BATTLE POINT ASTRONOMICAL ASSOCIATION

THE OBSERVER

April 2023, Vol. 23

Kitsap Great Give 2023 is Live!

Support BPAA by making a gift via the Kitsap Great Give https://mtyc.co/ku3maf. Early giving opens Saturday, April 1st and the campaign runs through midnight on "Giving Day" April 11. Your donation will help BPAA purchase a new planetarium projection dome that will enhance the immersive experience created by our new planetarium projector (the old cloth dome just doesn't do it justice). Thank you for your support!

Upcoming 2nd Saturday Program

On Saturday April 8 we will hear from Mae Dubay, a graduate student in the Department of Physics and Astronomy at the University of North Carolina at Chapel Hill. We'll learn about the Skynet Robotic Telescope Network, and even see a live demo of remote observing with one of the Skynet telescopes! You can attend either in person (capacity limit 25) or remotely on Zoom. More info at https://bpastro.org/events/.

Earth Day Expo at Battle Point Park

BPAA has been invited by the Parks Department to participate in their Earth Day Expo 2023 activities on Saturday April 22 at Battle Point Park https://biparks.org/special-events/. We're looking for BPAA members to volunteer to staff our booth, talk to folks about BPAA, and sign up new members. Similar to our activities at KiDiMu Fam Jam last weekend, we'll have telescopes on display, and the solar telescope imaging the sun on a computer screen. If you'd like to help out, contact Frank Petrie at president@bpastro.org.

Astronomy Day 2023

Saturday April 29 is International Astronomy Day! Join us at the Ritchie Observatory for fun astronomy activities. We might even have planetarium shows! Contact Frank Petrie president@bpastro.org for more info, and volunteer to help out.

COSMIC CONVERSATIONS

On the third Tuesday of each month, starting this past January, we have been engaging in COSMIC CONVERSATIONS at the Battle Point Observatory. 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 learned. These are non-mathematical discussions where we hope to learn from each other.

The topics have been:

“What is Webb telling us about early galaxy (and therefore star) formation?”

https://webbtelescope.org/news/first-images/gallery

“From the Big Bang to the Dark Ages”

https://en.wikipedia.org/wiki/Chronology_of_the_universe

“Mass Matters”

https://bigthink.com/starts-with-a-bang/mass-everything-astronomy/?utm_campaign=swab&utm_source=rejoiner&utm_medium=email&utm_content=03/11/23+SWAB&rjnrid=aG2kP20

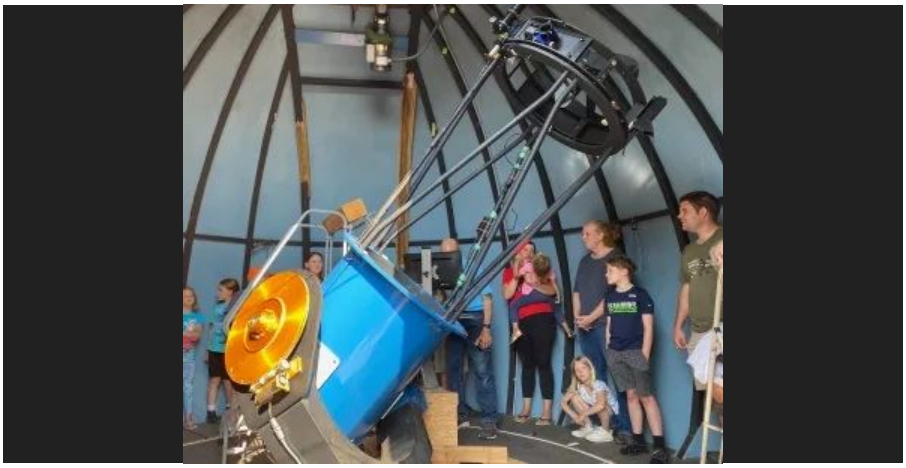
The next meeting will be on Tuesday April 18th. The subject will be: A discussion of the Sun and the Planets of our Solar System, and explore how the Mass and nature of each of these fits into the "Mass Matters" categories we discussed this month.

https://en.wikipedia.org/wiki/Planetary_mass

BPAA Supports 2023 FamJam

The Kids Discovery Museum (KiDiMu) hosted the 2023 FamJam on 25 March. It was a great success with over 1,000 attendees, a 33% increase over last year’s event. Special thanks to BPAA members Denise Hidano, Cole Rees, Peter Moseley, Bob Mathisrud, and Frank Petrie who were there to help out, and introduce the next generation to the wonders of astronomy!

