



**BATTLE POINT
ASTRONOMICAL
ASSOCIATION**

Igniting passion for science through the lens of astronomy!



THE OBSERVER

March 2024, Vol. 34

Exciting News on Ritchie Observatory Upgrades!

On the recommendation of the Telescope Committee, your Board of Directors have decided to take the big step of decommissioning the iconic Ritchie Telescope at Battle Point Park and replacing it with a two-telescope system on a common mount. Both are modern, state-of-the-art telescopes that will serve us well for many years. One telescope will be a 4-inch Esprit 100 refractor dedicated to moderately wide field photography, and the second a 14-inch aperture PlaneWave CDK 350 well suited for both visual and photographic uses.

Since 2017 we have put a lot of effort into improving the Ritchie Telescope starting with rebuilding the declination axis and then adjusting the mechanical alignment, adjusting the optical alignment (collimation), and most recently adding a modern digital camera with filter wheels and auto focusing. We have upgraded the computer systems and created a network that allows us to provide remote control for operation from our Library as well as by remote users not only here on Bainbridge, but also including BPAA members in the Pacific Northwest and elsewhere.

In spite of our best efforts, recent test images have revealed that the Ritchie's optics are flawed and we do not get the image quality we would expect. In addition, adding a camera to the telescope has prevented us from doing visual work with the telescope. We believe that the first look through a good telescope is a thrill we want our present and future members to enjoy.

We expect to have the new telescopes installed by late summer 2024. Virtually all of the imaging equipment and computers that were acquired for the Ritchie will be reused on the new scopes. In the meantime we are making some much needed major repairs to the dome that protects the telescopes.

Thanks to you, our members and generous donors, we have funds on hand to make the deposit for the telescope. We will be seeking donations for the balance, as well as for additional media and hardware for the Planetarium.

We will be giving frequent progress updates on this exciting project, so stay tuned. If you have specific questions or want to become involved in bringing this project to a successful conclusion, contact Chief Astronomer Cole Rees at astronomer@bpastro.org.

Telescope Committee: Cole Rees, Steve Ruhl, Chuck Wraith, Peter Moseley, and Frank Petrie

This is similar to the rig we are planning to acquire:



We Are Looking for Planeteers!

We are still looking to train new Planeteers! The primary method of communication for the Planeteers is on our Discord channel. If you are not already on the Discord, please join here: <https://discord.gg/YSeHM26e59>. After you're on BPAA's Discord, please tag or message Erin (@astronomyftw) so they can add the Planeteer role to your account. When you've joined the Discord and have the Planeteer role, you'll have access to our team channel. All Planeteer information is kept in this channel: <https://discord.gg/BMQsfZ8d2r>. Confused about Discord? Join us at our next training session on March 9th from 4pm to 5:30pm (before the Second Saturday science talk!) and we'll get you up to speed.

First Friday, March 1

Our first First Friday happens tonight (3/01)! Find out what's going on in the sky for the month of March and then join us for a tour of the Ritchie Observatory. Members: be sure to email planetarium@bpaastro.org for your free show discount code!

Reserve your spot with the QR codes below or these links:

5pm show and 5:30pm tour: <https://givebutter.com/olkTBQ>

6pm show and 6:30pm tour: <https://givebutter.com/GPmPw6>

The poster has a dark blue, starry night sky background. At the top right is the logo for the Battle Point Astronomical Association (BPAA), which consists of a blue circle with a white mountain peak and the text 'BATTLE POINT ASTRONOMICAL ASSOCIATION' and 'BPAA' below it. The text 'FIRST FRIDAY' is written in a white, sans-serif font, arched across the top. Below it, 'WHAT'S UP IN MARCH?' is written in a large, white, serif font. The main text reads: 'Join us at the Rudolph Planetarium on **March 1st** and learn all about what's up in the night sky for the month of March!' followed by 'After the planetarium show, join us for a free tour of the Ritchie Observatory and get to know Battle Point Astronomical Association.' At the bottom, there are two QR codes. The left one is labeled '5PM' with a white arrow pointing to it. The right one is labeled '6PM' with a white arrow pointing to it. At the very bottom, it says 'Please arrive 10 minutes early to check in!'.

FIRST FRIDAY

WHAT'S UP IN MARCH?

Join us at the Rudolph Planetarium on **March 1st** and learn all about what's up in the night sky for the month of March!

