# WESTMINSTER ASTRONOMICAL SOCIETY, INC. (WASI)

Membership News

Volume 41 – Number 4 Fall 2025


## Message from our Society's President, Skip Ward

Howdy and Welcome to Wayne's World,
Star Party On!

Now that we are wrapping up a full summer of Outreach, Star Parties and term limits I guess it's too late to be impeached, the damage is done.

Want to thank everyone who has helped out, over the year with the individual events, (and any upcoming programs), the year round events and the events we didn't hear about (you know who you are so enter them into the NSN data base please). We are still looking for someone to lead/do/incite a riot every fourth Saturday for Catoctin Creek Nature Center in Frederick. Usually it is a small group event and the staff are very helpful in setting up. Everything you need is there except a telescope and clear skies.

I do want to show out one person, Al, because he single-handedly drove to Tennessee through Virginia (and its step child), West Virginia and even braved the people of Kentucky to pick up our new 14" Celestron telescope for the observatory. Thanks Al.

Just a quick update on outreach info:

- Club since 1984
- NSN Club Since: February 11, 2004 (21 years)
- Total events posted: 2,672
- Total events reported: 2,584
- Number of visitors reported: 238,104
- Upcoming Events: 55

Enough said.

How many of you attended a star party (1? 2? 3? 9?) over the last year? If you didn't you are missing out. Its the best way to see What's up, What's out there, to test drive before you buy, and to see the same sky (unless you go south to Florida or Texas) that is directly above your head without a lot of light pollution (not enough time, web space and blood pressure to go into this). You need to go see what a DARK night sky looks like. (continued on next page)

## Message from our Society's President—Continued

To see Jupiter or Venus cast a shadow, To get confused about the constellations because there are TOO MANY stars, To walk underneath some trees at night and notice that it got dark REALLY DARK. Almost all of them have daytime events, speakers and alternative programing (beer and cards) for cloudy nights. Over the years I have attended 10+ different ones (Nebraska SP, Almost Heaven SP, Cherry Springs SP, Texas, SP Okie-Tex SP, and the York SP, just to name a few, OK to name 6) and 3 or 4 many multiple times. At each and everyone I have had a great time meeting, looking and talking with everyone about everything. One day when I finally get OLD and retire I'll probably take the tour bus and visit as many as I can over the year. Anybody ready to join me in that Quest?

Last but not least is my time as your Grand Poo-Baa, Potentate, Exalted Leader, and Elected President (you had the chance to put someone else in here) is coming to an end (YEAAAAAAAAAAAHHHHHHH), That wasn't me. So as my last act of domination I'm going to ask someone to Step up, Dive in, and repair everything I did or didn't do (Statute of Limitations has expired on some of my past transgressions). No experience needed (I showed you that). Our club is on the cusp of greatness, we have the chance to Make WASI Great Again (again?). We just need a figure head who will "YES" stamp all of my Future suggestions, Ideals and Changes. IF you are that person RUN! (Not ,Run for Office, But Run, as in away). Being President is one of the most rewarding things I've done. I'm sure that you (the next president, Dictator, King) will inspire, lead, and drag us into a better future (unless either the Terminator or the Matrix happens or has happened). Thanks for stepping in (it).

I warned you "I'm a Rambling Man".
Until Next Time..... Astronomy is Looking Up!
Skip

## WASI News

Our next **membership meeting** is October 8. Alan Goldberg will talk about Russell Porter, a fascinating 20th century character with an out-of-proportion impact on astronomy. Along the way, he reinvented himself several times. Trained as an architect, he became an explorer and then consummate designer & builder: first, by becoming the father of amateur telescope making in America and founder of Stellafane, then by his contributions to the design and construction of Palomar Observatory and the 200" Hale telescope.

We need your help! We're redesigning our **web site**, and would like some feedback from you, to be sure we're addressing members' concerns. Please take this 5-question survey: https://forms.gle/E8R7TRDQgMaqBjVB9 .

October 17 WASI Member Michael Mangieri will present a talk that will guide you through the celestial wonders that have fascinated humanity for centuries. Discover the mesmerizing diversity of galaxies. From majestic spirals adorned with radiant arms to enigmatic irregular shapes, each galaxy tells a cosmic tale. Peer into the heart of the Milky Way, our home galaxy, and unravel its secrets. What lies at the center? How do stars form in its spiral arms? Witness galactic collisions—a cosmic ballet where stars swirl and merge, forever altering their destinies.

This presentation is open to all, and WASI members can register at no cost (although you are free to support the Natural History Society of Maryland by using one of the other registration selections). It will be at Crosslife Bible Church, 2127 Old Liberty Rd W. Westminster, MD 21157. Registration is required: Natural History Society of Maryland - Unraveling the Mysteries of the Cosmos

## WASI News—Continued

This is WASI member Dan Packy explaining a map of the moon. This picture (taken by WASI Treasurer Laurie Ansorge) was featured on the cover of the October issue of Night Sky Network. Alas, due to budget cuts that publication has now ceased production.

The January meeting will have an **election of officers**. All positions are open. Skip, as president, is term-limited so can't run again. We definitely need someone to run for president, and if you are interested in any other office, do throw your hat in the ring. With the exception of Treasurer, these offices have reasonably light duties. Positions are: President, Treasurer, First VP, Second VP, and Secretary.

