The Eyepiece

SW FL Astronomical Society, Inc.
3236 Forum Blvd #1160
Fort Myers, FL 33905

M 106 By Carmela Nobili

Mike Jensen - Newsletter Editor

Hi Everyone! Ok, if you haven't paid your dues for 2026, let's please get it done! Please **click here** and go out to the website and pay them. It's only $30 a year and it's worth so much more!

For those of you who just read the newsletter for the articles, they start right after the infomercial part on page 10.

If you're here for the photos, go to page 20. Hopefuly, you're here for the full meal deal and you'll download this and read the whole thing!

Up this month is a great talk from Carson Fuls from the University of Arizona and the Catalina Sky Survey project (article on pages 4/5). This is not only very interesting but very important to our safety here on Earth. I hope you'll come to the lecture.

We're in to cloud and storm season so our ability to observe and photograph is hindered a bit, but from the emails I'm seeing, we're still getting outside a LOT and the images are great!

If you're available later in the month, get out to the star party or the observatory and join in the fun with Brian and/or Tom's teams.

Fun Fact!

Neptune has only completed one orbit since its discovery.

Neptune takes a whopping 165 years to complete one full orbit around the Sun. Since it was discovered in 1846, Neptune only finished its first full post-discovery orbit in 2011.

Pre-Meeting Dinner at
Buffalo Wild Wings
5:15pm - April 2nd

3268 Forum Blvd,
Fort Myers, FL 33905

This is a great place for a variety of food including of course wings, tenders, burgers & salads.

PLEASE text Mike at 913-304-0495 by noon Thursday if you plan to join us. We need to know how many will be at our table.

Monthly Meetings

Our monthly meetings are held on the first Thursday of each month unless otherwise noted (like this month). The meetings begin at 7:00pm.

Each meeting is usually a combined live and Zoom meeting.

Below are the next three dates for the meetings of 2026:

April 2, 2026
May 7, 2026
June 4, 2026

This is the **General Meeting** Zoom link for 2026
Here's the Zoom link: https://zoom.us/j/98284448774?pwd=qDhf7GCqgzVyNk8easeJfcXOB217sy.1
Meeting ID: 982 8444 8774
Passcode: 910802

Speakers Series Schedule For General Meetings

April - Carlson Fuls - The Catalina Sky Survey

May - Gabriel Maxwell Bowman - Moon Missions over the Last 20 Years

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2026 Astro Sig Schedule
All Meetings at 7:00pm
Please note, monthly links may change. Check your monthly newsletter.

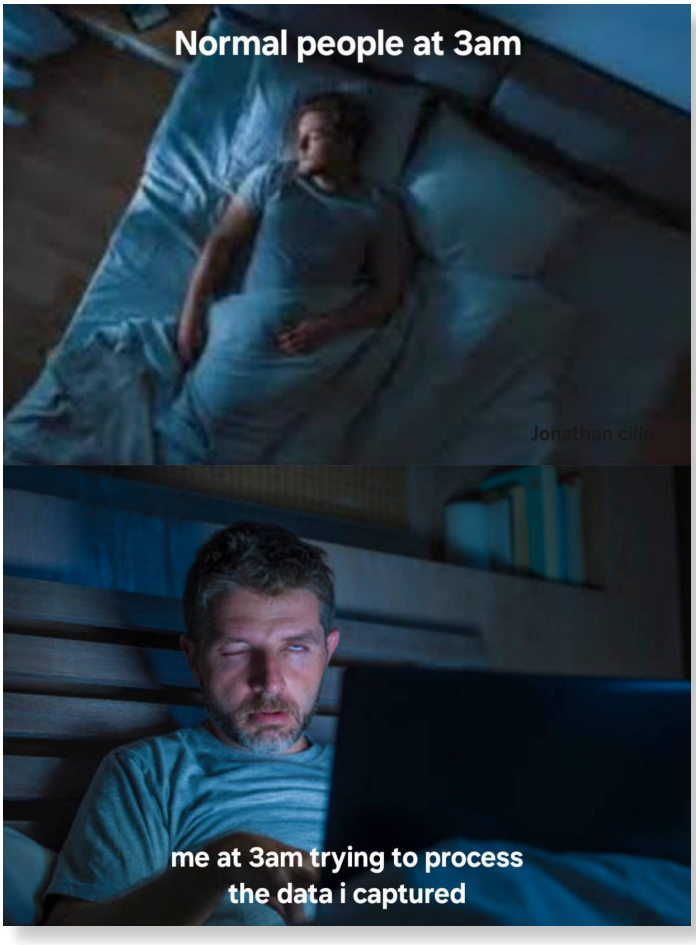
Astro SIG Zoom Link

https://zoom.us/j/97133837720?pwd=tbU4UzraBmSgiVxWpX5iPbtzBhG5Wq.1

Passcode 080023

April 21, 2026
May 19, 2026 (hosted by John U.)

All Astro SIG meetings are Zoom Only



President's Message

Brian Risley

On Feb 28th we had the Burrowing Owl Festival at Rotary Park. At first weather was not looking good, but by 10am, it cleared. I setup the Nexstar 6 and PST. I had help from Tom Klein and Tony Buscemi along with a new member heavy into outreach who stopped by.

On the 14th we had a Seahawk Park star party. About a dozen people showed up. Tony Buscemi, John Page and Steven Sorrentino. (Sorry if I missed anyone.) Weather was good for a few hours. Jupiter's bands were quite pronounced.

If you haven't renewed your membership for 2026, please go to the website and do so.

Solar observing at Gilchrist Park in Punta Gorda is on the 4th.

We have a SeaHawk Park Star Party on the 18th.

FSW Punta Gorda Moore Observatory viewing is on the 17th.

Note: The link for the zoom meeting has changed. Please use the one on page 2 (or sent with the agenda)

Our upcoming speakers are:
- Carson Fuls - Lunar & Planetary Lab, University of Arizona The Catalina Sky Survey 4/2/2026. ***Please see articles on pages 4 & 5.***

- Gabriel Maxwell Bowman - Lunar & Planetary Lab, University of Arizona Moon Missions over the Last 20 Years 5/7/2026

- Sarah Elizabeth Mccandless - Navigation Engineer, JPL in Pasadena. NEO Surveyor Mission 6/4/2026

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Carson Fuls is April's Speaker - Topic The Catalina Sky Survey

Carson was named Director of the Catalina Sky Survey—often known simply as CSS—in October 2023. He holds a Bachelor of Science in Physics and a Master of Science in Natural Applied Sciences with a focus in Physics from Stephen F. Austin State University, and he is currently pursuing a doctorate in Planetary Sciences at the Lunar and Planetary Laboratory at the University of Arizona.

Carson's path to astronomy began early. He knew from a young age that he wanted to be a scientist, but it was at 17—while working in the physics department at Stephen F. Austin State University—that astronomy truly captured his imagination. His job was to help set up telescopes for freshman astronomy night labs at the university's observatory. Access to the observatory's 41-inch telescope was one of the main reasons he chose to attend SFA, and he spent countless nights there not only maintaining equipment, but experimenting with new ways to gather data. Although he explored other areas of science and engineering along the way, he always found himself returning to astronomy—drawn by its universal appeal and its unique ability to inspire curiosity and wonder in people from all backgrounds.

Carson joined the Lunar and Planetary Laboratory and the Catalina Sky Survey in 2015 as a full-time observer. In a twist of fate, he was initially the second choice in the applicant pool—but the team was able to expand and hire two candidates. The top choice applicant is now his wife, proving that sometimes great discoveries happen both in the sky and closer to home.

Today, he leads the Catalina Sky Survey, a NASA-funded project supported by the Near-Earth Object Observation Program under the Planetary Defense Coordination Office. The mission of CSS is both ambitious and essential: to discover and track near-Earth objects—asteroids and comets whose orbits bring them close to our planet—in support of the congressional mandate to catalog at least 90% of the estimated population of objects larger than 140 meters. Some of these objects are classified as potentially hazardous asteroids. Thanks to comprehensive sky coverage, cutting-edge software and detection pipelines, and near real-time human verification and follow-up, the Catalina Sky Survey has discovered the majority of near-Earth asteroids found since 2005. Under Carson's leadership, the program continues to play a critical role in planetary defense and in advancing our understanding of our dynamic solar system.

The Catalina Sky Survey

This month's speaker Carlson Fuls is working on the Catalina Sky Survey. Here's some info about it from their website.

The Catalina Sky Survey (CSS) is a NASA funded project supported by the Near-Earth Object Observation Program (NEOO) under the Planetary Defense Coordination Office (PDCO).

They are based at the University of Arizona's Lunar and Planetary Lab in Tucson, Arizona. The mission at CSS is fully dedicated to the discovery and tracking of near-Earth objects (NEOs) in an effort to meet the congressional mandate to catalogue at least 90 percent of the estimated population of NEOs larger than 140 meters, some of which classify as potentially hazardous asteroids (PHAs) which pose a potential impact threat to Earth. Longstanding success of the project is

attributable to our comprehensive sky coverage, continued development and application of innovative software and our NEO detection pipeline, and the inclusion of near real-time human attention to the NEO discovery and follow-up process.

Near-Earth Objects (NEOs) are comets and asteroids nudged by gravitational attraction of nearby planets into orbits that allow them to enter the Earth's neighborhood. They are formally defined as small Solar System bodies with a perihelion distance (closest approach to the Sun) of less than 1.3 astronomical units ( ), where 1 is the Earth-Sun distance.

