In the velvet of the sky
What do you see?
Stars diving into the blue
Like travelers finding paths?
Hello hello
In the ancient dust of memories
What do you hear?
Murmurs of civilizations once lost
Or stories written in languages unspoken anymore?

You may say
you are a lonely spacecraft
Shouting to the budding universe
But hear no echos
Maybe that's the nature

You say
The faraway eternity
Beyond the reach of light
From the start of Big Bang
Leaves wonders and questions
To generations and generations

I hope one day
You may find that special star
Or asteroid or such
To sing along your little tune
Until that time
I guess it is up to you
To unveil the secrets of the space
And explore the wonders within your own



SCAN ME



Formation/Aspiration/ Connection

Daniel Zepeda-Cuba
Digital / Adobe Illustrator

The main goal of this project was to summarize every stage of the Psyche mission and interpret it in my own way. The 3 artworks depict (16) Psyche's hypothesized creation, our imagination of what we hope to do with the asteroid, and the eventual launch of the Psyche spacecraft. The first artwork features the abstracted idea of what (16) Psyche looked like when it collided during its formation. For this, I hoped to capture the chaos and intensity of the impact, as well as the ever so slight formation of the asteroid we know today. The second work features a hand reaching out to grab the asteroid itself, a metaphor for our idea to come into contact with the asteroid and begin to understand the information it yields. The final artwork depicts the launch of the spacecraft from Earth towards (16) Psyche. I hoped to allude to an idea explored in one of my previous projects of Psyche sharing the same DNA of our planet.