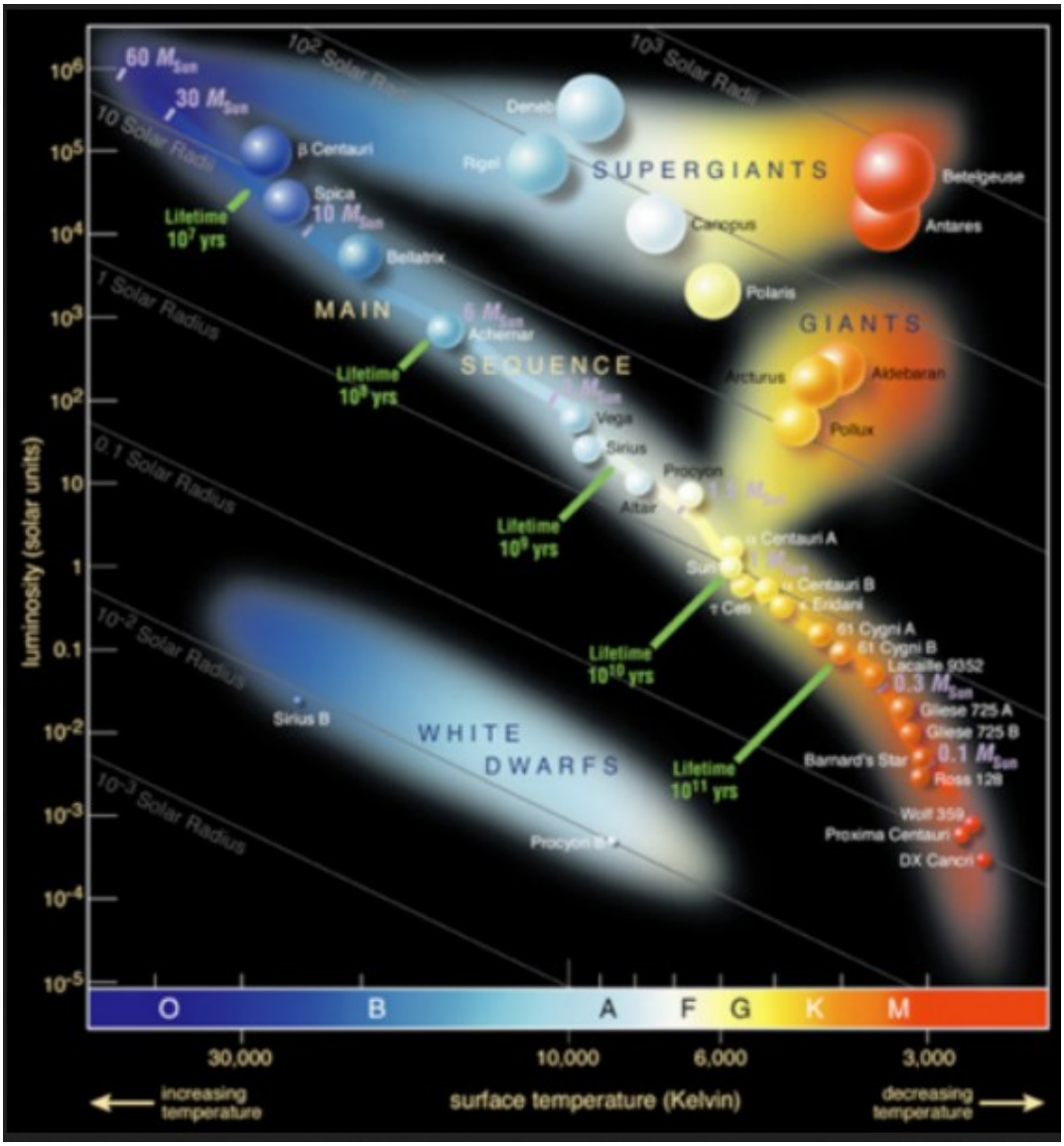
**October 17** join us at Finksburg Library for a talk about observing the sky and an observing session (weather permitting) afterwards. The library recently acquired two Seestar S50 telescopes we'll be demonstrating. This event is open to the public, so tell your friends and neighbors.

# Back to Basics—The Hertzsprung-Russell Diagram

Sirius is bright white. Arcturus red. Spica, bluish. The sky is full of stars of different colors, temperatures, sizes and brightnesses. In the early part of the 20th century Ejnar Hertzsprung and Henry Norris Russell independently found ways to classify these. Today, we use the eponymous H-R Diagram to illustrate relationships between different types of stars.

The diagram's vertical axis shows the stars' luminosity, generally in units of the sun's brightness. Higher is more luminous, and as you can see the range is enormous, going from a hundred-thousandth of the sun to a million times brighter.

The horizontal axis is usually surface temperature (or, sometimes, the color index). Often it will also include the spectral class, ranging from O (very hot) to M (cool; sometimes even cooler stars of class L and T will be included). The mnemonic Oh Be A Fine Girl/Guy Kiss Me is an easy way to remember the sequence.