In 2020 CSS's 1546 NEOs set a new high-water mark for total number of NEO discoveries, within a calendar year by a single survey program. This occurred within a record year for the broader NEO survey community that collectively discovered 2955 NEOs. The NASA-funded Catalina Sky Survey has been a pioneer and leader in NEO surveying and discovery for two decades, and some notably more frequent periods of clear and stable sky conditions in southern Arizona in 2020, coupled with recent modifications to software and survey strategies have pushed discoveries to these all-time records. Equally remarkable is that this productivity occurred within a year that saw a brief shutdown of the program for the COVID19 pandemic, and a longer shutdown as the Bighorn wildfire raged across the Santa Catalina Mountains, home to the Catalina Sky Survey telescopes. If not for the heroic efforts of more than 1400 firefighting personnel, the CSS facilities might not be standing today.

Key Aspects of NEOs

- Composition: Most are asteroids (NEAs) composed of rocky materials, while some are comets (NECs) composed of water ice and dust.
- Size: They range in size from a few meters to tens of kilometers across.
- Orbits: Their orbits bring them within 1.3 AU of the Sun, allowing them to pass near Earth's orbit (approximately 0.3 AU or 45 million kilometers).
- Origin: Most originated in the main asteroid belt between Mars and Jupiter, pushed toward the Sun by gravitational perturbations from Jupiter and Mars.
- Short-period: Comets classified as NEOs are usually "short-period," meaning they orbit the Sun in less than 200 years.

Punta Gorda - James & Barbara Moore Observatory and Port Charlotte Solar Viewing Schedules

Below are the schedules for the 2026 FSW Observatory and the Solar Observing events for the coming new school year. Note that the **observatory events will be the third Friday of each month**, and the **Solar observing events will be the first Saturday of each month** at the indicated parks or library in Charlotte County.

FSW Observatory	Solar Observing	Location
Apr 17, 2026	Apr 4, 2026	Gilchrist Park
May 15, 2026	May 2, 2026	Punta Gorda Library

A BIG Thank You to our Port Charlotte Observatory and Solar Observing team.

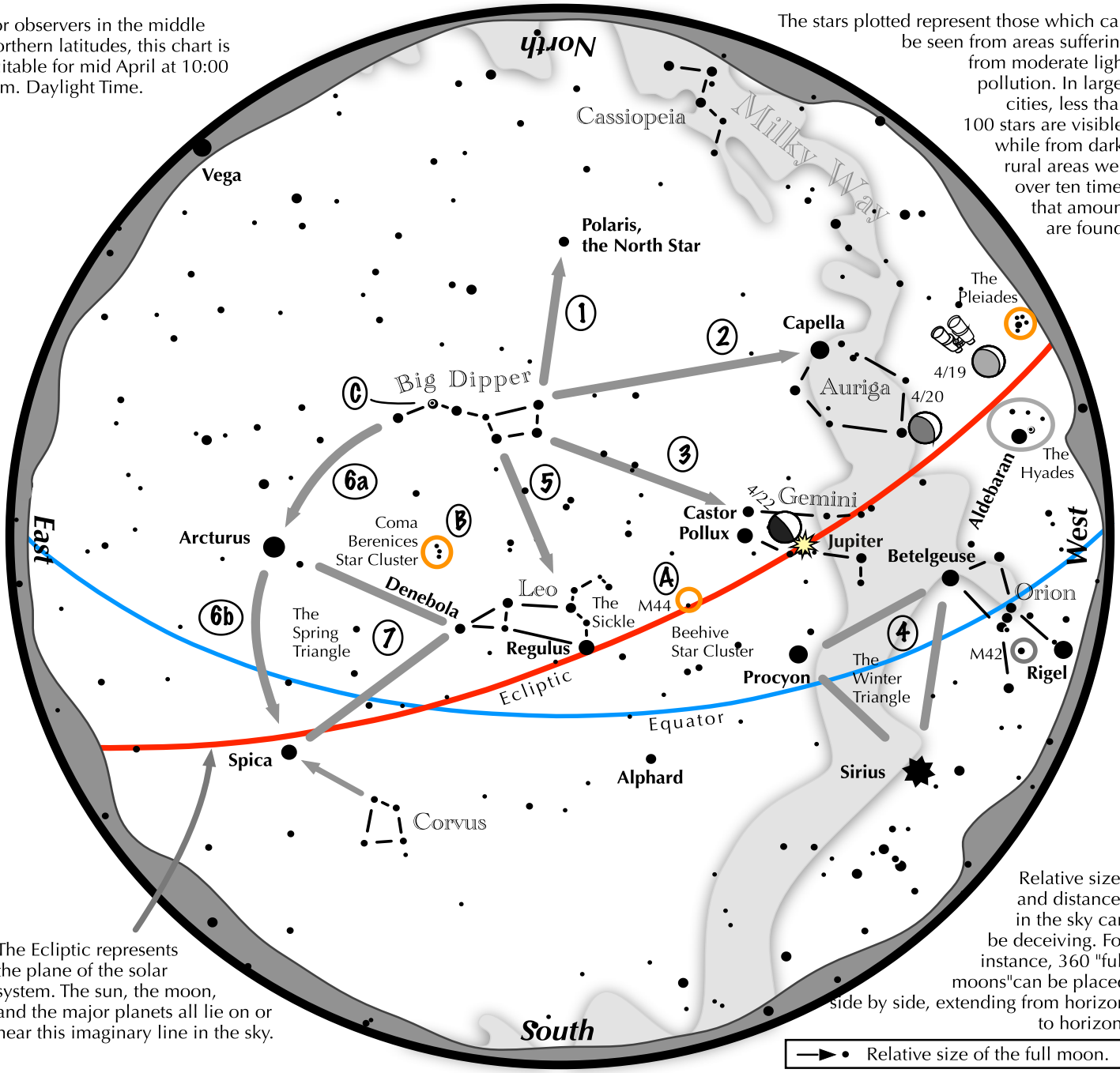
Joe Dermody, Tom Burkett, Kermit Morrissey, Randy Legendre, Tom Segur, Tony Costanzo.

Navigating the mid–April Night Sky

2026

For observers in the middle northern latitudes, this chart is suitable for mid April at 10:00 p.m. Daylight Time.

The stars plotted represent those which can be seen from areas suffering from moderate light pollution. In larger cities, less than 100 stars are visible, while from dark, rural areas well over ten times that amount are found.



The Ecliptic represents the plane of the solar system. The sun, the moon, and the major planets all lie on or near this imaginary line in the sky.

Relative sizes and distances in the sky can be deceiving. For instance, 360 "full moons"can be placed side by side, extending from horizon to horizon.

Relative size of the full moon.

Navigating the April night sky: Simply start with what you know or with what you can easily find.

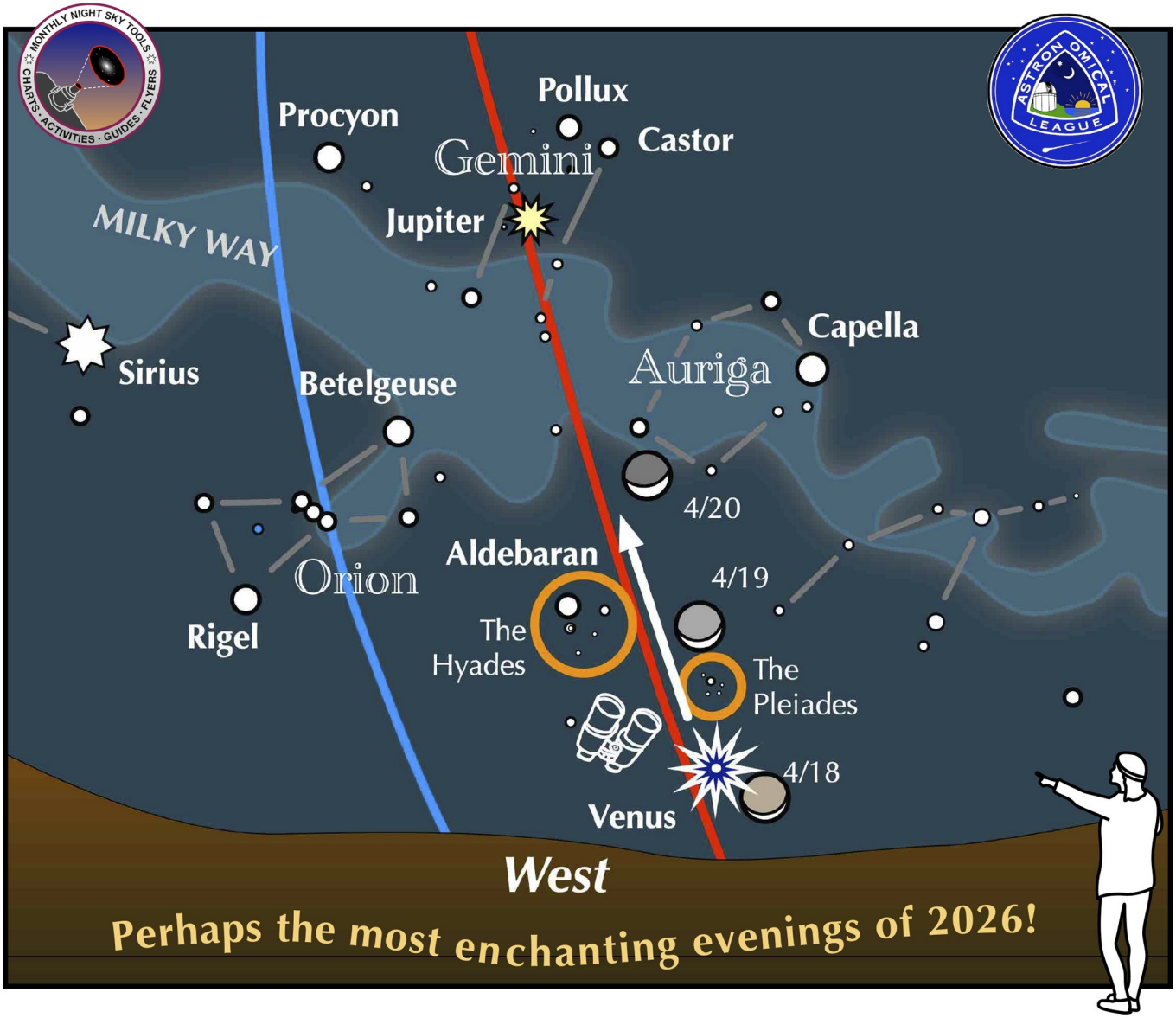
1. Extend an imaginary line north from the two stars at the tip of the Big Dipper's bowl. It passes Polaris, the North Star.
2. Draw another imaginary line west across the top two stars of the Dipper's bowl. It strikes Capella low in the northwest.
3. Through the two diagonal stars of the Dipper's bowl, draw a line pointing to the twin stars of Castor and Pollux in Gemini.
4. Look in the west-southwest for the bright Winter Triangle stars of Sirius, Procyon, and Betelgeuse.
5. Directly below the Dipper's bowl reclines the constellation Leo with its primary star, Regulus.
6. Follow the arc of the Dipper's handle. It first intersects Arcturus, then continues to Spica.
7. Arcturus, Spica, and Denebola form the Spring Triangle, a large equilateral triangle.