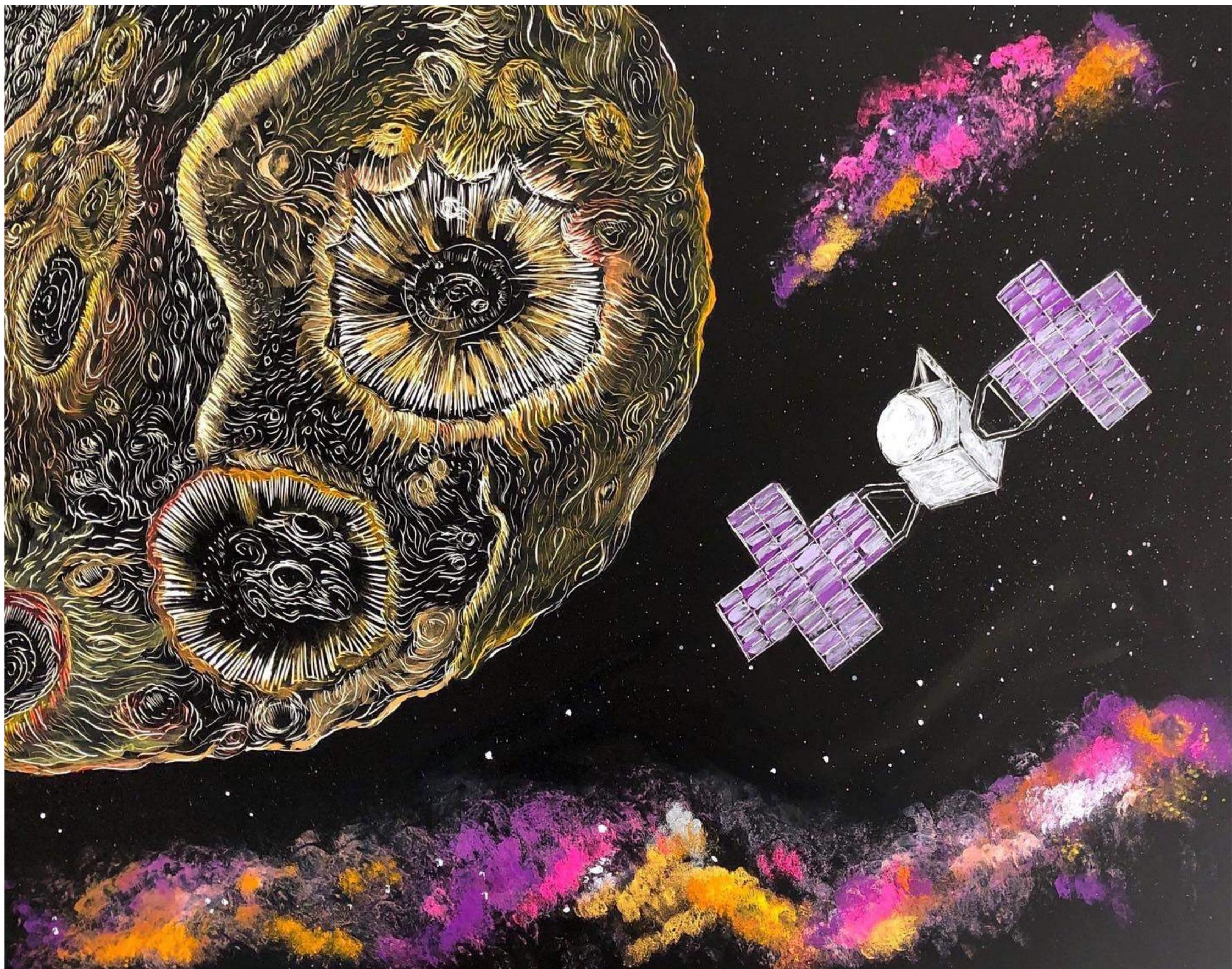
Taste of Space

Cameryn Laborte

Meringues

As I near the end of my time in Psyche Inspired, I realized how the mission to Psyche still has further to go, yet it takes its time to celebrate its milestones. It reminded me of how one takes a coffee break to recharge before pushing onward. Thus, I was inspired to make a Psyche treat that can be enjoyed at every coffee break and milestone: meringues. I modeled the meringues after the spacecraft and asteroid, making them small enough so they could float in a latte