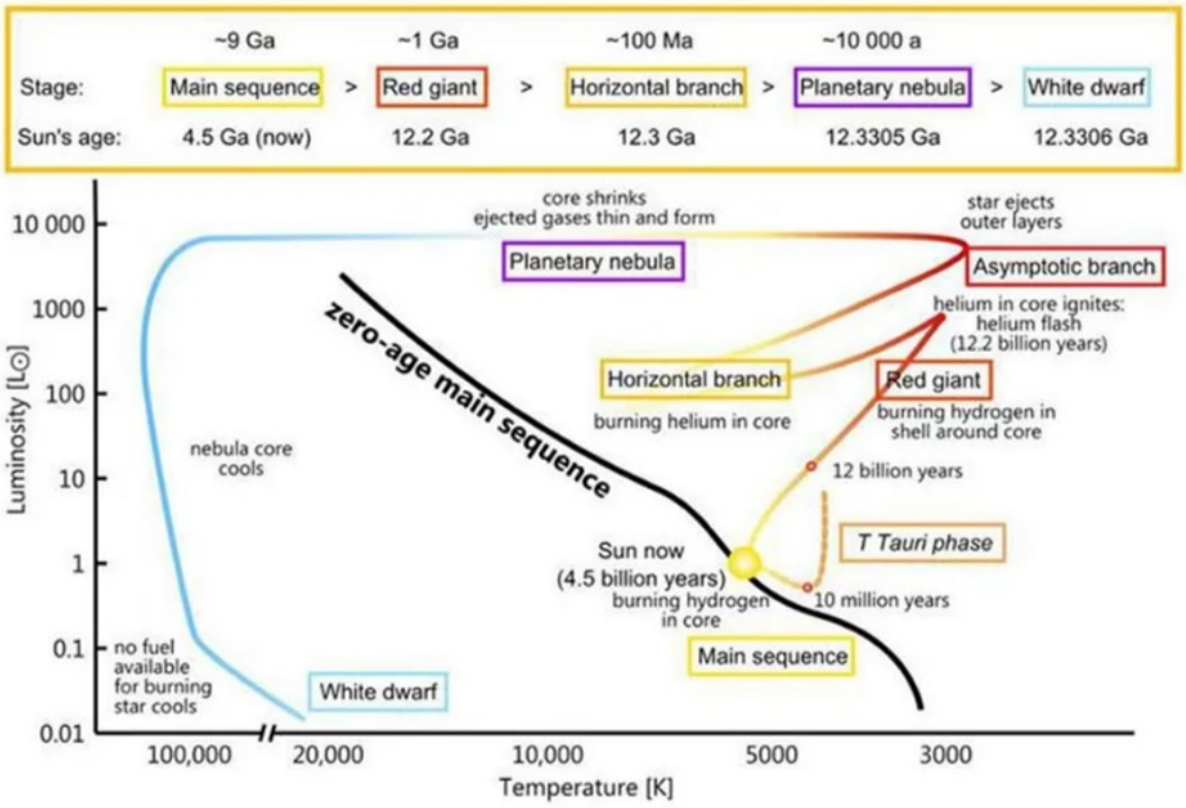

*The H-R Diagram. Our sun is a G star on the main sequence.*

## Back to Basics— Continued

Note the band running from the upper left to the lower right. This is the "main sequence." All stars therein are burning hydrogen in their cores. The furious fires of fusion convert hydrogen into helium at a temperature of about 15 million degrees. A small amount of that mass, about 0.7%, is converted to energy, the energy that lights up the stars and warms planets. Our sun, a pretty average G class star, fuses about 700 million tons of hydrogen per second into helium. Pretty mind-blowing.

Main sequence stars to the left of our sun are heavy and big. They have so much gravity that their cores fuse fast, and they live short lives (tens to hundreds of millions of years). Live fast, die young. Those to the right are much cooler, smaller, and live nearly forever. Red dwarves can exist for hundreds of billions of years; since the universe is 13.7 billion years old, none of these have fizzled out yet.

The giants, above the main sequence, fuse helium and heavier elements.




This version of the diagram shows the evolution of stars like our sun. After around 10 billion years on the main sequence the hydrogen at the core is gone. They expand into enormous red giants, and eventually start fusing helium into carbon and oxygen. The box at the top of this diagram shows the age in each phase; the stars evolve quickly, eventually blowing off much of the atmosphere as a planetary nebula (like M57), and finally giving up the ghost and fading into a white dwarf. Note that these are hot, but not luminous, as a white dwarf is small—Earth sized. There's no fusion going on; the heat is left-over energy from their active lives, and they will eventually cool and die as a cold, dark cinder.

Place a star on the H-R diagram and you'll know a lot about its life!

# Observing Notes—T Coronae Borealis

Thar She Blows! Or maybe not.

T Coronae Borealis, AKA T CrB, AKA The Blaze Star, is going to go nova sometime last year! Or maybe this year. A new paper predicts maybe in 2026. But sooner or later this very dim (magnitude 10, much fainter than one can see with the naked eye) will blossom into a mag 2 beauty, about as bright as Polaris.