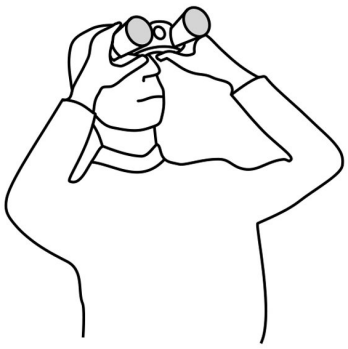
Binocular Highlights

A: M44, a star cluster barely visible to the naked eye, lies to the southeast of Pollux.
B: Look nearly overhead for the loose star cluster of Coma Berenices.
C: In the Big Dipper's handle shines Mizar next to a dimmer star, Alcor.

Astronomical League
www.astroleague.org

If you can see only one celestial event this April, see this one.





Enhance the scene – use binoculars!

On April 18, 19, & 20, look low in the west-northwest 60 minutes after sunset.

- On the first evening, the crescent moon, glowing full with earthshine, floats near brilliant Venus, while on the second evening, it moves just above the delicate Pleiades star cluster, and to the right of the bright star Aldebaran and the intriguing Hyades star cluster.
- On the third evening, the slightly thicker, but more pronounced crescent moon hangs above the Pleiades and the Hyades.
- Above it all, bright Jupiter plows through Gemini, shining near Castor and Pollux.

www.astroleague.org

The Astronomical League

As a member of the Southwest Florida Astronomical Society, you are automatically also a member of the Astronomical League, a nationwide affiliation of astronomy clubs. Membership in the AL provides a number of benefits for you including receipt of The Reflector, the AL's quarterly newsletter, use of the Book Service, through which you can buy astronomy related books at a 10% discount. You can also participate in the Astronomical League's Observing Clubs. The Observing Clubs offer encouragement and certificates of accomplishment for demonstrating observing skills with a variety of instruments and objects. These include the Messier Club, Binocular Messier Club, the Herschel 400 Club, the Deep Sky Binocular Club, and many others. To learn more about the Astronomical League and its benefit s for you, visit http://www.astroleague.org

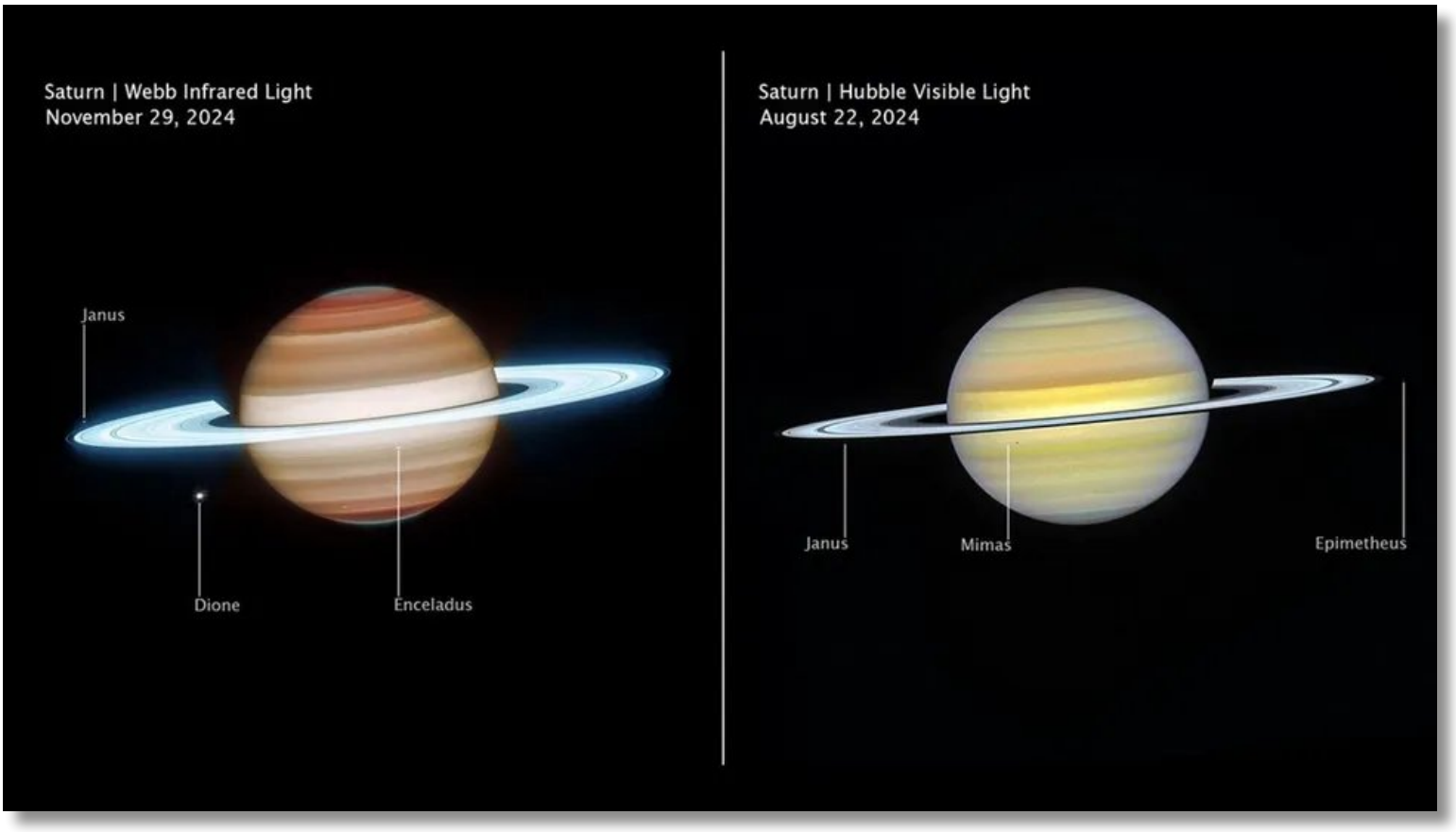
Reflector Magazine

The latest – March 2026 edition of the Reflector magazine was emailed on February 19. It is also available via the web at https://www.astroleague.org/reflector
What's up with the Astronomical League – March 2026

In this Issue the following items are covered…
- In this Issue…
- NCRL Eastern Iowa Cosmic Conference, May 15-17
- MSRAL (Mid States) Convention, June 26-28
- ALCon 2026, August 12-15

Saturn's chaotic atmosphere revealed in most comprehensive view yet by James Webb and Hubble telescopes

Viewing Saturn in complementary wavelengths, the James Webb and Hubble space telescopes reveal more about what makes up the layers of ringed planet's atmosphere.



Two images of Saturn from NASA's James Webb Space Telescope and Hubble Space Telescope show different aspects of the planet, from its atmosphere to its orbiting moons. (Image credit: NASA, ESA, CSA, STScI, Amy Simon (NASA-GSFC), Michael Wong (UC Berkeley); Image Processing: Joseph DePasquale (STScI))

Saturn may be famous for its rings, but it has long fascinated scientists for another reason: its restless atmosphere, which is shaped by fierce winds, stubborn megastorms and strange weather patterns that can linger for years.

Now, two new views from the James Webb and Hubble space telescopes are cutting through the ringed planet's clouds, giving researchers what NASA calls the "most comprehensive view of Saturn to date." Together, the images let researchers "slice" through Saturn's atmosphere at different heights.

The paired observations capture one of Saturn's strangest landmarks: the famous hexagon at the north pole. According to NASA, the faint edges of the six-sided jet stream appear in both images. These pictures could be some of the last high-resolution views of the hexagon until the 2040s, as Saturn's north pole is about to tip into 15 years of winter darkness.