After the planetarium show, join us for a free tour of the Ritchie Observatory and get to know Battle Point Astronomical Association.

5PM

6PM

Please arrive 10 minutes early to check in!

Telescope Tuesdays Every Tuesday, 10:00am - 2:00pm

There's always a lot to do at the Ritchie observatory! Come on out every Tuesday, 10am to 3pm, and get involved. Learn how stuff works. Help make improvements. An enormous amount of progress has been made, but there's always more to do. And we might even have pizza! Come on out and support Telescope Tuesdays!

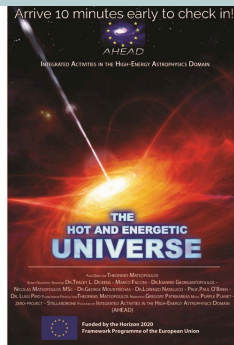
Movies at the Planetarium Every Wednesday

March marks the third month of our Movies at the Planetarium events and it's also time for our first quarterly review of the program! This may be the last time all of these movies are in our core four, depending on our evaluation, so don't let the opportunity slip if you haven't seen one of the movies yet! If you have attended any of these events, we'd love to hear from you about your experiences. We hope to make MATP as best as it can be and feedback helps us do that. You can find the feedback form here: <https://forms.gle/CA4nE9YbbB2UMHYVA>



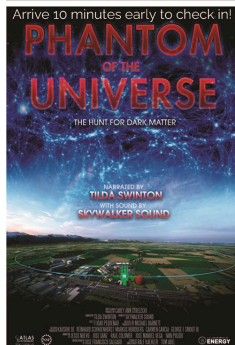
MOVIES AT THE PLANETARIUM

MARCH 6TH
RUDOLPH PLANETARIUM
BATTLE POINT PARK



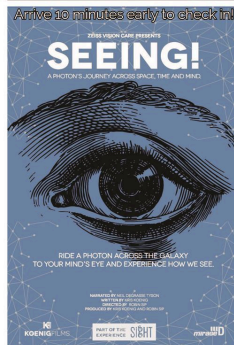
MOVIES AT THE PLANETARIUM

MARCH 13TH
RUDOLPH PLANETARIUM
BATTLE POINT PARK



MOVIES AT THE PLANETARIUM

MARCH 20TH
RUDOLPH PLANETARIUM
BATTLE POINT PARK



MOVIES AT THE PLANETARIUM

MARCH 27TH
RUDOLPH PLANETARIUM
BATTLE POINT PARK



Wednesday 3/6: From Earth to the Universe
5pm show: <https://givebutter.com/4w0vRI>
6pm show: <https://givebutter.com/yDKwj>

Wednesday 3/13: The Hot and Energetic Universe
5pm show: <https://givebutter.com/tnfAWB>
6pm show: <https://givebutter.com/Xtvc15>

Wednesday 3/20: Phantom of the Universe
5pm show: <https://givebutter.com/YEF15A>
6pm show: <https://givebutter.com/zlnrhv>

Wednesday 3/27: Seeing! A Photon's Journey
Across Space, Time, and Mind
5pm show: <https://givebutter.com/1bdVtd>
6pm show: <https://givebutter.com/0Hfgxz>

Second Saturday Community Eclipse Prep Event
March 9, 2:00pm

We have a solar eclipse coming up on April 8th and although Washington won't see totality, we will get a partial eclipse! Join the BPAA crew on March 9th to get information and advice about how you can enjoy the eclipse, whether you're staying home or travelling. We will have three stations dedicated to this venture that you can move through at your leisure: 1. eclipse science and hands-on demos, 2. equipment advice, and 3. tour of the Ritchie Observatory. Be sure to tell your friends about this free community event!

Reserve your spot: <https://givebutter.com/H3gISa>

Second Saturday Program
March 9, 6:00pm

The Search for Extraterrestrial Intelligence

Dr. James Davenport, University of Washington

Join Dr. James Davenport, research professor and Associate Director of the Institute for Data Intensive Research in Astrophysics & Cosmology (DiRAC) at the University of Washington as he shares interesting insights (and Contact references) on the search for extraterrestrial intelligence—SETI! After the program, Planeteer Erin will take us on an eclipse tour. See the upcoming eclipse from Earth, the moon, and the sun!