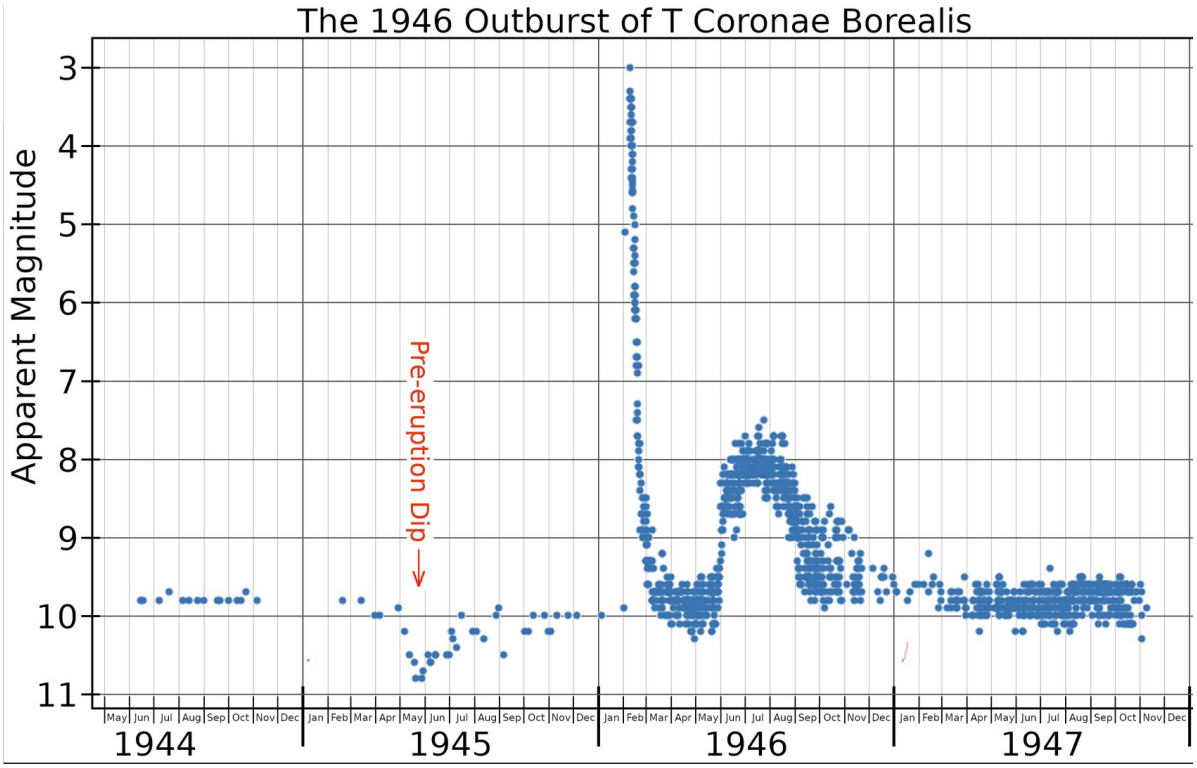
About every 80 years the star goes nova: it suddenly brightens immensely for a few days, and then fades back to its usual dimness. The last time was in 1946, and before that, 1866.

T CrB is a binary system composed of a white dwarf (as described above) and a red giant. The WD gravitationally sucks material from its huge companion, getting more and more massive. Eventually, there's so much mass that the star's atmosphere undergoes a thermonuclear reaction. It's an H bomb that makes Ivy Mike look like a firecracker. This is not a supernova, in which the entire star is destroyed or collapses into a neutron star or black hole. Only a mass equivalent to about one ten-thousandth of the mass of the sun is lost. But that's enough to put on a light show we can see from 3000 light years away.

You can get the latest data on T CrB here: https://apps.aavso.org/v2/data/search/photometry/?target=t+crb. This site logs its brightness many times per day. But pay attention as this once-in-80-year event will fade a few days after the eruption. See the following figure for its light curve during the 1946 event.

A recent paper (https://iopscience.iop.org/article/10.3847/2515-5172/ad8bba) estimates the eruption will occur on November 10th or June 25th. That's based on an observed pattern, not any underlying physics, so could be completely off base.

Astrophotographers should get some pictures of it in its quiescent state now!



# Astrophotos From Our Members

Two from Jackie Donaldson


Bryce Canyon. This looks like Al Ansorge hard at work!

The sun with a Coronado PST, a hydrogen-alpha (Hα) scope. Hα scopes only pass a very narrow slice of the spectrum at 656 nanometers, which helps isolate interesting flares and prominences.

## Astrophotos From Our Members

These are from Mikey Mangieri, taken with his C11 Edge HD, an ASI2600MM camera, on an Astro-Physics 1100GTO mount with Optolong filters. Software used included Corel Paintshop Pro, Pix-Insight, Russell Croman's xTerminator plug-ins, and NINA.

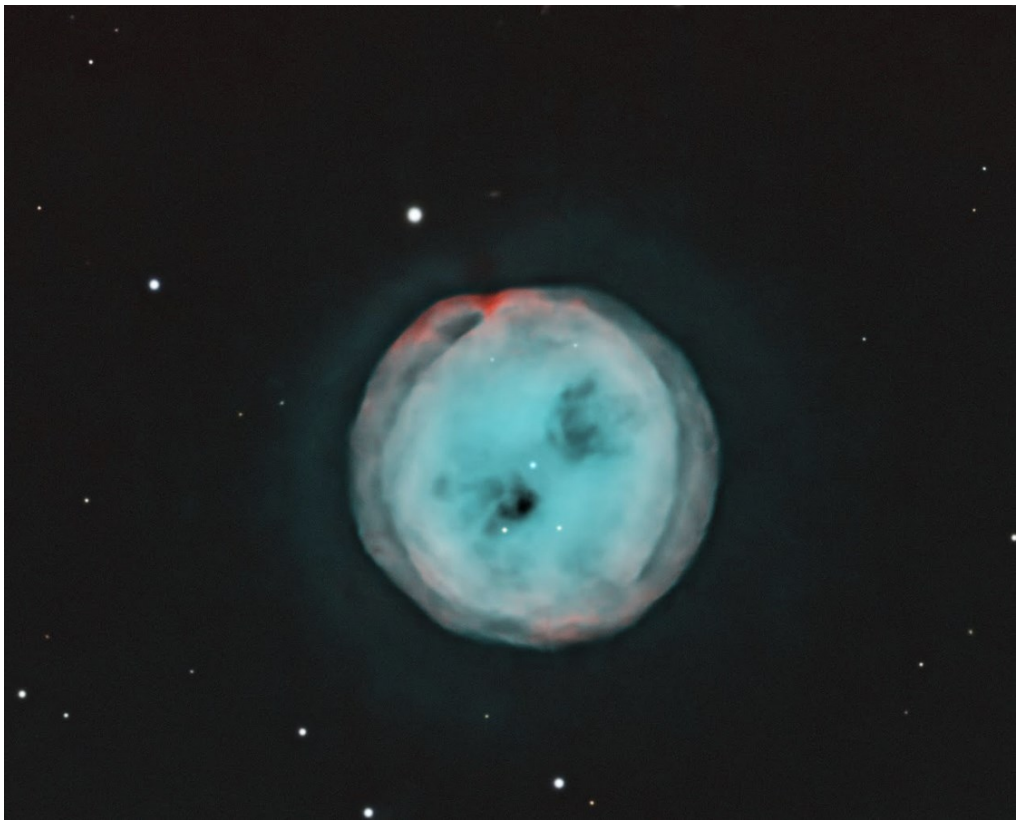
Abell 39—9h 27m exposure, RGB, OIII. Like the Hα filter described above, OIII filters transmit only a sliver of light, but at 501 nanometers. These are photons from doubly-ionized oxygen (i.e., missing two electrons).