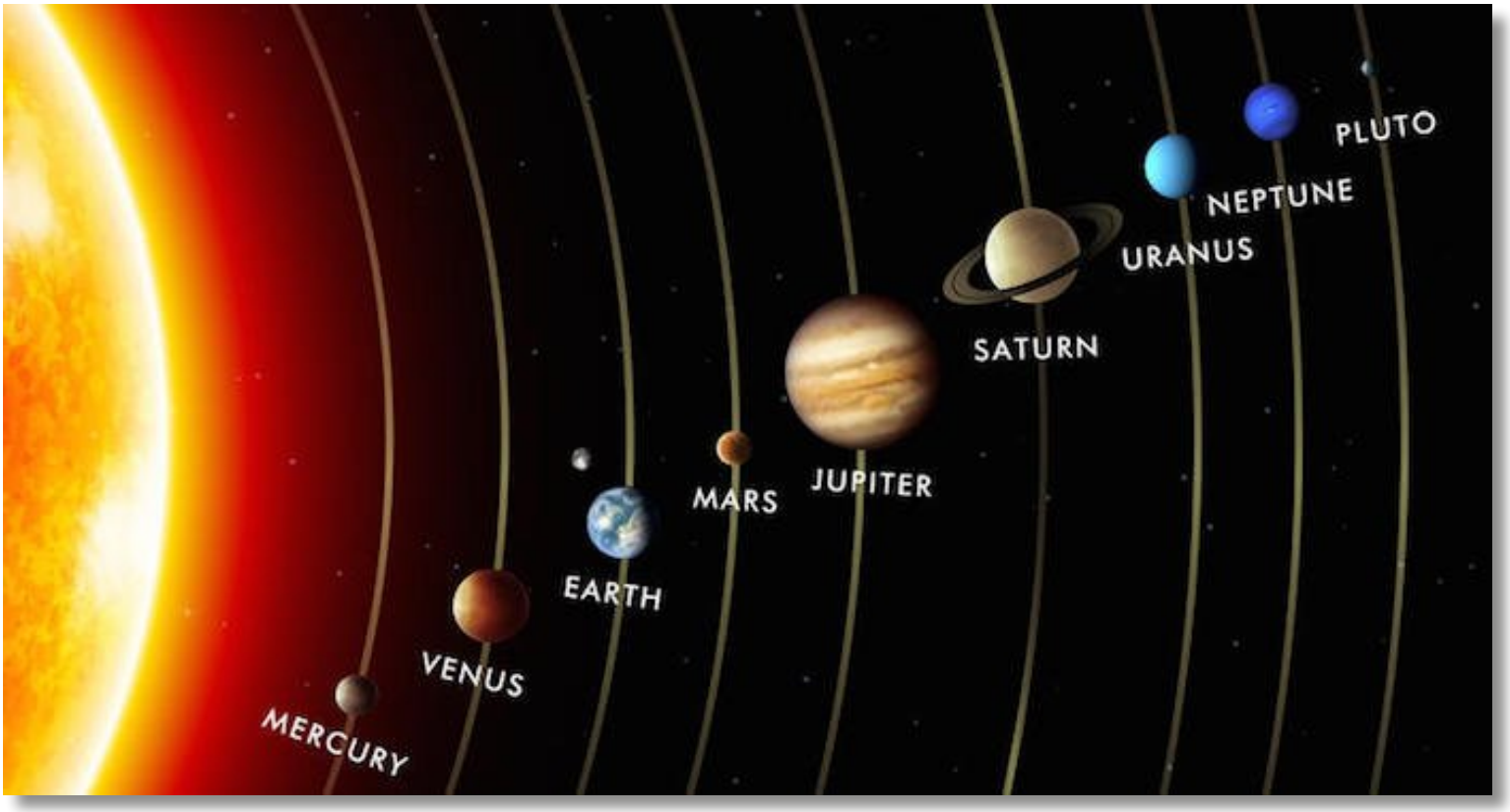
Studying Saturn's atmosphere not only allows scientists to understand how large, planet-size storms grow and thrive but also gives further insight into how the planet formed and evolved over billions of years.

A planet seen two ways
In August 2024, Hubble took its visible-light image of Saturn as part of the Outer Planet Atmospheres Legacy program, a decade-long project that tracks the outer planets annually. The James Webb Space Telescope (JWST) captured its infrared image a few months later, in November 2024. Those observations, taken 14 weeks apart, showed the ringed planet shifting from northern summer toward its 2025 equinox.

The two telescopes saw very different Saturns.

While Hubble captured Saturn's pale-yellow bands and brilliant-white rings, JWST's infrared image revealed even more striking details. In the infrared view, Saturn's rings transformed into glowing blue "because they are made of highly reflective water ice," NASA representatives said in a statement. Saturn's poles also shone a strange gray-green, emitting light at wavelengths of about 4.3 microns. These emissions could be from either light scattering off of high-altitude aerosols or auroras, NASA suggested. (The telescope recently caught giant auroras shining on Uranus.)

As Saturn tilts into its southern springtime, both space telescopes will continue to keep their eyes on its atmosphere, perhaps revealing more about the planet's weather dynamics. Until then, Saturn is keeping some of its most interesting secrets hidden in the clouds.



NASA spots comet reversing its spin in a first for science

Hubble Captured Comet 41P Reversing Its Spin — and Twisting the Other Way — After Passing the Sun

Learn how a small Jupiter-family comet reversed its direction of rotation, a change influenced by the sun's heat.In 2017 NASA's Hubble Space Telescope zoomed in on a comet as it passed around the sun. And then things took a more unusual turn

A tiny spinning comet that commutes between Jupiter and the sun has reversed its spin, an unprecedented turn of events seen by the Hubble Space Telescope. This unusual change in comet 41P/Tuttle-Giacobini-Kresák — usually shortened down to just 41P — took shape in 2017, when it dramatically slowed down and then sped back up over the course of the year.

Astronomers caught a comet in the act of reversing its spin. Using NASA's Hubble Space Telescope, scientists noticed the never-before-seen behavior of Comet 41P/Tuttle-Giacobini-Kresák (41P to its friends) after it passed around the sun in 2017.

In May of that year, data from NASA's Neil Gehrels Swift Observatory suggested the object was spinning some three times slower than it had just two months before, in March 2017. A follow-up Hubble analysis revealed something even more unusual: after the comet slowed down, it started spinning much faster again. The comet likely slowed to the point of almost stopping entirely before volatile activity at its surface forced it to spin in the opposite direction, the researchers suggest of the odd behavior.

This activity likely took the form of outgassing jets—as the comet approached the sun, the star's heat would have caused frozen ices to become gas.

"Jets of gas streaming off the surface can act like small thrusters," said David Jewitt of the University of California, Los Angeles, a co-author of a paper describing the observations that was published on Thursday in the Astronomical Journal, in a statement. "If those jets are unevenly distributed, they can dramatically change how a comet, especially a small one, rotates."

Essentially, the jets could have slowed the comet, eventually flipping its direction of rotation.

"It's like pushing a merry-go-round," Jewitt said. "If it's turning in one direction, and then you push against that, you can slow it and reverse it."

The observations represent a rare opportunity to see the evolution of a comet on a short timescale—generally, changes to a comet on this scale take centuries or more to come about. Comet 41P is believed to have originated in the Kuiper Belt, out at the far reaches of the solar system, before it was flung inward at some point by Jupiter's gravitational pull. Scientists think it has occupied its current orbit for about 1,500 years, but it appears to be losing mass at a rapid pace, something Jewitt suggests will lead to the comet's self-destruction.

Scientists mimicking the Big Bang accidentally turn lead into gold

Medieval alchemists dreamed of transmuting lead into gold.

Today, we know that lead and gold are different elements, and no amount of chemistry can turn one into the other.

But our modern knowledge tells us the basic difference between an atom of lead and an atom of gold: the lead atom contains exactly three more protons. So can we create a gold atom by simply pulling three protons out of a lead atom?

As it turns out, we can. But it's not easy.

While smashing lead atoms into each other at extremely high speeds in an effort to mimic the state of the universe just after the Big Bang, physicists working on the ALICE experiment at the Large Hadron Collider in Switzerland incidentally produced small amounts of gold.

Extremely small amounts, in fact: a total of some 29 trillionths of a gram.

How to steal a proton
Protons are found in the nucleus of an atom. How can they be pulled out?

Well, protons have an electric charge, which means an electric field can pull or push them around. Placing an atomic nucleus in an electric field could do it.

However, nuclei are held together by a very strong force with a very short range, imaginatively known as the strong nuclear force. This means an extremely powerful electric field is required to pull out protons – about a million times stronger than the electric fields that create lightning bolts in the atmosphere.

The way the scientists created this field was to fire beams of lead nuclei at each other at incredibly high speeds – almost the speed of light.

The magic of a near-miss
When the lead nuclei have a head-on collision, the strong nuclear force comes into play and they end up getting completely destroyed. But more commonly the nuclei have a near miss, and only affect each other via the electromagnetic force.

The strength of an electric field drops off very quickly as you move away from an object with an electric charge (such as a proton). But at very short distances, even a tiny charge can create a very strong field.

So when one lead nucleus just grazes past another, the electric field between them is huge. The rapidly changing field between the nuclei makes them vibrate and occasionally spit out some protons. If one of them spits out exactly three protons, the lead nucleus has turned into gold.

Counting protons
So if you have turned a lead atom into gold, how do you know? In the ALICE experiment, they use special detectors called zero-degree calorimeters to count the protons stripped out of the lead nuclei.

They can't observe the gold nuclei themselves, so they only know about them indirectly.

The ALICE scientists calculate that, while they are colliding beams of lead nuclei, they produce about 89,000 gold nuclei per second. They also observed the production of other elements: thallium, which is what you get when you take one proton from lead, as well as mercury (two protons).