together. To make the meringues, mix 180 grams of sugar into 120 grams of egg whites in a double boiler until the sugar is dissolved (the texture is not gritty between your fingers). Add some vanilla extract and mix with whisk attachments on high speed for about 8-10 minutes (almost stiff peaks). Separate the mixture into bowls and mix in coloring. Transfer to piping bags and pipe designs onto parchment paper/silicon mat. Bake in an oven set to 200 F for 1.5 hours.



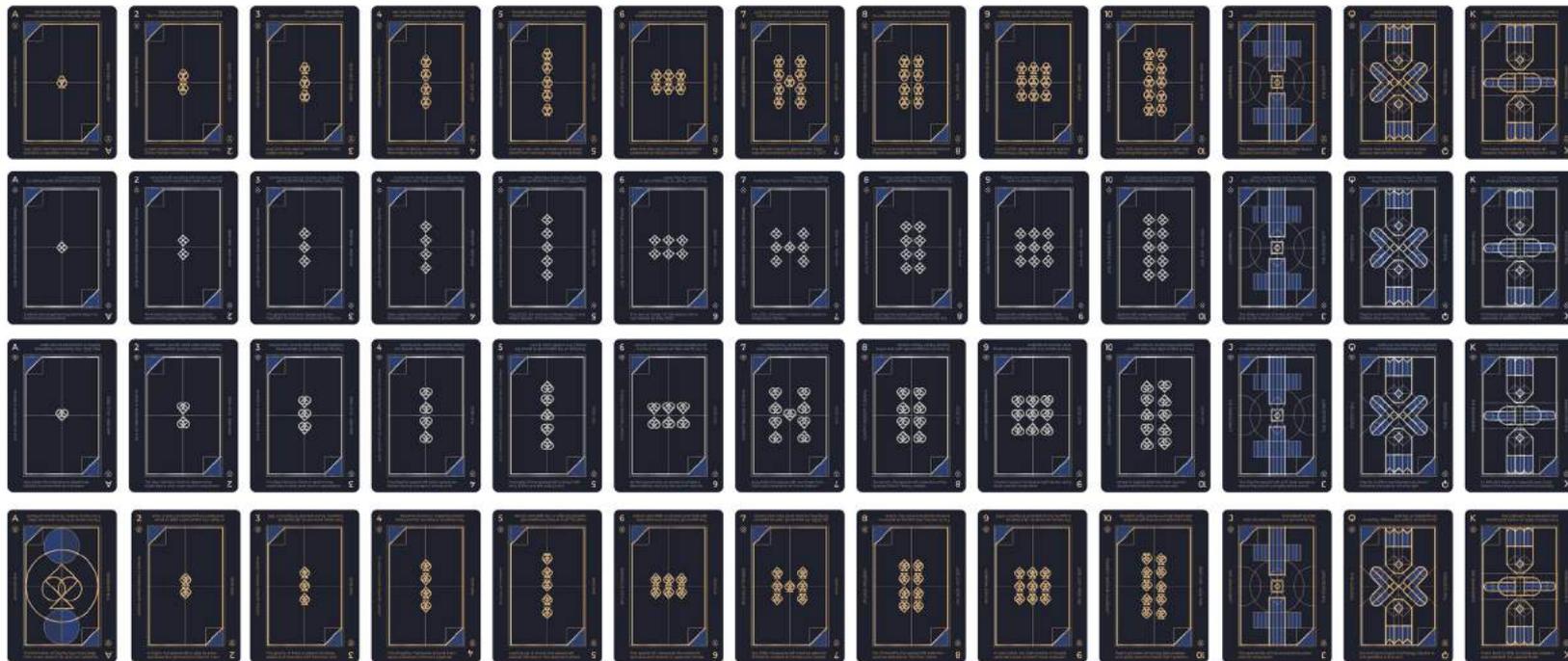
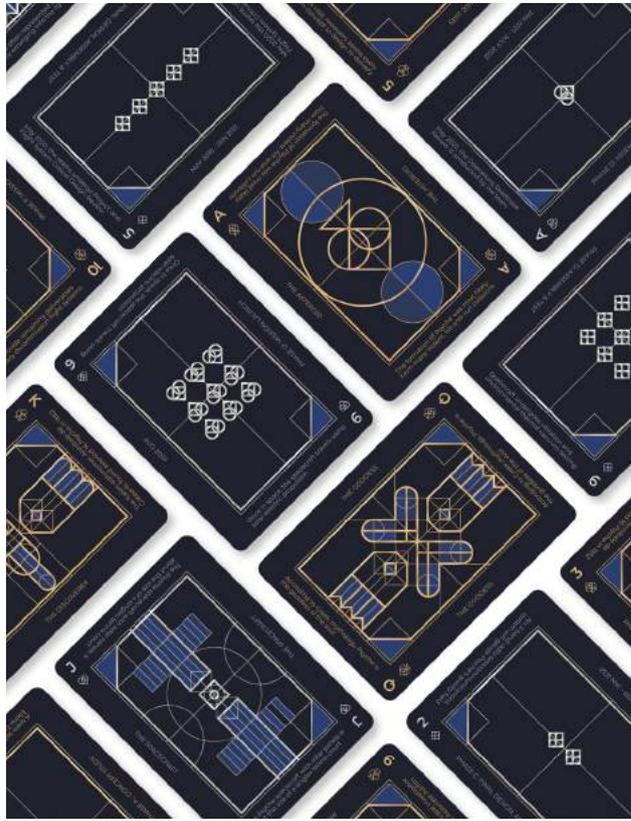