Arp 269—5h 48m, LRGB

## Astrophotos From Our Members

More from Mikey Mangieri with the same equipment.

Jones-Emberson 1 (Headphone Nebula) 5h 55m RGB, Hα, OIII

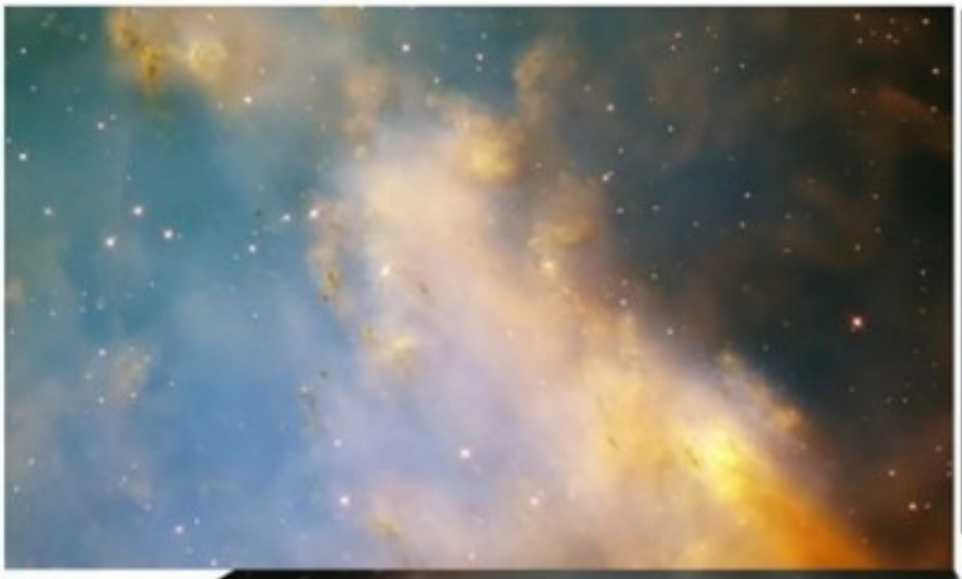


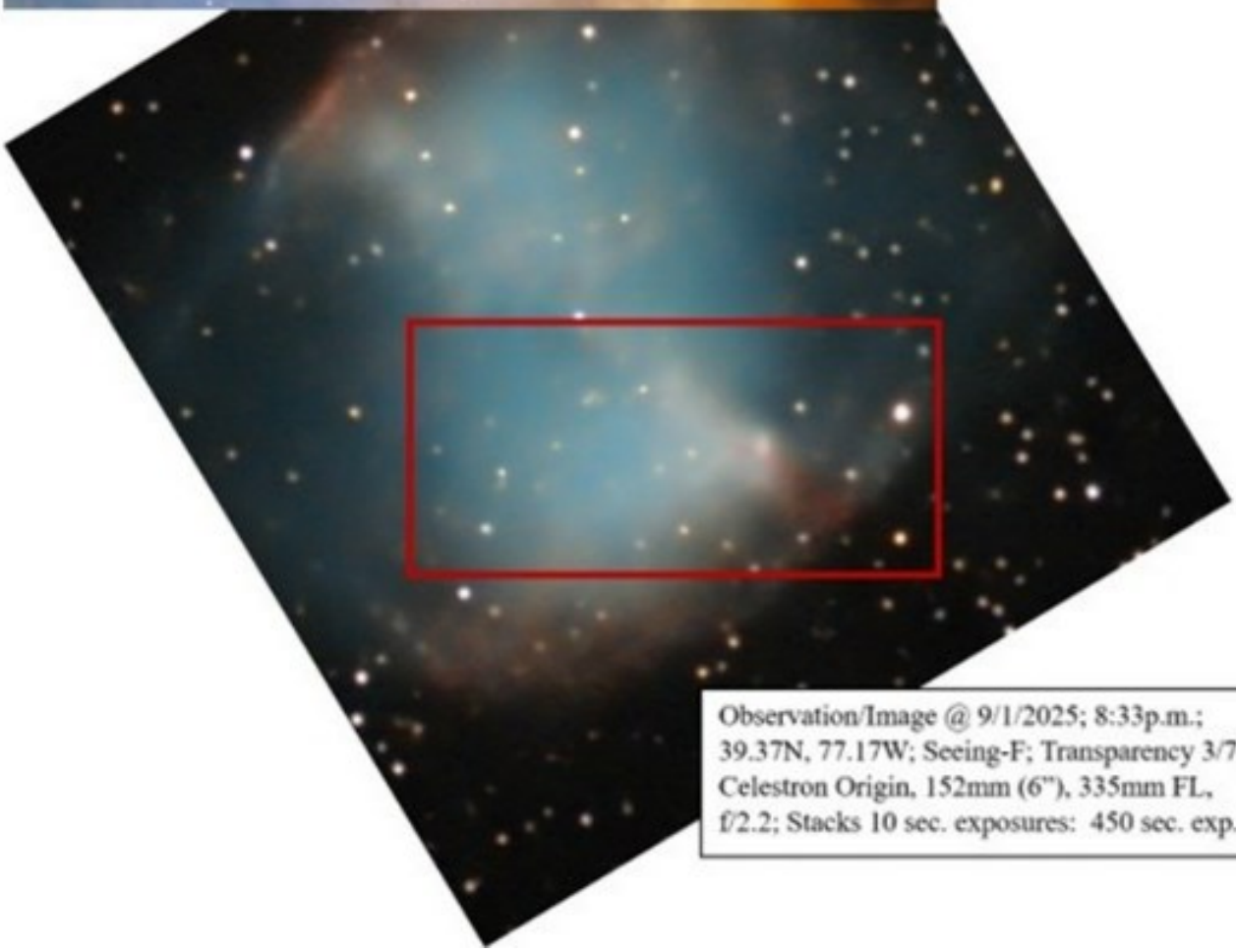
An incredible M97 - The Owl Nebula - 7h 39m, RGB, Hα, OIII

# Astrophotos From Our Members

Here's Laurie Ansorge's example of a Hubble Challenge Object.

**Hubble Telescope 35th Anniversary Observing Challenge** - Month: **September 2025**
Red Box indicates corresponding area of Hubble image.