Tickets: <https://givebutter.com/fTb1fX>

Cosmic Conversations
March 19, 7:00pm
Topic: TBD

On the third Tuesday of each month, we have been engaging in COSMIC CONVERSATIONS at the Ritchie Observatory in Battle Point Park. These are open to members and operate much like a book group, wherein we pick a topic, read some background material and then discuss what we've learned. These are nonmathematical discussions where we hope to learn from each other.

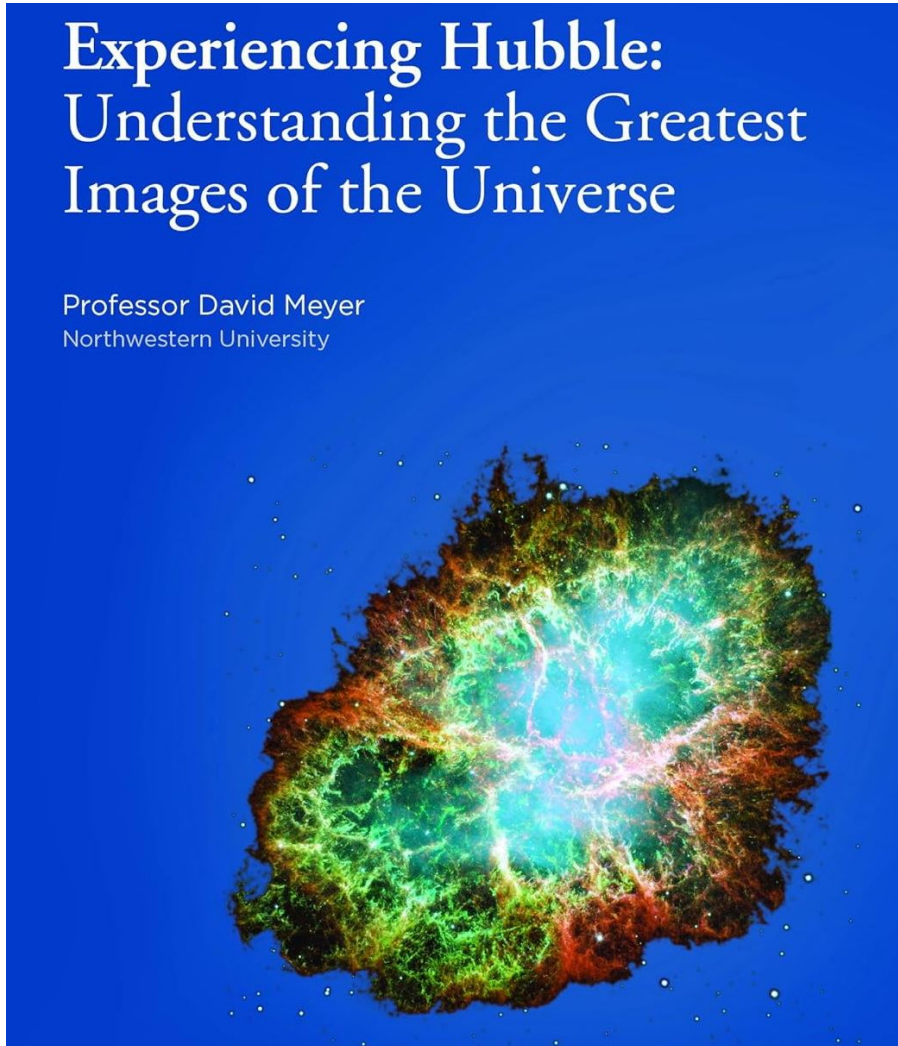
Third Saturday Kids Club kick-off at KiDiMu Fam Jam, March 23!

BPAA will be at the Kid's Discovery Museum's (KiDiMu) Fam Jam! Come on out and join in the fun on March 23, 10am to 3pm. We'll be having our first Third Saturday Kids Club, giving a free preview of what to expect for future Kids Club events! Stay tuned for more news! We'll also have other space stuff on display and will interact with kids and their parents. Check it out! Better yet, volunteer to help out by sending an email to Frank at info@bpastro.org.

Fourth Saturday Community Hour
March 23, 12:00pm

Experiencing Hubble: Understanding the Greatest Images of the Universe

Professor David Meyer
Northwestern University



BPAA welcomes you to our free, Fourth Saturday Community Hour where we'll show excerpts from a thought provoking and informative science video followed by a rousing discussion. This month's discussion will center around excerpts from the The Great Courses' "Experiencing Hubble: Understanding the Greatest Images of the Universe" and a selection of beautiful images taken by the Hubble Space Telescope (HST).