The Ritchie Observatory Make the News!



2023 Kids in dome – photo credit Peter Moseley

An article by Margaret Millmore, “The Sky’s the Limit at the Ritchie Observatory at Battle Point Park,” was recently published in The Island Wanderer. She met with our President, Frank Petrie, and our Chief Astronomer, Cole Rees, to learn about the observatory and the BPAA. She provides a nice, concise history of the two, as well as highlighting our fundraising efforts with the Bainbridge Community Foundation (BCF), Bainbridge Island Rotary, and the Bainbridge Island Parks and Trails Foundation to upgrade our capabilities. The article goes on to discuss those capabilities and the BPAA’s vision for the future.

Please click the following link to read the article in its entirety!

The Sky’s the Limit at the Ritchie Observatory at Battle Point Park

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.

Apr 3 – The Sombrero Galaxy is well placed

Apr 4 – Messier 94 is well placed

Apr 5 – Full Moon

Apr 15 – The Whirlpool Galaxy is well placed

Apr 19 – Messier 3 is well placed

– New Moon

Apr 20 – 136108 Haumea at opposition

Apr 23 – Lyrid meteor shower 2023

Apr 24 – Messier 101 is well placed

Apr 28 – Venus at highest altitude in evening sky

Apr 30 – Asteroid 7 Iris at opposition

May 5 – Full Moon

May 6 – η-Aquariid meteor shower 2023

May 9 – η-Lyrid meteor shower 2023

May 13 – Messier 5 is well placed

May 14 – Comet 237P/LINEAR passes perihelion

May 19 – New Moon

Jun 2 – The Great Globular Cluster in Hercules is well placed

Jun 3 – Messier 12 is well placed

– Full Moon

Jun 4 – Venus at greatest elongation east

Jun 6 – Asteroid 11 Parthenope at opposition

– Messier 10 is well placed

Jun 11 – Daytime Arietid meteor shower 2023

– Messier 92 is well placed

Jun 17 – New Moon

Jun 18 – The cluster IC 4665 is well placed

Jun 27 – June Bootid meteor shower 2023

Jun 29 – The cluster NGC 6633 is well placed

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!

Amateur Astronomers Needed: Help Classify Stars With Gaia's Data

Gaia mapping the stars of the Milky Way. Credit: ESA/ATG medialab; background: ESO/S. Brunier

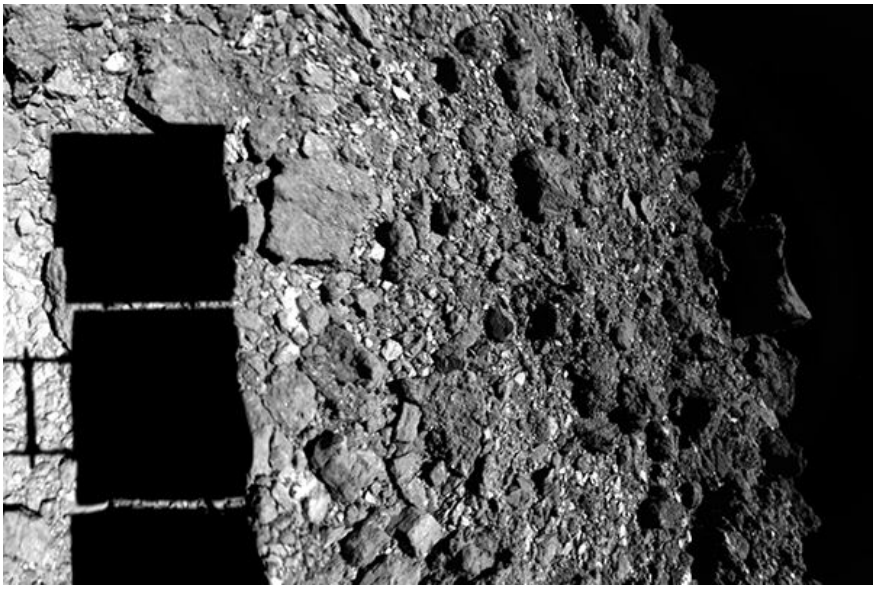
ESA's Gaia mission has been collecting data on millions of space objects like stars and asteroids to build an extensive cosmic record. Now, to take it up a notch, it needs your eyes.