https://science.nasa.gov/mission/hubble/science/explore-the-night-sky/hubble-messier-catalog/messier-27/



Observation/Image @ 9/1/2025; 8:33p.m.;
39.37N, 77.17W; Seeing-F; Transparency 3/7;
Celestron Origin, 152mm (6"), 335mm FL,
f/2.2; Stacks 10 sec. exposures: 450 sec. exp.

## Astrophotos From Our Members

More from Laurie Ansorge's collection of smart telescopes.

IC2162, Bright Nebula AL program #113; Celestron Origin

Comet c/2025 K1 Atlas w/ eVscope2

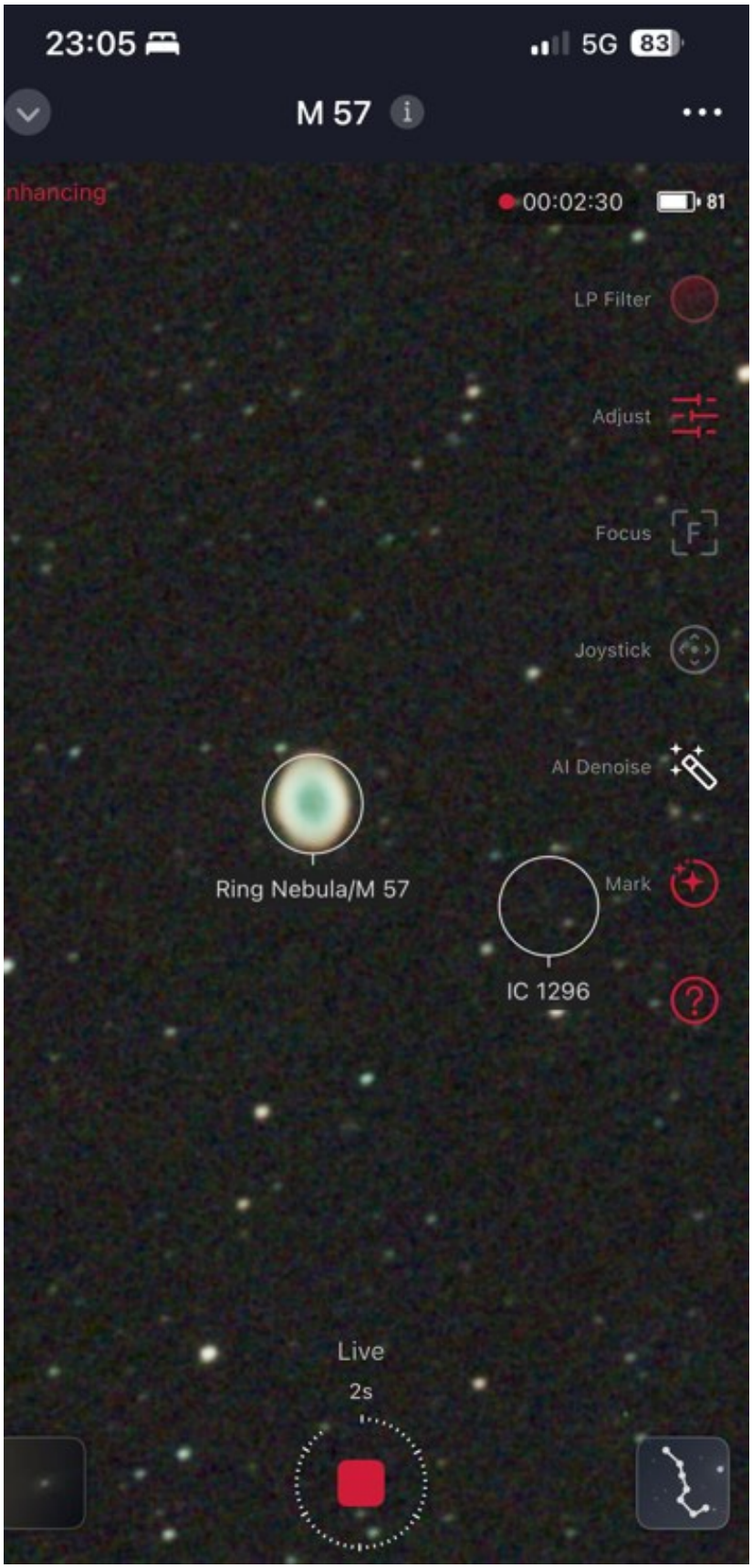
Herschel's Ray; Celestron Origin . This is a faint but interesting object.