With the fairly recent launch of the James Webb Space Telescope (JWST) and the absolutely stunning images it is now providing, it is easy to forget just how monumental the ground-breaking HST has been for advancing our knowledge of the grand scale and beauty of our universe.

For example, the HST showed us in the late 1990s that the universe's expansion is actually accelerating (not contracting as assumed), and the incredible Hubble Ultra Deep Field images allowed us to see some of the early galaxies that formed after the Big Bang and taught us why we really need the JWST to look even farther back in time with its infrared imaging capabilities. We will also explore some of the incredible visual images that the HST has been providing us for three decades.

Come shower some love and respect for the HST with us, before we all move on to the even more spectacular JWST.

Sign up at: <https://givebutter.com/YIsXmn>

BPAA Will Participate in the 2024 Kitsap Great Give!



BPAA has been approved to participate in the 2024 Kitsap Great Give. The Kitsap Great Give is a 24-hour “give-day” event that unites our community through a special online donation platform to support the many nonprofit organizations that make Kitsap a great place to live – for all of us.

There are multiple ways you can make a gift to the Kitsap Great Give on Tuesday, April 16, 2024 (or via “Early Giving” that starts April 1 and ends April 15 at midnight):

- Use your credit or debit card to give online on this website (KitsapGreatGive.org) from a computer or mobile device, as this website has been optimized for easy access through mobile giving from a smartphone (iPhone, Android, etc.). Data charges for personal mobile devices may apply and are not reimbursed;
- Make a gift by check, credit, or debit card by returning our reply envelope included in the KGG direct mail appeal distributed to more than 100,000 households in Kitsap;
- Make a gift by check, credit, or debit card using our reply device clipped from the special supplement provided by Sound Publishing to the Bainbridge Island Review, North Kitsap Herald, Central Kitsap Reporter, and Port Orchard Independent and mailing it to the Kitsap Community Foundation;
- Call the Kitsap Community Foundation at (360) 698-3622 to make your gift over the phone.

Member Contributed Image

Sh2-224 - Rice Hat Nebula



Credit: Brian Puhl and Charles Hagen

This stunning image is the culmination of a month's work between Brian Puhl and Charles Hagen. It shows the remnants of a supernova approximately 15,000 light years away. Throughout the new moon they gathered just over 134 hours of data using three nearly identical scopes, one of which was in the Southeast Arizona desert (Bortle 1) and the other two of which were in Rural North Carolina (Bortle 4). For more information on their efforts, click on the image or this [link](#).

WHAT'S UP(COMING)!

Source for events and links are In-The-Sky.org, Dominic Ford, Editor. The links provide details for each event including a scale on how difficult they are to observe.

Mar 1 – [Comet C/2021 S3 \(PANSTARRS\) reaches peak brightness](#)

Mar 3 – [Asteroid 3 Juno at opposition](#)

Mar 10 – New Moon

Mar 11 – [Asteroid 23 Thalia at opposition](#)

Mar 14 – [Comet C/2021 S3 \(PANSTARRS\) passes perigee](#)

Mar 19 – [March equinox](#)

Mar 24 – [Penumbral lunar eclipse](#)

Mar 25 – Full Moon

– [Mercury at highest altitude in evening sky](#)

Mar 30 – [136472 Makemake at opposition](#)

Apr 2 – [The Sombrero Galaxy is well placed](#)

Apr 5 – [Messier 94 is well placed](#)

Apr 8 – [Total solar eclipse](#)

– New Moon

– [Asteroid 532 Herculina at opposition](#)

Apr 15 – [The Whirlpool Galaxy is well placed](#)

Apr 18 – [Messier 3 is well placed](#)

Apr 20 – [136108 Haumea at opposition](#)

Apr 22 – [Lyrid meteor shower 2024 peak](#)

Apr 23 – Full Moon

– [Messier 101 is well placed](#)

May 5 – [η-Aquariid meteor shower 2024](#)

May 7 – New Moon

May 8 – [η-Lyrid meteor shower 2024](#)

May 12 – [Messier 5 is well placed](#)

May 14 – [Mercury at dichotomy](#)

May 17 – [Asteroid 2 Pallas at opposition](#)