Essence of Space

Aarti Patel

*Scratchboard medium with carvings
done by scratch knives and gouache
paint added for color*

For my first project in this program, I wanted to focus in on the contours, topography, and ultimately the essence of Psyche. The main focus was to create vibrant metallic textures that may be found on the Psyche asteroid. There is a possibility that Psyche may consist largely of metal from the core of a protoplanet, and with that, I was inspired to create a very detailed scratchboard piece highlighting the craters and ridges formed from violent impacts present early in the formation of Psyche. To highlight the metallic texture and the colors of the Psyche mission, I used diluted gouache paint for the contours of Psyche, and I used a more opaque form of the gouache paint for the satellite and the galaxy clouds, which were done in the mission's colors.



Psyche Flight Deck

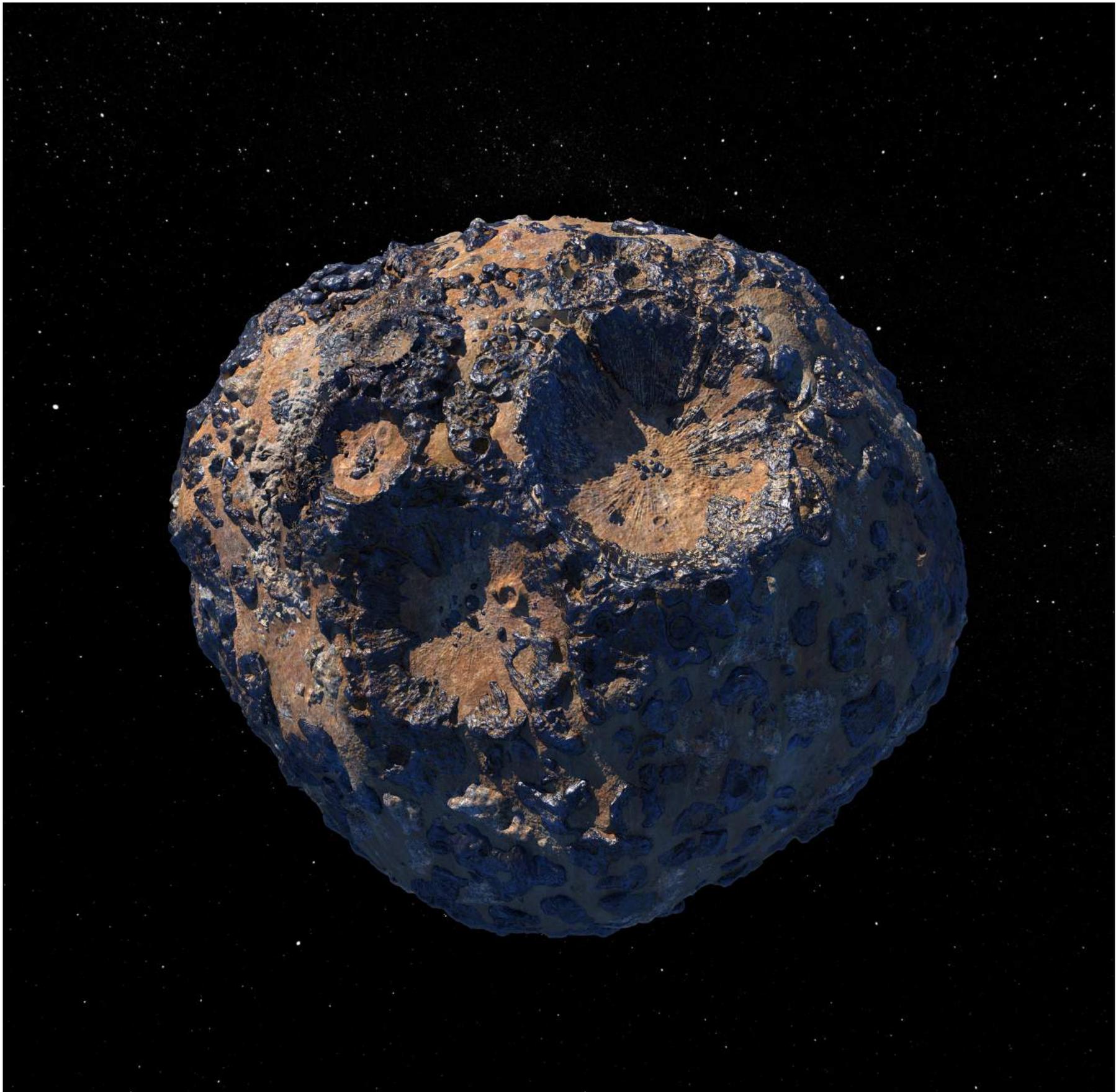
Brianna Young

Adobe Illustrator, Adobe Photoshop, Art Deco Style

For my final project, I decided to design a deck of cards that summarized everything I have learned about the mission. This deck is designed to emulate the theorized texture and color of the asteroid, as well as teach the players about the mission by including fun facts about the mission timeline, the asteroid, the Greek goddess Psyche, the spacecraft, and the discoverer of the asteroid, Annibale de Gasparis, on every card.

Surface

Although (16) Psyche was discovered on March 17th, 1852, no one knows what the surface of the asteroid actually looks like. Recently, scientists have utilized radar and optical observations to generate 3D models of what Psyche may look like. So far, there is evidence for the presence of two crater-like depressions on the surface of the Psyche asteroid, but no one will truly know what the Psyche asteroid looks like until the Psyche spacecraft arrives in 2026!





Textures of Psyche

Zarina Karapetyan
*Plaster, Sand, Texture Paste,
Acrylic and Watercolor*

This multi-media piece titled *The Textures of Psyche* is inspired by the rugged landscape of what the Psyche asteroid could look like. This piece was made with sand, cement paste, and earthy elements that flow seamlessly with each other. The craters, peaks, and cracks show the impacts that this metallic world has gone through over time. The colors are soft and hold an atmospheric quality to them, representing the ethereal nature of the cosmos. Further layers of gold and copper metal paint reflect in the light, representing the unknown metals on the mysterious Psyche asteroid.

Sight of Psyche

Zarina Karapetyan

Metal, texture paste, and Acrylic

The piece is created on a sheet of galvanized aluminum, with sand and paste to create contrasting elements and textures to represent Psyche. This abstract painting pushes and pulls the eye into different mediums and allows the atmospheric quality of space and metal to be pulled forward. Using the aluminum sheet, the light is constantly shifting depending on the viewer's perspective.





Surfaces

Lydia Pitts

Ink on plexiglass and wood

The intent of **Surfaces** was to create an abstract representation of Psyche's surface that still inspires a sense of the asteroid's tangibility. Seven layers of glass are held within an oak frame. Ink lines on each layer of glass create a three-dimensional form with a relief of 0.7 inches. The form is inspired by previously hypothesized representations of Psyche.

(Dimensions: 8" x 10")

The Surface

Mikayla Hymanson

Graphite, Charcoal, ink

The Surface is an interpretation of what Psyche's surface could look like. The drawing is from the viewpoint of someone (or something) standing on Psyche's surface and looking out into space. The dim spots in space represent nearby stars and planets. Though we will be unsure about what Psyche actually looks like until we get there, it could potentially be a metal and rocky surface with craters and other texturing like pictured. It will be exciting to compare Psyche's actual appearance with our artist interpretations.