## Astrophotos From Our Members

This is M31, M32 and M110 from Matt Orsie using his Seestar S50 in EQ mode. Five hours of exposure. Wow!

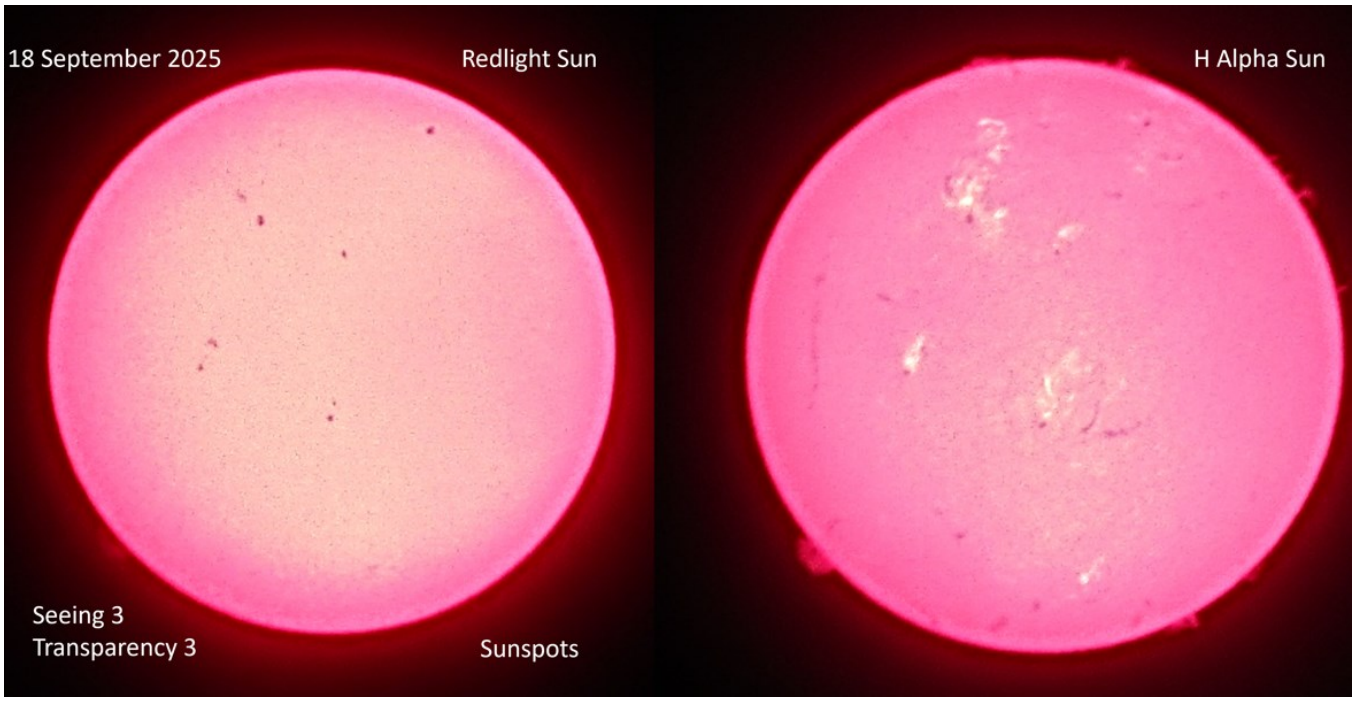
## Astrophotos From Our Members

Doc Desai's Seestar S50 snagged M57 and IC 1296.