May 23 – Full Moon

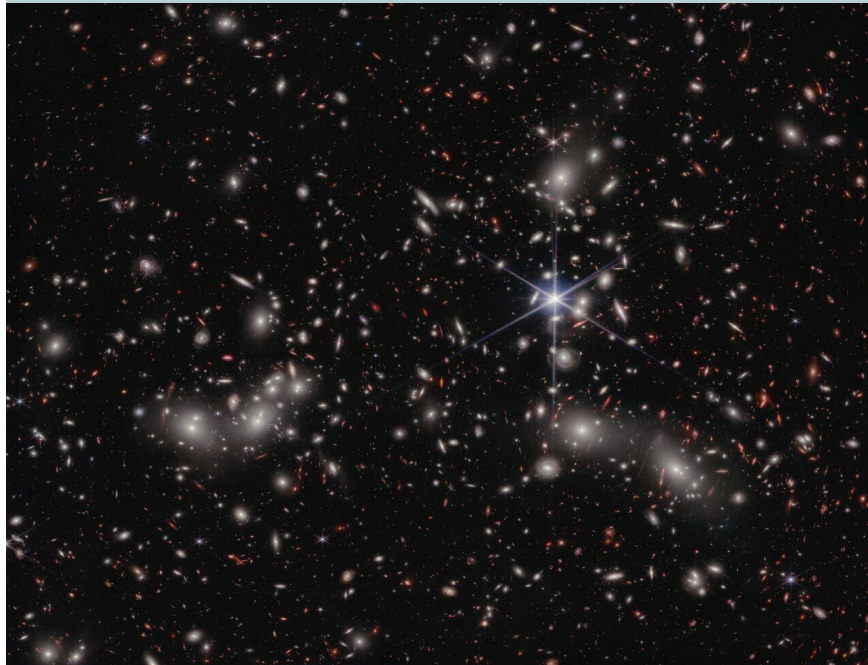
May 29 – [Messier 4 is well placed](#)

May 31 – [Conjunction of the Moon and Saturn](#)

– [Close approach of the Moon and Neptune](#)

Here are some interesting things going on in Astronomy. If they pique your curiosity, please follow the link at the bottom of each for the full article!

Webb Finds Dwarf Galaxies Reionized the Universe



Astronomers estimate 50,000 sources of near-infrared light are represented in this image from the NASA/ESA/CSA James Webb Space Telescope. Their light has traveled through various distances to reach the telescope's detectors, representing the vastness of space in a single image. A foreground star in our own galaxy, to the right of the image center, displays Webb's distinctive diffraction spikes. Bright white sources surrounded by a hazy glow are the galaxies of Pandora's Cluster, a conglomeration of already-massive clusters of galaxies coming together to form a mega cluster. The concentration of mass is so great that the fabric of spacetime is warped by gravity, creating a natural, super-magnifying glass called a 'gravitational lens' that astronomers can use to see very distant sources of light beyond the cluster that would otherwise be undetectable, even to Webb. These lensed sources appear red in the image and often as elongated arcs distorted by the gravitational lens. Many of these are galaxies from the early Universe, with their contents magnified and stretched out for astronomers to study. Credit: NASA, ESA, CSA, I. Labbe (Swinburne University of Technology), R. Bezanson (University of Pittsburgh), A. Pagan

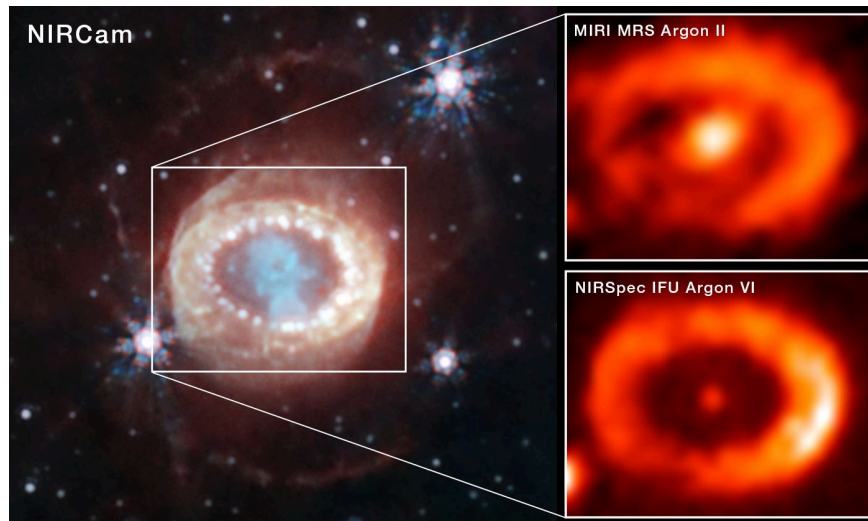
Using the unprecedented capabilities of the NASA/ESA/CSA James Webb Space Telescope, an international team of scientists has obtained the first spectroscopic observations of the faintest galaxies during the first billion years of the universe. These findings, published in the journal *Nature*, help answer a longstanding question for astronomers: What sources caused the reionization of the universe? These new results have effectively demonstrated that small dwarf galaxies are the likely producers of prodigious amounts of energetic radiation.