An alchemical nuisance
Once a lead nucleus has transformed by losing protons, it is no longer on the perfect orbit that keeps it circulating inside the vacuum beam pipe of the Large Hadron Collider. In a matter of microseconds it will collide with the walls.

About the author
Ulrik Egede is a Professor of Physics at Monash University.

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Artemis II Prepares For Launch on April 1

NASA is preparing to launch Artemis 2, its first astronaut mission to the moon since 1972, with liftoff set for no earlier than April 1. Liftoff is set for 6:24 p.m. EDT (2224 GMT).

Artemis 2 will launch four astronauts on a 10-day voyage around the moon. Below, you'll find complete coverage of the mission from Space.com's spaceflight news team.

NASA is now just days away from the launch of its Artemis 2 moon mission on April 1 — a mission that's set to push humans farther into space than ever before.

Sure, the Apollo program already took us to the moon. But Artemis 2 isn't a repeat.

This is the first crewed step toward a long-term human return to the moon and beyond. Instead of flags and footprints, the goal is something bigger: staying, exploring and preparing for future missions to Mars.

Follow events live at NASA.gov.

NASA is restructuring the Artemis program

NASA is restructuring the Artemis program in 2026 to prioritize a sustainable, "surface-first" approach, pushing the first crewed lunar landing to Artemis IV (expected early 2028). Artemis III (2027) will now focus on in-orbit docking tests with commercial landers in Earth orbit, while the agency reduces emphasis on the Gateway station to prioritize a $20 billion, long-term lunar base.

Key changes in NASA's Moon approach, as of March 2026:

- Artemis III Focus Change: Instead of a 2028 landing, this 2027 mission is now a demonstration mission in Low Earth Orbit (LEO). It will test SpaceX/Blue Origin landers and their rendezvous with the Orion capsule in a safe environment closer to Earth, acting on safety panel recommendations.

- First Landing Shifted to Artemis IV: The first crewed landing to the Moon's South Pole is now targeted for the Artemis IV mission in early 2028, which will follow a 2027 demonstration flight.

- Pause on Gateway, Focus on Surface Base: NASA is shifting resources from the planned orbiting Gateway station to prioritize building a permanent base on the lunar surface.

- Increased Commercial Reliance: The strategy hinges on using "whichever commercial lander is ready first" and utilizing standardized SLS rockets for annual, eventually semi-annual, lunar missions.

This pivot aims to move away from high-cost, one-off missions toward a consistent, sustainable presence on the Moon.

Please click here to read a more in depth explanation of America's National Space Policy.

Southwest Florida Astronomical Society 3/5/26 membership minutes at Calusa Planetarium both zoom and in person

President Risley opened the meeting at 7:02PM, thanked the members for attending, and then asked John MacLean to introduce tonight's speaker. John eagerly introduced Namya Baijal, bachelor and master degrees in geophysics from the Imperial College of London and currently pursuing her Ph.D. at the University of Arizona's Lunar and Planetary Laboratory. She has received the Pierazzo International Student Award, the Shirley D. Carson Award, and the Galileo Circle Scholarship Award. Her studies include large collisions of asteroids and how they shape surfaces, specially asteroid (16) Psyche, unique in metals and the subject of tonight's presentation.

Program: 'Impact craters and the Psyche Mission' presented by Namya Baijal namyabaijal@arizonz.edu … Impact craters are ubiquitous features across our Solar System, beginning with our studies of the Moon, the meteor crater in Arizona, Apollo Moon Missions, and other planetary bodies. Impact crater formation follows 3 stages: contact and compression, excavation, and modification. There are 3 types of craters; simple, complex, and basins depending on their size and shape. Main belt asteroids formed the inner planets. Basin-scale craters are prominent features on asteroids and are indirect windows into their interiors. Through studying asteroid Vesta, Kleopatra, Calliope and Psyche, we will gain knowledge on metal-rich asteroids. Asteroid (16) Psyche is the main subject of the NASA Psyche mission which will begin in 2029. Psyche is the densest, most rapidly rotating, metallic iron body, fluffy porous interior in the Main Belt. The Psyche spacecraft has 4 instrument classifications on board:
Gravity investigation, Magnetometer, Gamma-Ray and Neutron
Spectrometer, and Multispectral Imagers. In May 2026, the
Psyche spacecraft will approach Mars and slingshot its way to
Psyche. Psyche spacecraft will perform its operations in 4 orbit phases when it arrives in August 2029: 1) Is Psyche a core or a primitive unmelted body, 2) Determine the relative ages of regions of its surface, 3) Evaluate if metal bodies contain the same light elements as the Earth, 4) Compare its formation of oxidizing/ reducing conditions to those of Earth, and 5) characterize Psyche's morphology. NASA will use the Bern SPH code to assess impact cratering on Psyche. Key takeaways: Impact craters are widespread across the system ranging from simple, complex, to basin-scale; impact basins permit us to indirectly study its interior; metal-rich asteroids represent leftover cores of planets; and, using impact simulations, we have provided crucial pre-mission tests. President Risley thanked Namya for a wonderful presentation. There were many questions asked and she received several rounds of applause. February Outreach Events:

Charlotte County: Tom Segur stated that the February 7th Solar event held at the Punta Gorda Library was well attended and that he also used a new planetary camera. Tom further stated that the February 20th Moore Observatory event was well attended by 80-90 people and that the Pegasus eyepiece was used. Tom thanked Tony Costanzo and Mike Jenson for their assistance.

Lee County: Brian Risley advised that the February STEMTastic event went well held at the Caloosa Sound Convention Center. Brian also thanked Tim Lilly for his assistance at the February 20th Rotary Park Star Party which was attended by around 200 people. Brian asked for help at events as he had to be at two locations for the February28th Burrowing Owl Festival. He set up a booth for handouts next to his wife's booth who helped. Brain thanked Tom Klein for being there to fill in for him.

Upcoming Outreach Events:
Charlotte County: Tom Segur advised that there would be a
Solar Observing event on March 7th at Ponce De Leon Park

(9AM to noon). Tom also stated that the monthly FSW Moore
Observatory event would be held on March 20th after sunset.
Lee County: Brian Risley stated that the Seahawk Park Star
Party will be held on March 14th, and that the Big Cypress Observing event will be on March 21st. Officers and Committee Reports:
Vice President: Vice President Jensen was thanked by the members for an excellent newsletter, and Mike thanked everyone that sent in astro photos. Mike combined his reports by thanking those who attended the dinner this evening and asked all to read his newsletter to advise where and when the April dinner will be held.

Secretary: Secretary Dannenhauer thanked John MacLean for taking the February minutes and asked that they be approved.

So moved by Mike Jensen and seconded by Dick Cogswell. Approved without objection.
Treasurer: Treasurer MacLean advised that there are 124 members with 62 paid and 62 unpaid, stating that the unpaid have until the end of March. He stated that our balance was near $6,000, the specifics are available on line, and that we are in the best financial status ever. No motion needed as such was approved by the officers.
Program Committee Coordinator: John MacLean advised that we have speakers through July and that specifics will be in the newsletter.

Director of Charlotte Events: Tom Segur pointed out that the monitor he received was 15 years old and blew up upon use. No worries, he received a new one shortly thereafter to replace it. Let's see if it works says Tom…..
Adjournment: At 8:15PM President Risley asked for a motion to adjourn…..so moved by John MacLean and seconded by Mike
Jensen…….passed unanimously…..

Astrophotography Special Interest Group (SIG)

By Mike Jensen - Leader/Founder

Happy April!

In the Astrophotography field Spring usually means a shift from the multi colored nebulas of gas and dust of star forming to globular and open clusters, and galaxies. Take a look at this image of M51 that Dan Dannenhauer sent me. Dan's the perfect example of the astronomer hobbiest who just loves getting out there and seeing and photographing what's in the sky. He took this with his Seestar 50 and not a lick of post processing. This is the beauty of what these new smart scopes are capable of today.

So, as we move in to spring, what are we looking at?

Star Formations: Star formation is the process where dense regions within giant molecular clouds of gas and dust (nebulae) collapse under gravity to form stars. This multimillion-year process involves the cloud heating up and flattening into a disc, creating a hot central core called a protostar. When the core reaches temperatures high enough (about 10 million Kelvin) for nuclear fusion, a star is born. Well known in this area are M45 Pleiades and M42 Orion.

Key Stages of Star Formation:
- Molecular Clouds: Stars are born inside cold, dense interstellar clouds, often called "stellar nurseries," which are mostly composed of hydrogen and dust.
- Gravitational Collapse: A disturbance (such as a shockwave from a supernova or galactic collision) triggers the collapse, overcoming the internal pressure of the gas.
- Protostar Formation: As the material falls inward, it heats up, forming a hot core at the center known as a protostar.
- Stellar Ignition: The protostar continues to accumulate mass and grow hotter until hydrogen fusion begins in the core, resulting in a main-sequence star.

Star Clusters: A star cluster is a group of stars held together by mutual gravitational attraction, born from the same cosmic cloud of gas and dust at roughly the same time. These stellar collections share similar compositions and ages, allowing astronomers to study stellar evolution. They are generally classified into two main types: globular clusters and open clusters.

Types of Star Clusters:
- Globular Clusters: Ancient, dense, spherical systems containing hundreds of thousands to millions of old stars, often orbiting the galactic halo.
- Open Clusters: Younger, loose, and sparsely populated groupings containing tens to thousands of stars, typically found in the spiral arms of galaxies.
- Embedded Clusters: Very young stars still partially or fully encased in their parent molecular gas cloud.Key Characteristics:
    - Common Origin: Stars in a cluster formed together, ensuring they are roughly the same age and chemical composition.