Though Gaia's telescopes are incredibly powerful, researchers within the mission still need the help of the oldest visual tool on the planet: your eyes. In its almost 10 years since launch, Gaia has contributed massively to our understanding of the cosmos, and now you can take part in furthering the discoveries.

To participate in the Gaia Vari project, go to Zooniverse, a platform with projects where people power the research. There's no need for you to sign in or create an account. After entering the platform, you can learn how to look at the graphs and data and classify each variable.

(Source: phys.org)

Asteroid Analysis Reveals Prebiotic Compounds



This composite image shows the surface of near-Earth asteroid 162173 Ryugu, taken by the Hayabusa2 spacecraft just before its first touchdown on the surface. The spacecraft's solar ray paddle casts a shadow on Ryugu's surface. JAXA / U. Tokyo / Kochi U. / Rikkyo U. / Nagoya U. / Chiba Inst. Tech. / Meiji U. / U. Aizu / AIST

Prebiotic compounds previously found in meteorites have now turned up in pristine samples from the asteroid Ryugu, confirming their extraterrestrial origin.

Analysis of tiny samples from the near-Earth asteroid 162173 Ryugu has yielded uracil, one of the four nucleobases in RNA and a stepping stone on the path to life. It bolsters the case that space may have provided compounds vital in the evolution of life on Earth.

(Source: skyandtelescope.org)

Satellites and Space Junk May Make Dark Night Skies Brighter, Hindering Astronomy and Hiding Stars From Our View

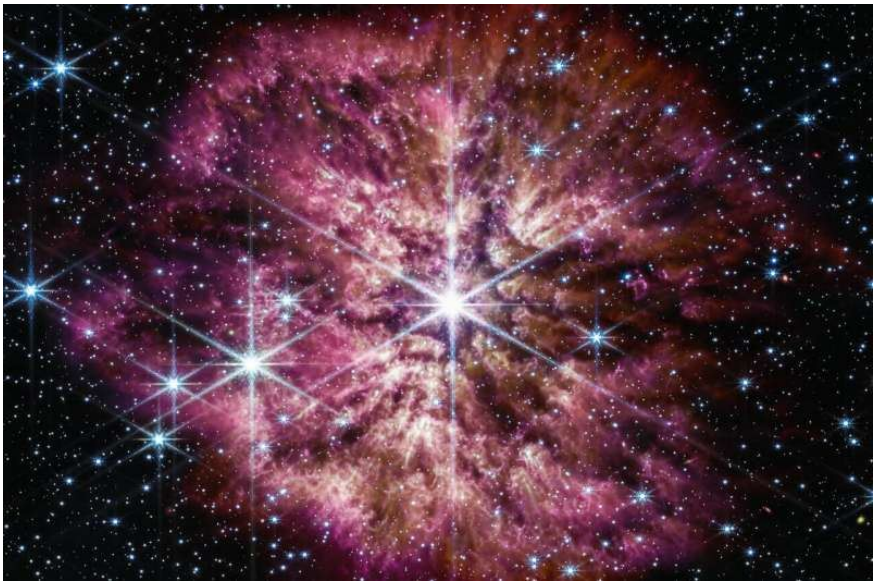
Credit: ESA

Since time immemorial, humans around the world have gazed up in wonder at the night sky. The starry night sky has not only inspired countless works of music, art and poetry, but has also played an important role in timekeeping, navigation and agricultural practices in many traditions.