Researching the evolution of the early universe is an important aspect of modern astronomy. Much remains to be understood about the time in the universe's early history known as the era of reionization.

It was a period of darkness without any stars or galaxies, filled with a dense fog of hydrogen gas until the first stars ionized the gas around them, and light began to travel through. Astronomers have spent decades trying to identify the sources that emitted radiation powerful enough to gradually clear away this hydrogen fog that blanketed the early universe.

(Source: phys.org)

Webb Finds Evidence for Neutron Star at Heart of Young Supernova Remnant



The James Webb Space Telescope has observed the best evidence yet for emission from a neutron star at the site of a well-known and recently-observed supernova known as SN 1987A. At left is a NIRCам (Near-Infrared Camera) image released in 2023. The image at top right shows light from singly ionized argon (Argon II) captured by the Medium Resolution Spectrograph (MRS) mode of MIRI (Mid-Infrared Instrument). The image at bottom right shows light from multiply ionized argon captured by the NIRSpec (Near-Infrared Spectrograph). Both instruments show a strong signal from the center of the supernova remnant. This indicated to the science team that there is a source of high-energy radiation there, most likely a neutron star. Credit: NASA, ESA, CSA, STScI, C. Fransson (Stockholm University), M. Matsuura (Cardiff University), M. J. Barlow (University College London), P. J. Kavanagh (Maynooth University), J. Larsson (KTH Royal Institute of Technology)

NASA's James Webb Space Telescope has found the best evidence yet for emission from a neutron star at the site of a recently observed supernova. The supernova, known as SN 1987A, was a core-collapse supernova, meaning the compacted remains at its core formed either a neutron star or a black hole. Evidence for such a compact object has long been sought, and while indirect evidence for the presence of a neutron star has previously been found, this is the first time that the effects of high-energy emission from the probable young neutron star have been detected.

Supernovae – the explosive final death throes of some massive stars – blast out within hours, and the brightness of the explosion peaks within a few months. The remains of the exploding star will continue to evolve at a rapid rate over the following decades, offering a rare opportunity for astronomers to study a key astronomical process in real time.

The supernova SN 1987A occurred 160,000 light-years from Earth in the Large Magellanic Cloud. It was first observed on Earth in February 1987, and its brightness peaked in May of that year. It was the first supernova that could be seen with the naked eye since Kepler's Supernova was observed in 1604.

About two hours prior to the first visible-light observation of SN 1987A, three observatories around the world detected a burst of neutrinos lasting only a few seconds. The two different types of observations were linked to the same supernova event, and provided important evidence to inform the theory of how core-collapse supernovae take place. This theory included the expectation that this type of supernova would form a neutron star or a black hole. Astronomers have searched for evidence for one or the other of these compact objects at the center of the expanding remnant material ever since.

Odysseus Lander Is on the Moon



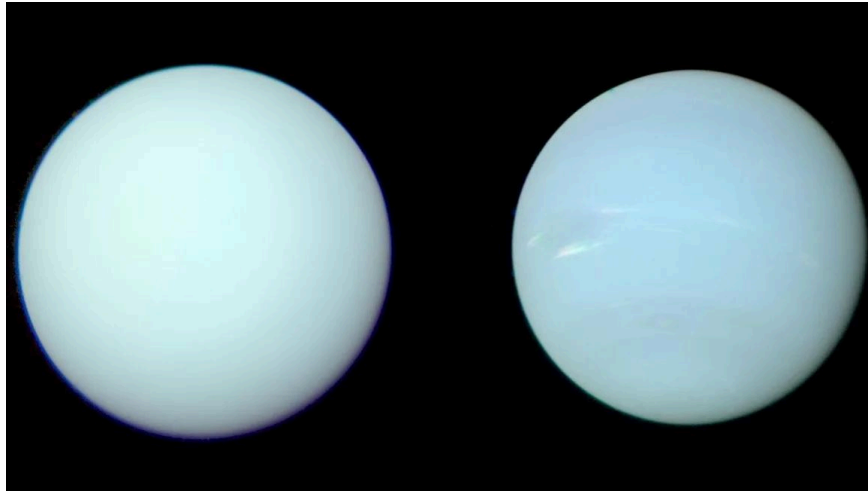
Taken on February 27th, flight controllers commanded Odysseus to capture a new image using its narrow-field-of-view camera. Previous attempts to send photos from landing and the days following returned unusable imagery. After successfully transmitting the image to Earth, flight controllers received additional insight into Odysseus' position on the lunar surface. Credit: [NASA and columbia1938](#)