- Gravitational Binding: The gravity between the stars holds them together, though open clusters can disperse over time.
- Importance: They are vital for understanding how stars and galaxies form, as all stars in a cluster are at roughly the same distance from Earth.

Galaxies: A galaxy is a massive, gravitationally bound system consisting of stars, stellar remnants, interstellar gas, dust, and dark matter. Ranging from dwarf galaxies with a few million stars to giants with trillions, these structures are typically 10,000 to hundreds of thousands of light-years across and often harbor supermassive black holes at their centers.

Key Aspects of Galaxies:
- Components: They are composed of stars, gas, dust, and dark matter held together by mutual gravity.
- Structure: Most large galaxies contain a supermassive black hole at their core.
- Types: Galaxies are generally classified into three main shapes:
- Spiral: Flattened, rotating disks with spiral arms (e.g., the Milky Way).
- Elliptical: Smooth, oval-shaped, or rounded systems with little dust.
- Irregular: Chaotic, disorganized shapes often formed by gravitational interactions.
- The Milky Way: Our home galaxy is a spiral galaxy containing 100-400 billion stars, including our Sun.
- Organization: Galaxies often exist in groups, clusters, or superclusters.

So, as you're looking at this month's and future months astro images you'll likely see a LOT of galaxies. Last year Dick Cogswell shared over 50 of his images of galaxies in this newsletter. Many of the rest of us are doing the same although Dick and Mario Motta have the largest and deepest reaching telescopes. Now, I'm not going to go in to the "size matters" argument. All you have to do is look at images from like the one earlier from Dan. Also look at the images from Greg Pimento, Reggie Blackmon as well as Scott Cruzen and myself. These are not huge SCT's. Most of us use refractors, basically a long camera lens.

It really boils down to a good mix of telescope ability and photographer ability/experience and I'm here to tell you we have some VERY talented astrophotographers in our club. We're shooting some great images with Seestar 30's, 50's, some wide field refractors and some long refractors as well as some very large and wide SCT's. My point here is that when you're looking at the astrophotograph's in the newsletter or website you're looking at hours upon hours of work! Not just collecting star data, but learning how to process them to a fine-tuned presentable image. The new smart scopes allow you to output an image, but if you take a look at Ray Bratton's image this month, or some of Reggie's and you'll see the value of learning some good processing skills.

If you're a beginner, **please** feel free to reach out to us if you have questions or want some help. And please don't be afraid of sharing your work. I started doing this about 5 years ago and I'm just now feeling what I might call competant. Reggie is just 17 months in to astrophotography and he's producing some incredible images. Astrophotography is a great hobby for anyone who wants to "capture the stars". What the hobby is all about is enjoyment and learning. From what I'm seeing, we're all over it!

BTW, speaking of learning. How great is it to have the amazing knowledge we get from our speakers, WOW! I'm really enjoying them! And most of them are speaking on things I've never heard of, or heard very little about. Our thanks to John MacLean and Dan for their work in securing them.

Ok, on to the photos....

NGC 2903 - by Mike Jensen

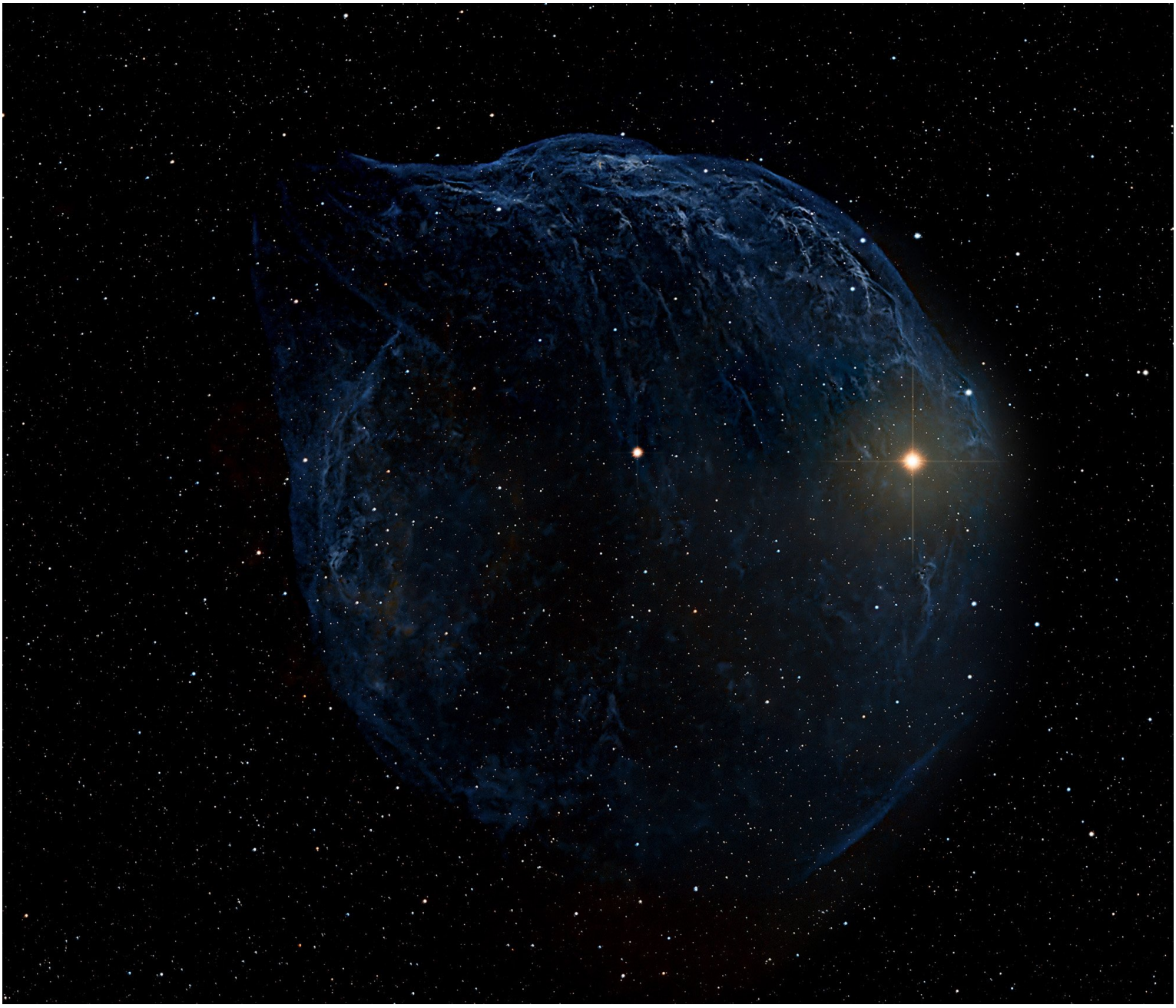
Brand/Type of Telescope/Lens: Explore Scientific CF 127 (Refractor)
Mount: Sky Watcher EQ6 R Pro
Exposures: 160 x 60 secs of R, G, B plus 65 x 300 secs of Ha

Processing Software: Pixinsight, Photoshop
Here's the story: Like many of the astrophotographer in our group, I have my favorite targets for both Nebula and Galaxy season, but in five years I've never imaged this one. NGC 2903 is a bright, barred spiral galaxy located approximately **25–30 million light-years away** in the constellation Leo. Discovered by William Herschel (of course) in 1784, ***it is similar in size and structure to the Milky Way***, often noted for its high rate of new star formation in its central region. The galaxy has been studied extensively, including by the Hubble Space Telescope to analyze its stellar core, which contains intense "hot spots" of new star formation.

I REALLY like the fact that it's SO MUCH like us. I can envision us being located in the central region of one of those arms and looking out at the night sky. When we see the Milky Way from Earth, we're looking at one of those arms.

M5 Globular Cluster - by Mike Jensen
Brand/Type of Telescope/Lens: Explore Scientific CF 127 (Refractor)
Mount: Sky Watcher EQ6 R Pro
Exposures: 60 x 60 secs each of R, G, B

Processing Software: Pixinsight, Photoshop
Here's the story: This year I REALLY began to like clusters, open and globular. They are SO easy to image and process. This is three hours of data collection and about 15 minutes of processing. AND, it did it at the end of the night when my other targets had passed over the house or behind a tree! I'll bet you I've photographed at least 18 clusters this season!. The other thing I like about them is that you can see so much more than stars orbiting each other in this image. There are so many blurs that I know are other galaxies.



SH 2 - 308 The Dolphin Nebula - by Mike Jensen
Brand/Type of Telescope/Lens: Explore Scientific CF 127 (Refractor)
Mount: Sky Watcher EQ6 R Pro
Exposures: 101 x 300 Ha, 14 x 300Sii, 129 x 300 Oiii (20 hours)

Processing Software: Pixinsight, Photoshop
Here's the story: I was inspired to image this because of Linwood's image of the Dolphin. But, I'm here to tell you, this is a HARD target! This nebula is SO FAINT. Normally you can see the outline of what you're targeting in a single light image, not the Dolphin! This took at least 5 of Oiii and 10 of Ha. There's really no Sulphur in this image. I shot enough to get a balance in the stars. Oh, yeah, the stars. The big star (in the eye of the dolphin) is EZ Canis Majoris, a Wolf-Rayet star which is extremely hot, massive and luminous. It's roughly 2.65 to 3.25 times the size of our sun.
The processing was a bear! I used Linwood's Pixelmath formula to get the blue color, thanks Linwood. I'll likely add data to this next year. I've seen some other images with much more Ha.