Flyover of Psyche

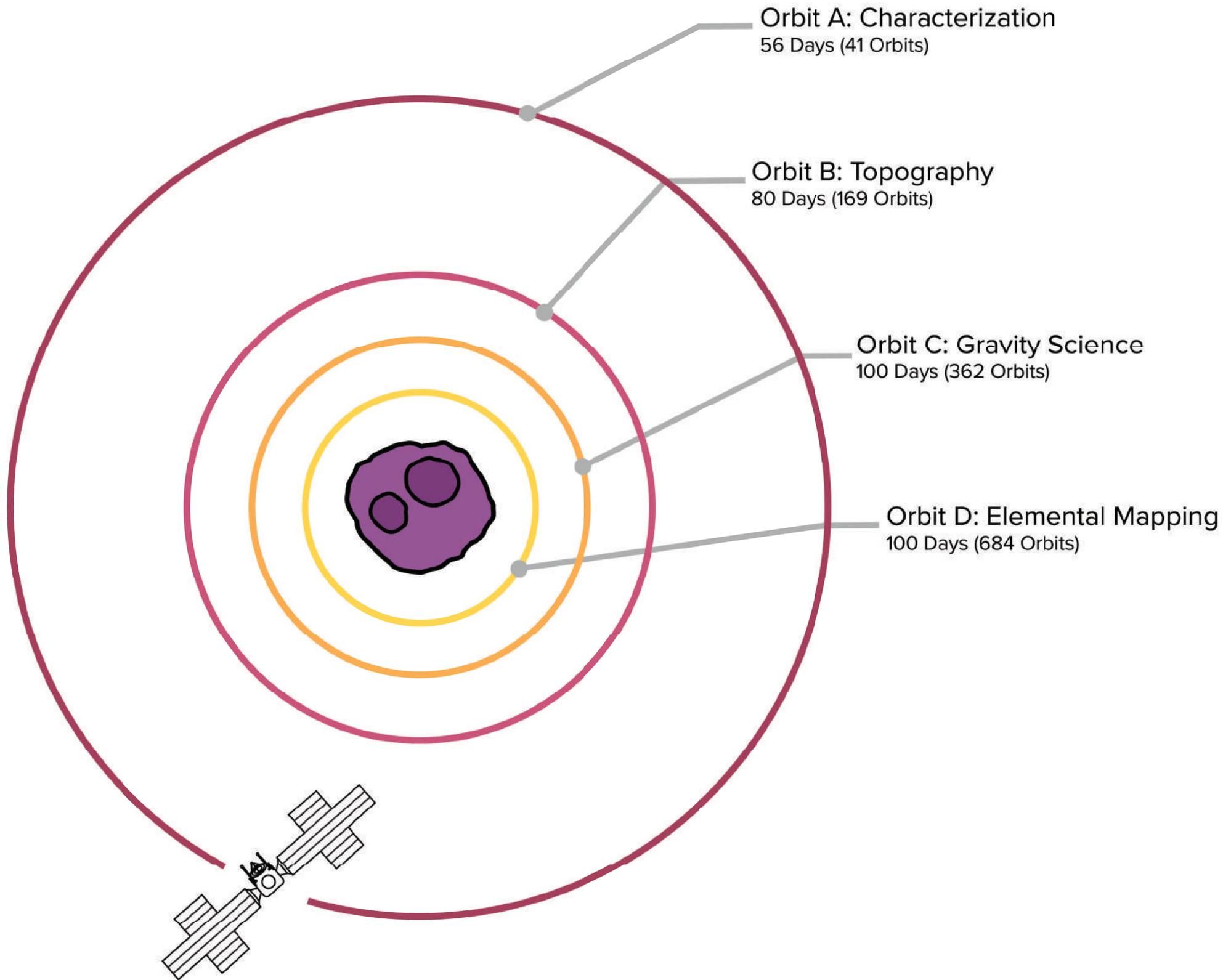
Aarti Patel

*Epoxy resin pour of acrylic paint
texturized with black crystals and
glitter on a wooden panel*

Flyover of Psyche is an abstract, detailed view of what I imagine the surface of Psyche to look like. As an asteroid likely largely made of metal, I wanted to use vibrant gold, iron, and nickel colored tones to showcase the textures and formations that might be present on the surface. I have always wanted to try resin art and was inspired by various photos I have seen of geode resin art and marble-like finishes. The abstract technique and the marble-like finish were both qualities that I believed would showcase Psyche's surface in a unique way. The piece was created on a wooden panel. I used epoxy resin mixed in with acrylic paint to create a thick consistency. The actual painting of this piece was done by pouring cups of the various paints onto the panel and blending it with a heat gun to control the direction and fluidity of the blend. Black crystals and glitter were added on the thick paint to add more of a rocky and metallic touch to the surface.

Orbit

After the Psyche spacecraft arrives at the asteroid in 2026, it will spend 21 months orbiting the Psyche spacecraft. The spacecraft will begin with Orbit A, which will focus on characterizing the asteroid. It will then move on to Orbit B, which will focus on topography. Orbit C will be conducting gravity science on the asteroid. Finally, Orbit D will provide data on the elemental mapping of the asteroid. Through these four orbits, the Psyche spacecraft will move successively closer to the asteroid and be able to study it to collect information that will help accomplish the mission's science goals and unlock the mysteries of Psyche's formation and history.





Psyche Low Poly Animation

Xiwen (Julie) Hu

Blender 3D Modeling

For this project, I made a short animation depicting the Psyche spacecraft orbiting the potentially metallic asteroid (16) Psyche as part of its exploration of the asteroid.