However, the night sky is changing. Not only is ground-based light pollution increasing rapidly, but growing numbers of satellites and space debris in orbit around Earth are also impacting the night sky.

(Source: phys.org)

Webb Captures Rarely Seen Prelude to a Supernova



A large, bright star shines from the center with smaller stars scattered throughout the image. A clumpy cloud of material surrounds the central star, with more material above and below than on the sides, in some places allowing background stars to peek through. The cloud material is yellow closer to the star. Credit: NASA, ESA, CSA, STScI, Webb ERO Production Team

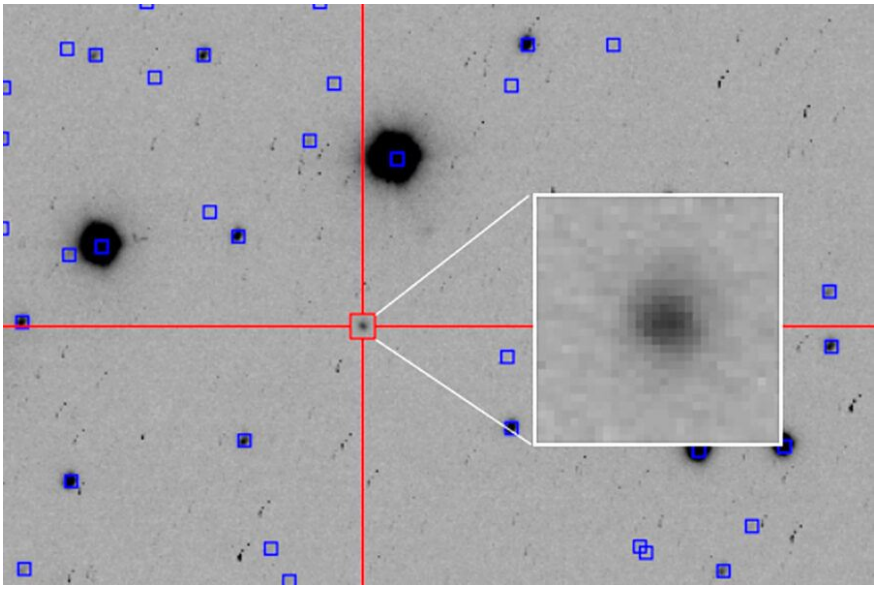
A Wolf-Rayet star is a rare prelude to the famous final act of a massive star: the supernova. As one of its first observations in 2022, the NASA/ESA/CSA James Webb Space Telescope captured the Wolf-Rayet star WR 124 in unprecedented detail. A distinctive halo of gas and dust frames the star and glows in the infrared light detected by Webb, displaying knotty structure and a history of episodic ejections.

Despite being the scene of an impending stellar "death," astronomers also look to Wolf-Rayet stars for insight into new beginnings. Cosmic dust is forming in the turbulent nebulas surrounding these stars, dust that is composed of the heavy-element building blocks of the modern universe, including life on Earth.

The rare sight of a Wolf-Rayet star—among the most luminous, most massive, and most briefly-detectable stars known—was one of the first observations made by the NASA/ESA/CSA James Webb Space Telescope. Webb shows the star WR 124 in unprecedented detail with its powerful infrared instruments. The star is 15,000 light-years away in the constellation Sagittarius.

(Source: phys.org)

Anticipating Comet Tsuchinshan-ATLAS (C/2023 A3)