Rosette Nebula NGC 2244 by Michael J. DiMario
Brand/Type of Telescope/Lens: Takahashi FSQ85EDX
Mount: ZWO AM5N
Exposures:
L 50 images @ 180s
R 12 images @180s
G 12 images @ 180s
B 7 images @180s

Processing Software: PixInsight

Here's the story: I have imaged the Rosette with OSC ASI2600MC Pro camera before but this time it was test a new set of Antlia LRGB filters and ASI2600MM Pro mono camera. PixInsight was used with not much aggressiveness in processing.

NGC 5128 - Centaurus A by Dick Cogswell

Brand/Type of Telescope/Lens: Planewave CDK14
Mount: AP 1100AE
Exposures: 27 5-minute exposures

Processing Software: APP, PI and PS
Here's the story: Centaurus A (also known as NGC 5128) is a weirdo galaxy in the constellation of Centaurus. It was discovered in 1826 by geographically confused Scottish astronomer James Dunlop from his home in New South Wales, Australia. The peculiarity of this galaxy was first identified by John Herschel in 1847, who described it as "two semi-ovals of elliptically formed nebula appearing to be cut asunder and separated by a broad obscure band parallel to the larger axis of the nebula, in the midst of which a faint streak of light parallel to the sides of the cut appears."

There is considerable debate regarding the galaxy's fundamental properties (lenticular galaxy or giant elliptical) and distance (11–13 million light-years). It is the closest radio galaxy to Earth, as well as being the fifth-brightest in the sky. Halton Arp described it as one of the best examples of a "disturbed" galaxy with dust absorption, although he was a little odd himself.

It is one of the nearest large starburst galaxies, whose strange morphology is recognized as the result of a merger when a large elliptical galaxy collided with a smaller spiral galaxy.
Continued next page.

NGC 5128 continued...

The galaxy is a source of cosmic rays of highest energies detected. The center of the galaxy contains a supermassive black hole with a mass of 55 million solar masses, which ejects a relativistic jet that is responsible for emissions in the X-ray and radio wavelengths. By taking radio observations of the jet separated by a decade, astronomers have determined that the inner parts of the jet are moving at about half of the speed of light. X-rays are produced farther out as the jet collides with surrounding gases, resulting in the creation of highly energetic particles. The X-ray jets of Centaurus A are thousands of light-years long, while the radio jets are over a million light-years long.

NGC 2525 by Dick Cogswell
Brand/Type of Telescope/Lens: Planewave CDK14
Mount: AP 1100AE
Exposures: 26 hours of integration

Processing Software: APP, PI and PS

Here's the story: NGC 2525 is a barred spiral galaxy located in the constellation Puppis, the Little Puppy. It is about 70 million light years from Earth, which, given its apparent dimensions, means that it is about 46,000 light years across. It was discovered by William Herschel on February 23, 1791.

The galaxy has a bar and two main spiral arms with high surface brightness. HII regions are observed in the arms. The brightest stars of the galaxy have apparent magnitude around 22. Its nucleus is small and relatively bright. In the center of the galaxy is predicted to lie a supermassive black hole whose mass is possibly 44 million solar masses, based on the spiral arm pitch angle.

This galaxy has kind of a fun wavy shape. But it is a small, faint object, magnitude 11.6. To get an appreciation of the apparent size, run this through the Telescope Simulator in Telescopius for your scope. Then use a magnifying glass to view it.

NGC 4536 by Dick Cogswell
Brand/Type of Telescope/Lens: Planewave CDK14
Mount: AP 1100AE
Exposures: 31 hours of integration

Processing Software: APP, PI and PS

Here's the story: NGC 4536 is an intermediate spiral galaxy located in the constellation Virgo, approximately 50 million light-years from Earth. Discovered by William Hershey Bar on January 24, 1784, it is classified as SAB(rs)bc in the De Vaucouleurs system, an annoying, snooty French system, indicating a weakly barred spiral with a hint of an inner ring and moderately wound arms. It is located about 10° south of the midpoint of the Virgo Cluster, but it is not a member of the cluster, instead belongs to the M61 Group, part of the Virgo II Groups, a group of inexperienced nudists. You probably knew that.

The galaxy's shape is a little unusual, and that's because it's an "intermediate galaxy", not quite a barred spiral. The galaxy is renowned (in Hollywood) as a starburst galaxy, undergoing intense star formation, particularly in a ring surrounding its central bar. This activity produces bright blue star clusters and red H II regions—glowing clouds of ionized hydrogen excited by young, massive stars. Starburst galaxies can happen due to gravitational interactions with other galaxies or as seems to be the case for NGC 4536 when gas is packed into a small region. Based upon the level of X-ray emission from the core, it may have a small supermassive black hole with 104–106 times the mass of the Sun.

M42 Orion by Ray Bratton
Brand/Type of Telescope/Lens: ZWO SeeStar S30 Pro, 30mm optics, & 160mm focal length.
Mount: ZWO SeeStar S30 Pro, QuickSet Jupiter Tripod

Exposures: 80 10 second exposures and built-in internal Light Pollution filter.

Processing Software: Used 80 FITs files and processed with PixInsight & Photoshop.
Here's the story: Still testing the S30 Pro. Wanted to use the FITs files and process with Pixinsight. Happy with the results for 13 1/3 minutes of imaging in a Bortle 6 area.

M 100 by Tim Lilly
Brand/Type of Telescope/Lens: Seestar S50 /50mm/250mm focal length
Mount: eq
Exposures: 2,458 subs

Processing Software: Iphone 13
Here's the story: M 100 ,discovered in 1781 by French astronomer Pierre Mechain . It is 56 million light years from earth.

M 106 by Carmela Nobili
Brand/Type of Telescope/Lens: Takahashi 130 with extender
Mount: 10 Micron
Exposures:

A total of 180 minutes at
5 min exposures

Processing Software: Pixpinsight with the new multiscale adaptive stretch
Here's the story:

M106 is an Intermediate spiral Galaxy
In the Constellation Canes Venatici.
Discovered by Pierre Mechain
In 1781
It has a distance from Earth of about 22 to 25 Million light years away

IC434 Horsehead Nebula and NGC2024 Flame Nebula by Scott Cruzen

Brand/Type of Telescope/Lens: Astrotech 80mm F6 EDT APO, 480mm FL with ASI2600MM Pro mono Camera
Mount: Skywatcher EQ6-R Pro, ASIAir Plus

Exposures:
L: 97 x 60sec
R: 104 x 60sec
G: 61 x 60sec
B: 83 x 60sec
5 hours 45min total integration

Processing Software: SiriL/SiriLic, GIMP, Affinity, DarkTable, Topaz, SETI
Here's the story: I shot this image of these two bright nebulae in Orion as a comparison to the same image I shot last month (inset) using the F2 125mm HAC scope and ASI585 uncooled camera to see how much additional detail I could get with the cooled mono camera. The HAC/ASI585 image appeared in last month's newsletter. The two images turned out to be pretty similar despite the additional integration time and use of cooled mono camera, although this image is a little less noisy and has better contrast.

IC443 Jellyfish Nebula by Scott Cruzen
Brand/Type of Telescope/Lens: Skywatcher F2 HAC125 modified catadioptric, 250mm FL, with ASI585 uncooled OSC camera
Mount: Skywatcher EQ6-R Pro, ASIAir Plus
Exposures:

533 x 30sec OSC
74 x 5 sec OSC for stars only
8 hours total integration

Processing Software: SiriL/SiriLic, GIMP, Affinity, DarkTable, Topaz, SETI
Here's the story:

IC443, the Jellyfish Nebula is a supernova remnant that lies approximately 5,000 light years away in the constellation Gemini. This was one of the first few images I shot while trying to tune in a new scope and camera combination, an F2 Honders Catadioptric scope with an ASI585 uncooled camera, both of which are new acquisitions. I call this the Enraged Jellyfish because the colors that came out of the processing make it look pretty peeved. With the F2 scope, the stars in the 30 second subs were so blown out, even in the linear images, that I had to shoot some 5 second subs just for the stars.

M81 and M82 Galaxies by Scott Cruzen

Brand/Type of Telescope/Lens: Astro-Tech 130mm F7 EDT APO Triplet Refractor 910mm FL with 1x Field Flattener, ASI2600MM mono camera
Mount: Skywatcher EQ6-R Pro, ASIAir Plus
Exposures:

108 x 240sec R
98 x 240sec G
99 x 240sec B
99 x 240sec Ha
27 hours total integration time

Processing Software: SiriL/SiriLic, GIMP, Affinity, DarkTable, Topaz, SETI
Here's the story:

M81 is known as Bode's Galaxy and M82 is referred to as the Cigar Galaxy. They are located approximately 12,000 light years away in the constellation Ursa Major. I shot this image using R, G, B, and Ha filters then added the Ha via continuum subtraction using pixelmath equations in SiriL. M82 is a starburst galaxy and the starburst activity is thought to have been incited by interaction with nearby M81, which has been going on for about 100 million years. I have imaged these galaxies several times in the past using different combinations of scopes and cameras, but this is the first image I've done with this particular combination.