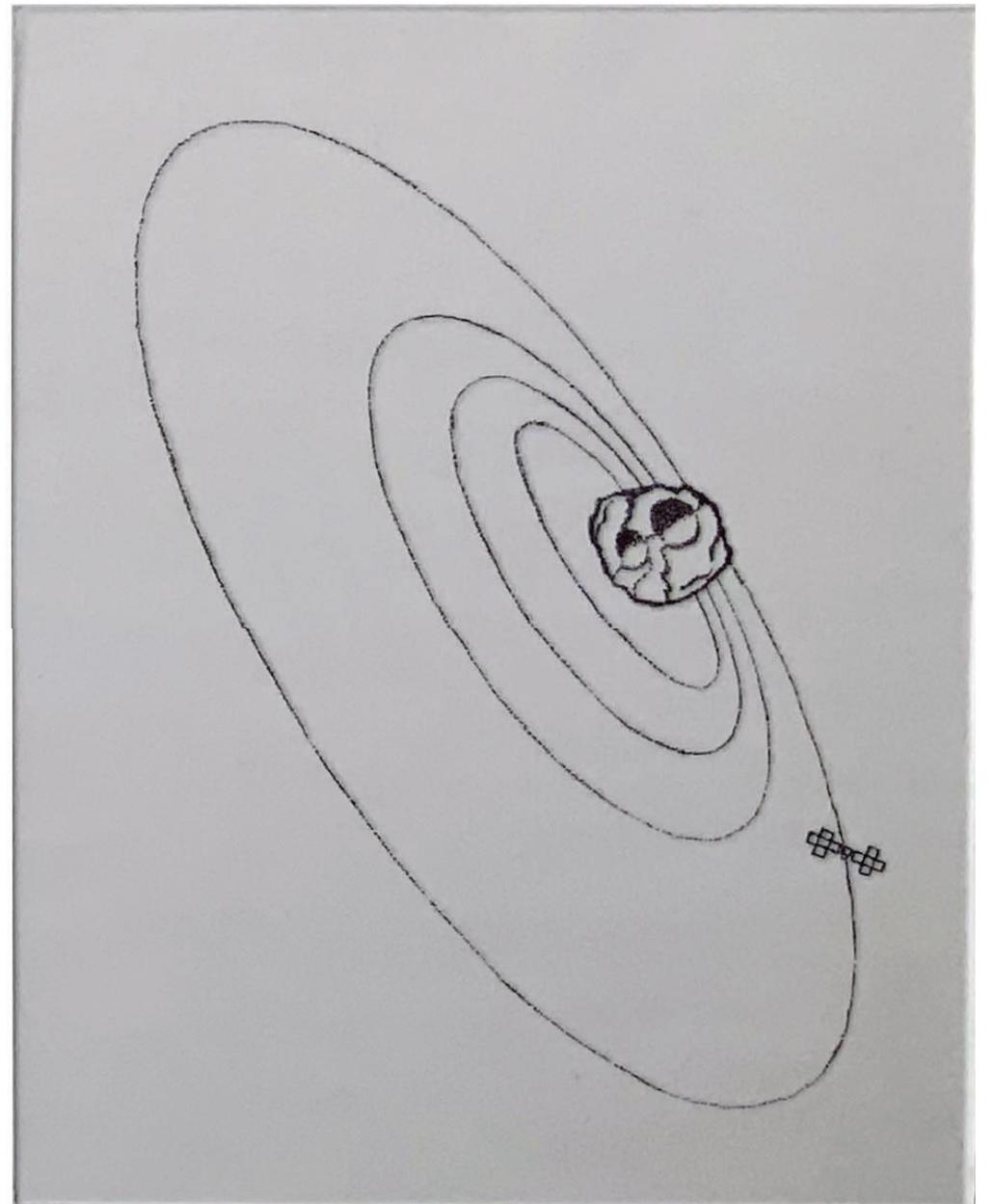
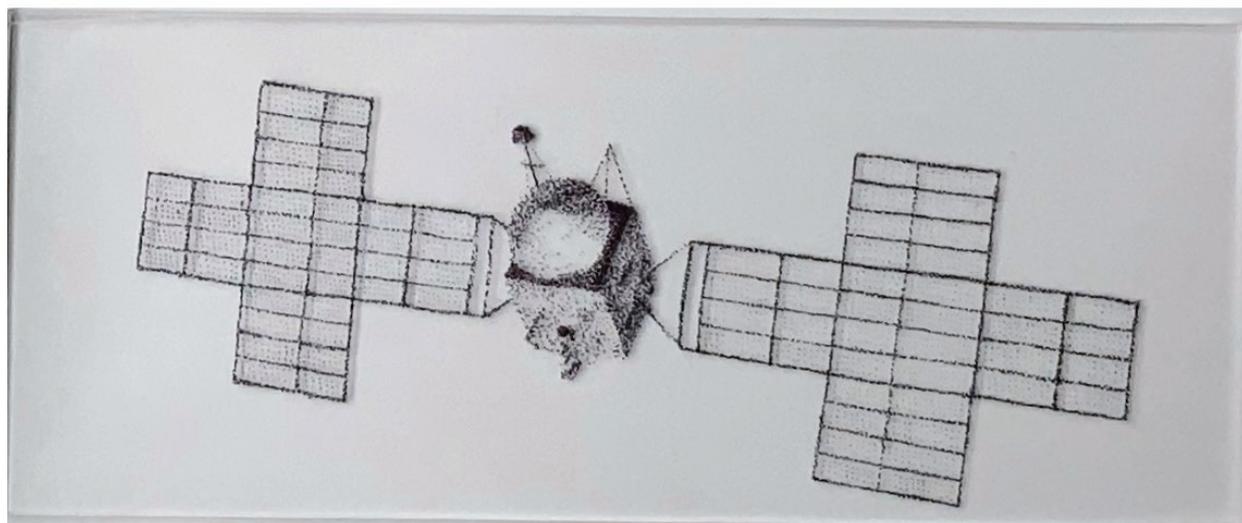