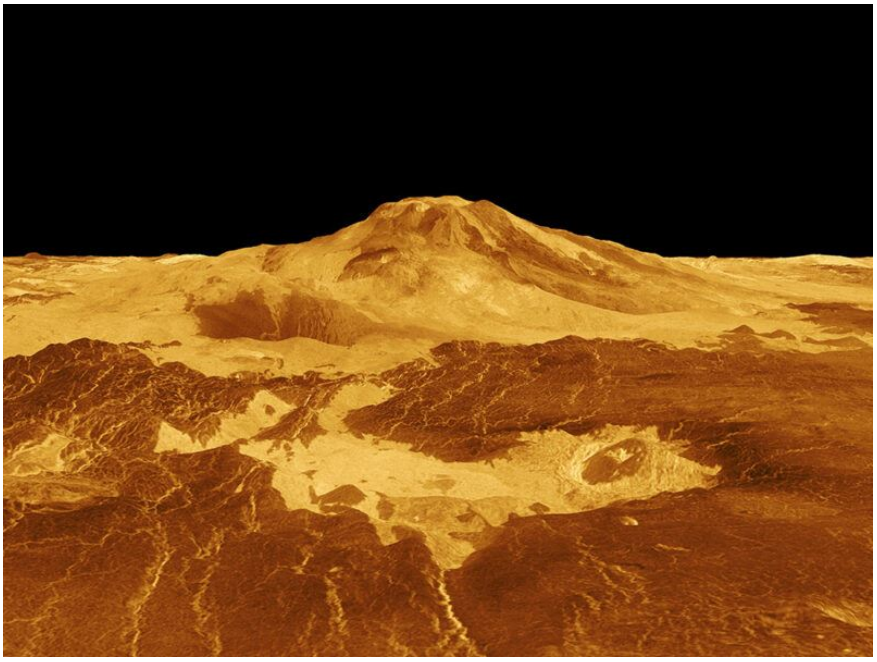
It's not much to see yet, but C/2023 A3 clearly shows a small, dense coma in this photo made on Feb. 24, 2023, using a remotely operated 0.5-meter telescope in Chile. Fillip Romanov / CC BY-SA 4.0

Recent Comet ZTF (C/2022 E3) captured the public's interest in part because of social media. While many may have been disappointed at not seeing a bright green apparition in the heavens, the comet met or exceeded expectations in amateur astronomers' eyes. With multiple tails, a peak magnitude of 5 and scenic pairings with Capella and Mars, it inspired us to "jacket up" and brave cold winter nights so we could see it for ourselves. Anytime there's excitement about a celestial object, no matter its magnitude or the hype that frequently surrounds it these days, amateurs can use the moment as an opportunity to educate and connect people to the sky.

Barring new discoveries or exceptional outbursts from predicted comet arrivals this year, Comet ZTF will likely stand as brightest we'll see until Comet 12P/Pons-Brooks graces the sky next spring at around magnitude 5. But it's a newly discovered comet — Comet Tsuchinshan-ATLAS (C/2023 A3) — that's been getting the most buzz in recent weeks. It has the potential to become a naked-eye object when it passes near Earth in October 2024. Estimates of its peak brightness range from magnitude 1 (or better depending how dusty it is) to magnitude 4, similar to Comet ZTF.

(Source: skyandtelescope.org)

After Decades of Searching, Scientists Have Finally Found a Clear Sign of Active Volcanism on Venus



This computer-generated 3D model of Venus's surface shows the summit of Maat Mons. One of the vents on Maat Mons appears to have enlarged and changed shape in 1991, as seen in Magellan data. NASA / JPL-Caltech

For decades, scientists have suspected that our sister planet has active volcanoes. Its surface is geologically young, perhaps only tens of millions of years old, meaning that lava has flowed on this planet in its recent past. The question has remained, though: How recent is recent?

Now, a new analysis of three-decade-old radar images from NASA's Magellan orbiter has resulted in a definitive detection: In 1991, there was an active volcano on Venus.

Magellan orbited Venus between 1990 and 1994, before suicidally plunging into the hellish atmosphere. It burned up in the thick carbon dioxide air among sulfuric-acid clouds, never reaching the surface, where pressure is equivalent to diving a kilometer deep in Earth's oceans.

Before the mission's end, though, the spacecraft's synthetic aperture radar mapped almost all of the Venusian surface. The maps show features as small as 120 meters (400 feet) across. (To give that some context, if there were a baseball field on Venus, Magellan would have just been able to see it.)

(Source: skyandtelescope.org)

2022 Officers

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Chief Scientist - Steve Ruhl
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