Odysseus has become the first mission of NASA's Commercial Lunar Payload Services program to soft-land on the Moon.

Intuitive Machines held a [press conference](#) for the IM-1 mission on February 28th and stated that they're still receiving data from science payloads aboard the Odysseus lander. The plan now is to power down systems as the Sun sets over Malapert A Crater, for a possible wake-up for the lander at sunrise in mid-March. Interestingly, the lander seems to have come to rest at a 30 degree angle, not tipped over at fully horizontal as was originally thought.

(Source: [skyandtelescope.org](#))

Astronomers Find New Moons of Uranus and Neptune



Uranus (left) and Neptune (right). Credit: Patrick Irwin / University of Oxford/NASA

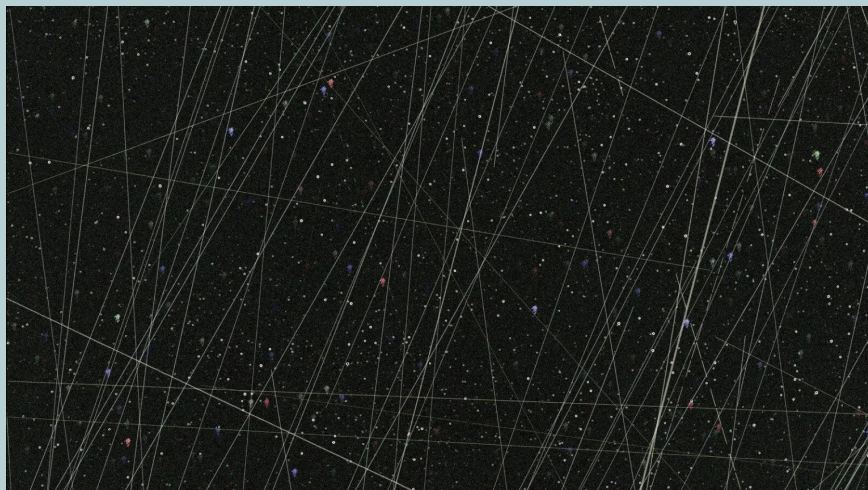
The three new moons for Uranus and Neptune are each part of a “family,” groupings that fragmented from a single parent object.

The discovery of three previously unknown moons of Uranus and Neptune shows that the ice giants, like Jupiter and Saturn, have families of far-flung moons formed by the fragmentation of larger, captured objects. More moons are likely out there, but we’d need to send a space probe to see them.

Dozens of moons have been discovered around Jupiter and Saturn over the past two decades. However, since 2003 no new moons had been discovered orbiting Uranus, and only one new moon was officially added for Neptune. The new discoveries bring the total tally to 28 for Uranus and 16 for Neptune.

(Source: skyandtelescope.org)

Even Outer Space Now Succumbs to Human Pollution



This image, taken on August 10, 2022, shows the results of a stacked set of images of the same region of sky, the nebula Sharpless 150 (SH2-150), taken over a single night. The streaks result from satellites passing through this one field-of-view over the course of one night alone. [Credit](#): Fegato/Cloudy Nights

In 1957, humanity launched our first satellite; today's number is nearly 10,000, with 500,000+ more planned. Space is no longer pristine.

Since 2019, the number of active satellites has exploded, from fewer than 2000 to nearly 10,000 now, with over half-a-million new satellites planned in the coming years.

What was once the last unpolluted refuge of all the environments that affect planet Earth, outer space itself, is now teeming with pollution, with living creatures, including humans, facing the consequences.

No, we can't simply replace what we've traditionally done on Earth with doing it in space, and the consequences of "moving fast and breaking things" will persist for millennia. It's time to act, now.

(Source: [Big Think](#))

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