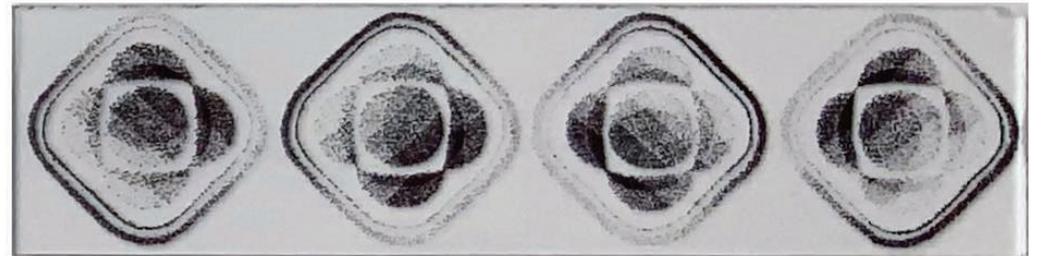
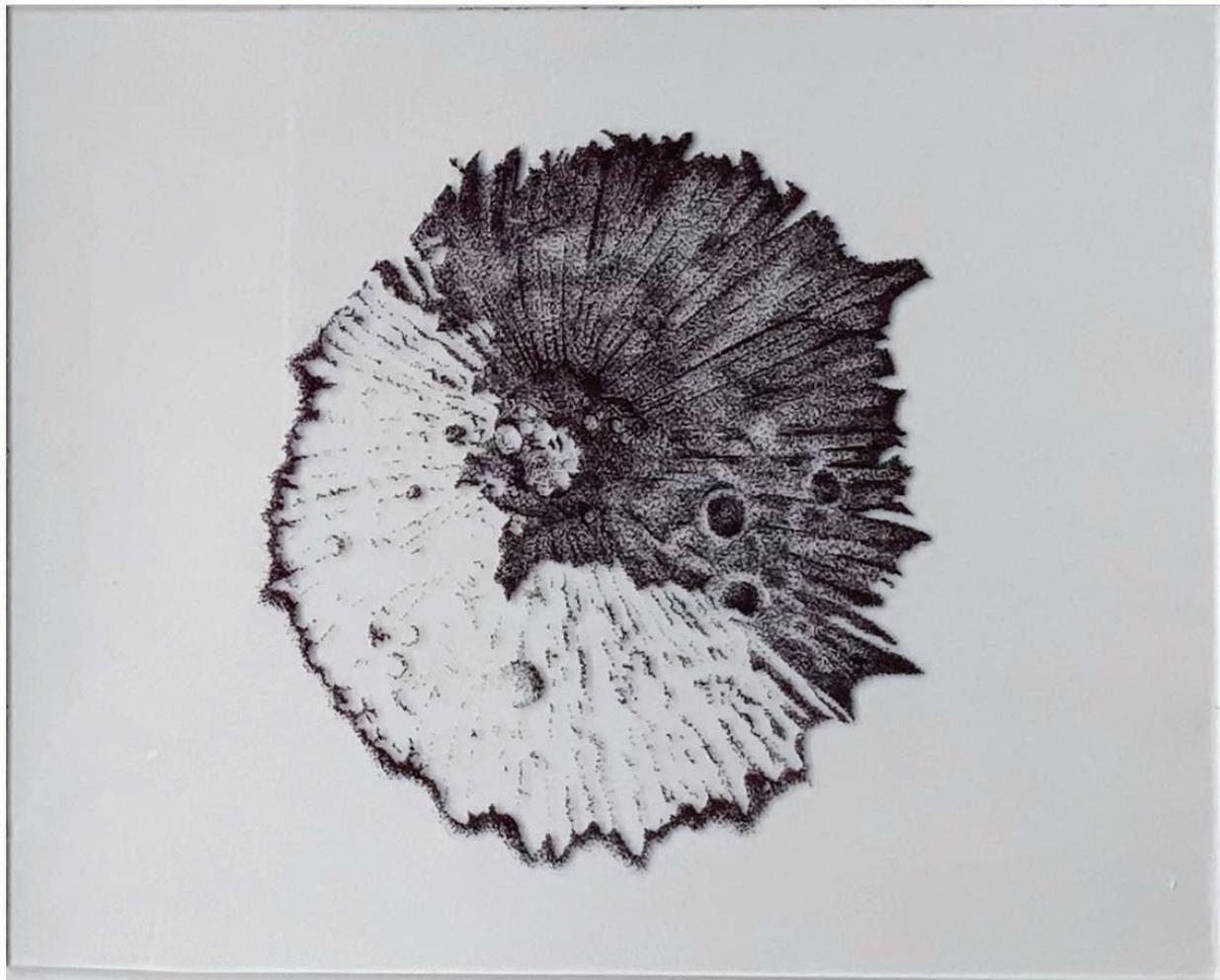
Orbiting Impact