## Astrophotos From Our Members

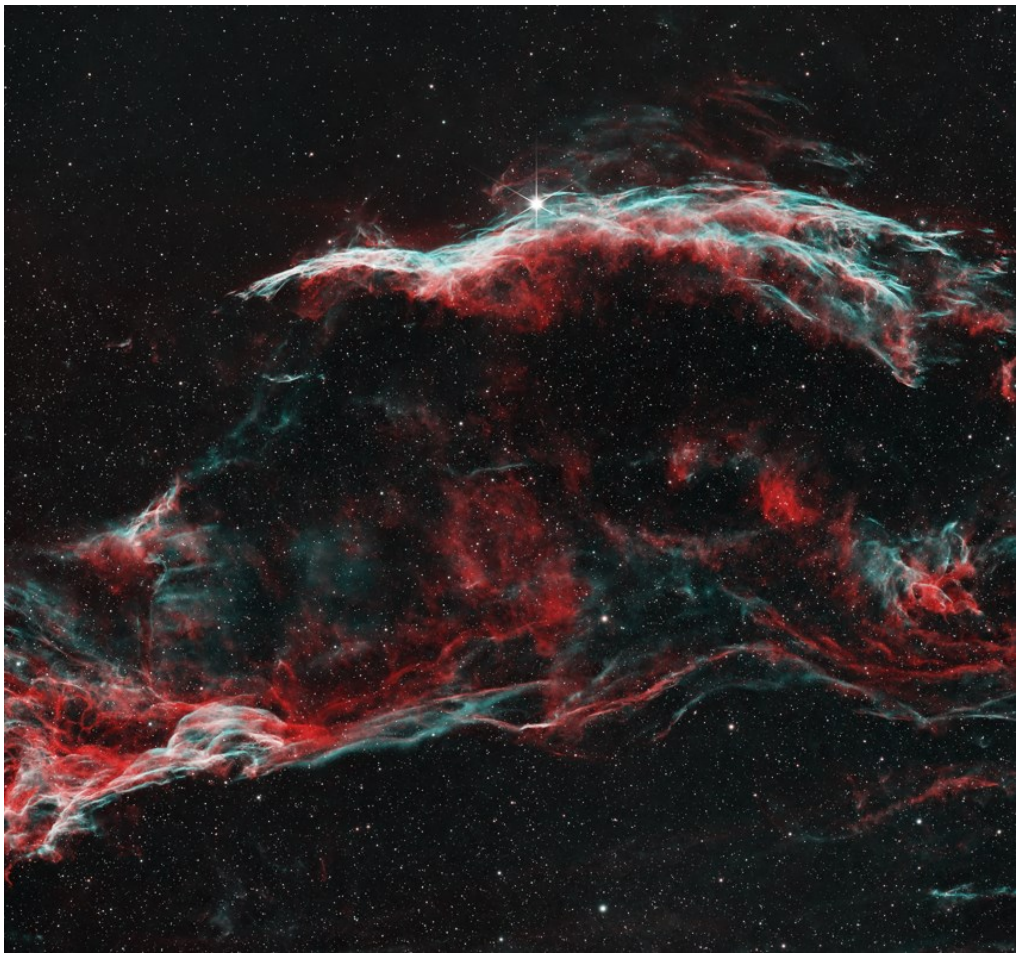
Jeffrey Kretsch has been posting a number of sun pictures to our observing email list lately. Here's the sun in normal light, and using a hydrogen-alpha filter. The latter really brings out the sun's activity. You can see more of his work at https://app.astrobin.com/u/jlkretsch#gallery .




Dave Weisman sent three pictures taken with an Askar 500 and ZWO ASIMM2600 camera using Optolong filters, all processed in Pixinsight. Here's his M16, the Eagle Nebula, with the pillars of creation at the center:

# Astrophotos From Our Members

Dave's stunning Western Veil Nebula:



And his M15 globular cluster:

## Astrophotos From Our Members

Here are two from Konstantin Vishnevsky using this Seestar S50. Both processed in PixInsight using various processes including the xTerminator tools, touched up in GIMP.

M27, 2 hours 10 minutes integration time.

NGC7293, 5 hours 20 minutes integration time.

# WASI FAQs

**Library** - Did you know we have over 700 books about astronomy in our WASI library? There are available to WASI members. Here's the complete card catalog: https://westminsterastro.groups.io/g/main/files.

**Loaner telescopes** - We also have a telescope lending library. If you'd like to borrow a scope, talk to Curt Roelle.

**Astronomical League** - All WASI members are also members of the Astronomical League. Check out their 80+ observing programs, many of which come with awards: https://www.astroleague.org/

**Newsletter** - Send pictures, articles, and ideas for the newsletter to secretary@westminsterastro.org.

**Facebook** - We're active and sharing images on our Facebook page, found here:

**Join/Renew** membership link: https://www.westminsterastro.org/join-wasi/

If you've already entered your contact information (renewing), skip the "database" link: https://paypal.me/WAstroSInc

Dues are payable via PayPal on the link above, by check or cash (and through your bank's on-line bill payment). Membership Dues are $25/year for individuals or family, and youth under 18 is $5/year.

- On time payment means eligibility for the annual incentive.
- Access to the club's observatory (after training).
- Keep access to the members-only groups.io pages/information
- Receive members-only access/notifications on Night Sky Network
- Keep/get discount rates for popular astronomy magazines
- Borrow from the WASI scope/literature library

**Files and club member correspondence & wiki links are found here: https://westminsterastro.groups.io/g/main**. Remember to set your communication preferences.

**Outreach/event** calendar is found on: https://nightsky.jpl.nasa.gov/index.cfm. Set your communication preferences here as well.

**Changed address, email or phone?** Please update your information and send a message to the webmaster and/or treasurer@westminsterastro.org.

We meet monthly on the 2nd Wednesday of the month:
Back to Basics from 7:00 PM − 7:30PM; General Meeting 7:30PM − 9:30PM
Bear Branch Nature Center Carroll County; 300 John Owings Rd.; Westminster, MD 21158
Website: https://www.westminsterastro.org/ (Zoom info for hybrid meetings)