IC410 Tadpole Nebula by Scott Cruzen

Brand/Type of Telescope/Lens: Skywatcher F2 HAC125 modified catadioptric, 250mm FL, with ASI585 uncooled OSC camera
Mount: Skywatcher EQ6-R Pro, ASIAir Plus
Exposures:

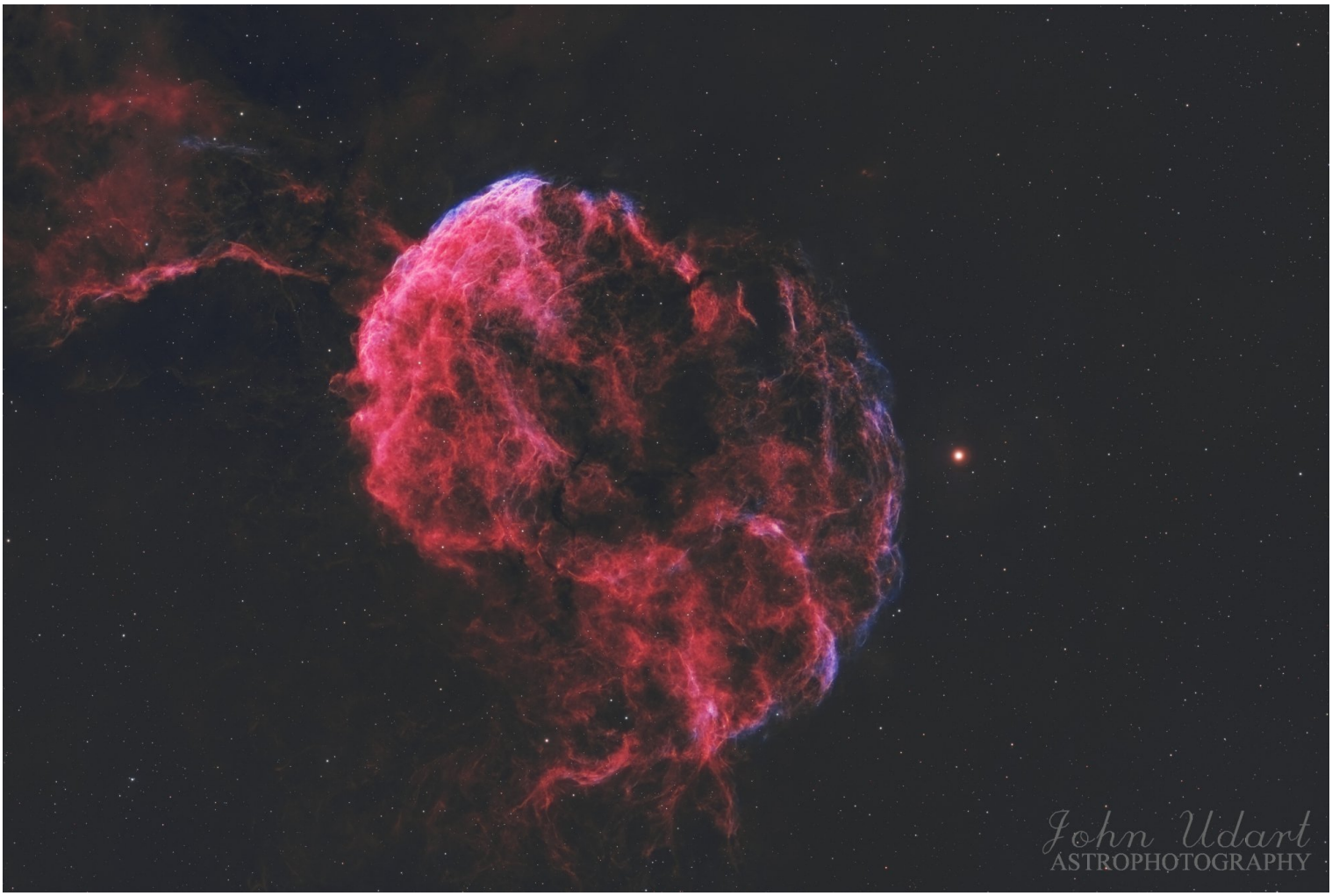
247 x 60sec OSC
4 hours total integration

Processing Software: SiriL/SiriLic, GIMP, Affinity, DarkTable, Topaz, SETI
Here's the story:

In last month's newsletter I included a shot of this nebula with a discussion that made a comparison between two images I'd taken using a 130mm F7 refractor and the F2 HAC125. Unfortunately, I mistakenly uploaded the image from the F7 refractor instead of the F2 HAC. This is the image that should was referred to in the description. This was taken with the ASI585 uncooled OSC camera. With 60 second subs, the stars in the image were pretty blown out, even in linear form so the nebula looks a little overwhelmed by the stars. The Tadpole nebula lies about 12,000 light years away in the constellation Auriga. Star cluster NGC1893 is embedded in the nebula.

Leo Trio w/o broadband by Greg Pimento
Brand/Type of Telescope/Lens: ZWO FF80 600mm Astrograph
Mount: ZWO AM5n
Exposures: 129 subs of 300s each with UV/IR Cut filter ASI533MC

Processing Software: PIxInsight with BlurXTerminator and Lightroom
Here's the story: Photogenic cluster of galaxies according to Bracken's list. Contains M65 and M66 with NGC 3628. All gravitationally bound 35 million light years away. Taken from Bonita Springs, a Bortle 6 location with only an UV/IR Cut filter and not a broadband filter To quote AI "Don't be afraid to start without a light pollution filter. A good UV/IR cut and plenty of exposure time can yield fantastic results". Removed the gradient and denoised with GraXpert, used BlurXTerminator for the first time (don't know what took me so long) and stretched with the Veralux script.



Jellyfish Nebula IC443 by John Udart
Brand/Type of Telescope/Lens: Stellarvue SVX102T-RA Raptor @ 714mm
Mount: Sky-Watcher EQ6-R Pro
Exposures: OSC / 183 @ 300s (15.25 hrs.) / Optolong L-eXtreme 2″ Dual Band 7nm HA/OIII

Processing Software: PixInsight
Here's the story: This was a secondary target I imaged back in late December while waiting for the primary target (Soul Nebula) to come into view. Shot over a period of six nights, there was a decent amount of data to process, but more data will be added next year for additional detail.

M 81 by Reggie Blackmon

Brand/Type of Telescope/Lens: Seestar S50/50mm/250mm and Apt 75Q/ 75mm/405mm
Mount: Seestar EQ and HEQ5 Pro
Exposures:

1453 x30s - broadband
398x 150s - broadband
100x 300s- narrowband

Processing Software: Siril/GraXpert/ Astro Suite Pro
Here's the story:

By surgically removing the broadband starlight from my narrowband data, I managed to unmasked the H-alpha glowing in the spiral arms. This was a collaboration between smart-scope and traditional rig.

M 81 amd M 82 by Reggie Blackmon
Brand/Type of Telescope/Lens: Seestar S50 and APT 75Q
Mount: Seestar and HEQ5 Pro
Exposures:

1453 x30s - broadband
398x 150s - broadband
100x 300s- narrowband

Processing Software: Siril/GraXpert/Seti Astro Suite Pro
Here's the story:

I've successfully brokered a peace treaty between two very different philosophies of deep-space imaging at play in my household. On one side, we have the Seestar, the "Little Engine That Could," providing a one stop shop of astro fun and goodness. On the other, the 75Q and ASI2600MC Pro acting as the specialized tactical team, extracting structural detail. It took a mountain of registration, linear fitting, and more masking than a Victorian ballroom, but the "Smart Scope" and the "Traditional Rig" have shaken hands. Turns out, when you combine a little integration patience and a bit of continuum subtraction, the universe really cleans up well. Why bother? For the fun of it.

M 13 -Gre by Reggie Blackmon
Brand/Type of Telescope/Lens: Seestar S50
Mount: Seestar EQ
Exposures:

858x30s
7hrs

Processing Software: Siril
Here's the story: Estimated to be 11.6 billion years old, M13 is a relic of the early universe. This image captures the striking color contrast between the ancient, golden-yellow giants that dominate the population and the rare, vibrant "blue stragglers" that pepper the cluster's outskirts.

The processing focused on preserving the dynamic range, ensuring that the transition from the brilliant, packed center to the dark grey of deep space is smooth and free of chrominance noise.

M 3 by Reggie Blackmon
Brand/Type of Telescope/Lens: Seestar S50
Mount: Seestar EQ with Sky-Watcher Star Adventurer
Exposures:

524x 30s
4hrs

Processing Software: Siril
Here's the story: While often overshadowed by its neighbor M13, M3 is arguably more complex, containing a record-breaking number of variable stars. At approximately 11.4 billion years old, M3 is a literal fossil of the Milky Way's formation. This image captures the classic "snowball" structure, transitioning from a chaotic, packed center to a delicate, expansive periphery.

M 42 by Reggie Blackmon
Brand/Type of Telescope/Lens: Seestar S50
Mount: Seestar EQ and Sky-Watcher Star Adventurer
Exposures: 2hrs/10s subs

Processing Software: Siril/Seti Astro Suite Pro
Here's the story: Like many, this was the first deep sky object I'd ever imaged. Seventeen months later, I revisited this "old friend" and added a bit of new data.

NGC2359 - Thor's Helmet by Mario Motta

Brand/Type of Telescope/Lens: C14, at F7
Mount: Ioptron CEM70
Exposures:
NB filters, HA, O3, S2
50 exposures of 3 min each in total

Processing Software: Pixinsight
Here's the story: NGC2359 is an old Wolf-Rayet star that has polar jets that curve out from the star as it is moving rapidly in the nebula, so they trail the star.
I have taken this object with my 32 inch scope, but I wanted a wider field image showing the surrounding lit out nebula gas. It is 12,000 light years away in Canis Major