Lydia Pitts

Ink on Plexiglass

Orbiting Impact was inspired by all the stages of the mission - from start to finish. The mission's on-Earth representation through the logo is a significant aspect of the mission. An immense amount of work on Earth has been done, and still has yet to be done, in order to prepare for launch in 2022. The spacecraft is a beautiful piece of technology in which all of the instruments we will use to learn about Psyche are housed. This spacecraft will follow four orbits, and the hopeful result will be a much clearer understanding and image of the asteroid. Orbiting Impact utilizes black ink on plexiglass in order to create these representations.

Dimensions: 8" x 10", 8" x 10", 8" x 2", 4" x 10".





Orbiting Dreams

Siena Smania

Clay, Wire

A child's mobile is the one thing they look to when falling off to sleep. It sparks creativity and imagination. Science needs that kind of creativity. Without creativity, we would get nowhere. As long as we have imagination, almost anything is possible. That's what inspired me to create this. I tried to use as much metal as possible, using wires to represent the metallic elements of the Psyche asteroid. The spacecraft and Psyche asteroid figure are made from clay and some metal pieces I already had in my craft bin. Even though the idea started as a child's mobile, it makes a very pretty hanging piece for any room. The two crystals hanging with them are suncatchers, so when in direct sunlight, they shimmer and reflect light all around the room in beautiful rainbow arrays.

Around Psyche

Cameryn Laborte
Embroidery Hoops

The organic shape of Psyche contrasting with the rigid, sharp-angled spacecraft inspired me to look for more of the beautiful, round shapes associated with the Psyche mission. The first and largest piece was inspired by the path the Psyche spacecraft will take from Earth to the asteroid with a gravity assist from Mars. The second piece was inspired by Dr. Rona Oran's presentation on what the electromagnetic field might look like around Psyche. The last piece captures Psyche itself in vibrant colors from the mission badge.



Meet The Interns



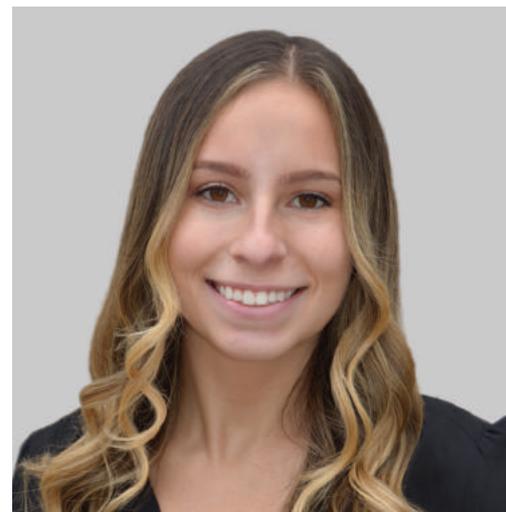
Anne Elliott
Rochester Institute Of Technology
New Media Design



Sam Hollasch
Rochester Institute Of Technology
Industrial Design



Xiwen (Julie) Hu
Bowdoin College
Environmental Studies & Visual
Arts Coordinate Major, Chemistry
minor



Mikayla Hymanson
Lehigh University
Graphic Design



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

Meet The Interns



Zarina Karapetyan
Arizona State University
Art History



Cameryn Laborte
Seattle University
Mechanical Engineering



Mitchel Medvec
University Of Minnesota
Astrophysics and Mechanical Engineering



Aarti Patel
University Of Pittsburgh
Mechanical Engineering



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Meet The Interns



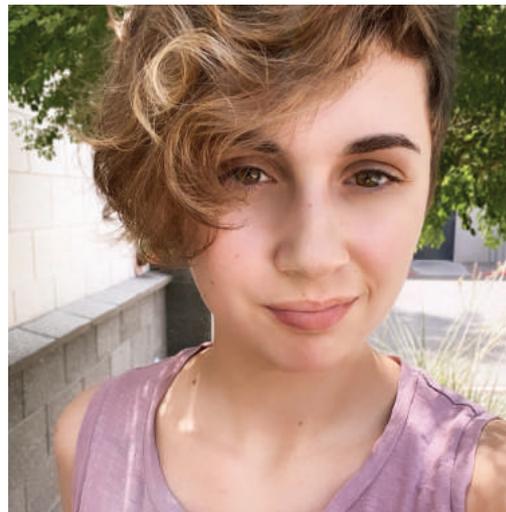
Lydia Pitts
Bowdoin College
Computer science



Sarai Rankin
Morgan State University
Physics



T.M.S. (Aurelia L. Waller)
Arizona State University
Astronomical and Planetary Sciences



Siena Smania
Arizona State University
Astrobiology



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Meet The Interns



Daniel Zepeda-Cuba
Rochester Institute Of Technology
New Media Design



Brianna Young
Rochester Institute Of Technology
Graphic Design



Alyssa Thornhill
Arizona State University
Graphic Information Technology



ArtSteps Virtual Gallery
Highlighting the work of the *Psyche Inspired Interns* through a virtual gallery



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Nickel Class

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