



***"If the stars should appear but one night every thousand years,  
how man would marvel and stare." — Ralph Waldo Emerson***



## **President's Message**

*by Karl Adlon*

Help Us Help You!

At my first astronomy club meeting as a teenager, I sat there listening to people talk about things I barely understood. The science went right over my head. My interest in astronomy was much simpler—I just wanted to look through a telescope and see those pretty things in the sky. Mars was high on my list, though I later learned that really good views of Mars are actually quite rare.

A beginner joining our club today might feel a bit intimidated by the impressive astrophotography images shared in our emails. They're wonderful to see, and I enjoy them as much as anyone.

But astronomy is also about seeing things for yourself. CFAS - often with Jon's help - offers viewing sessions and telescope orientation at our Starfields observing site. And if you don't have a telescope yet, that's perfectly fine - there are always telescopes available to look through.

If you're new to astronomy, let us know how we can help.

What would you most like to see through a telescope?

**HELP Us HELP You!**



# Upcoming Calendar of Events

## April

- 01 8 PM - Zoom the CFAS Special Interest Group**
- 02 Full Moon
- 03 Mercury is at its greatest western elongation 28 deg
- 03 Club Observing @ Starfields, 05:30 PM (Full Moon Planets)
- 04 Club Observing @ Starfields, 05:30 PM (Full Moon Planets)
- 10 Last Quarter Moon
- 10 Club Observing @ Starfields - 7:00 PM
- 11 Club Observing @ Starfields - 7:00 PM

## 2026 Monthly Meeting Dates

April 12th  
May 3rd (moved due to Mother's Day)  
June 14th  
July 12th  
August 9th  
September 13th  
October 11th  
November 8th  
December 13<sup>th</sup>

## **Sunday, March 12**

**Gastronomy - 5 PM - McAlister's Deli**

**740 College Rd**

**Cape Fear Astro Monthly Meeting - 7:00pm – 9:00pm**

**Room 213 - DeLoach Hall; UNCW**

**Dr. Barbara Becker will share her astronomical history topic "Practicing Invisible Astronomy: Celestial Mechanics and the Discovery of Neptune".**

**Also simulcast via Zoom**

- 13 Mars-Neptune - 0.3 deg apart; 21 deg from sun; morning sky
- 17 New Moon
- 17 Club Observing @ Starfields - 7:00 PM
- 18 Club Observing @ Starfields - 7:00 PM
- 20 Mercury-Saturn - 0.5 deg apart; 23 deg from sun; morning sky
- 22 Lyrids Meteors: ZHR 18; waxing crescent moon
- 24 First Quarter Moon
- 24 Venus-Uranus - 3/4 deg apart; 26 deg from sun; evening sky
- 25 Public Observing - 6:40 PM to 9:00 PM - Carolina Beach State Park**
- 25 State Wide Star Party - 6:00 PM to 09:00 PM - Ingram Planetarium, 7625 High Market Street, Sunset Beach, NC 28468**

**Two Outreach Events Saturday, April 25  
Please help at one or the other if possible. Thank you!**

**Ingram Planetarium State Wide Star Party**

From their website <https://museumplanetarium.org/event/61627/> :

Join Ingram Planetarium and planetarium, museums and science centers across the state for a star party! As part of the Statewide Star Party, we will have telescopes set up outside of the Planetarium with activity stations both inside the Science Hall and outside the Planetarium. The Cape Fear Astronomy Club will be on site to help with telescopes and lead activity stations. In the case of rain or severe cloud cover, we will move all activities inside the Science Hall and we will present a star show in the dome theater.

This event is free and open to the public to attend. The Statewide Star Party is Part of the NC Science Festival happening across the state all month long.

The planetarium is located at 7625 High Market Street, Sunset Beach, NC 28468



**Carolina Beach State Park Public Observing**

This is our scheduled monthly event at CBSP – also April 25.

Below is a picture from our March event. The ground is mainly a light colored sand – not snow! At this point there were 11 attending and several more came later – a family of 4, another couple, maybe more – so at least 18. It was a little chilly and windy, so if the weather is better for April, we can expect more people to attend.

*On average, I find these CBSP events to be satisfying and worth the effort.*

*However, this March event was more than that. People were excited to see things in the telescopes, were talking about what they were seeing and asked about joining the Club.*



# Leo

by Jon Stewart-Taylor

Leo (the lion) is one of the prominent spring constellations in the northern hemisphere. It is an ancient constellation, listed in Ptolemy's 48 Almagest constellations. Greek and Roman mythology associate Leo with the Nemean Lion, killed by Hercules during his 12 Labors.

Leo is also a Zodiac constellation, so the moon will visit it once a month. The planets will wander in and out of Leo on their own schedules according to the interaction of the Earth's and their own orbits around the sun. If you see a bright "star" where it doesn't belong, it's likely a visiting planet.

Leo is fairly easy to recognize in the spring sky. In the clip from Stellarium from about 9:30 in early April, Leo is on the meridian, and high in the sky. It has three quite bright stars. Regulus ( $\alpha$ ), the brightest, is magnitude 1.3, and represents the heart of the lion. Regulus is a binocular double star.



Denebola ( $\beta$ ) is the tail of the lion at magnitude 2.2. Algebia ( $\gamma$ ) is the third brightest at magnitude 2.6. Algebia is a famous double star with two yellow-gold components.

In addition to the bright stars Leo contains a well-known asterism known as the Sickle (or Backward Question Mark). Algebia is part of the curve, and Regulus is at the end of the handle (or perhaps the dot in the Question Mark).

*Image generated by Stellarium on a Mac Mini.*

Leo is also the radiant constellation for the Leonid Meteor Shower, which usually peaks on 17 November. Most years the Leonids are a modest shower, with a fast meteor every 5 minutes or so. But, about every 33 years near the perihelion of the parent comet 55P Temple-Tuttle, the Leonids can produce meteor storms with many hundreds or thousands of meteors per hour. The next intense storms are predicted for the years 2033 and 2034.

Leo contains many galaxies. There are 4 Messier galaxies, and many NGCs. The famous Leo Triplet of M65, M96, and NGC 3628 is in the back legs of the lion. Another triplet contains M95, M96, and M105, and is about 1/4 of the way from Regulus to Denebola. M105 is actually in another, much more compact triplet with NGC 3379 and NGC 3384. In the image, M95 is at the top, M96 is at middle right, and the M105 compact triplet is at bottom left.

*Image by Jon Stewart-Taylor*



# Resurrection of an old friend - The story behind the 4" f/11 telescope I made circa 1989

by Perry K Moon

This is a picture of the 4" telescope along with a 10" Dobsonian telescope that I made around 1989. This photo was taken in Kankakee, IL at Astrofest.

This is the story behind the repurposing of this particular telescope to better align with my new found passion for astrophotography, yet to still give wonderful views of the planets and moon as it was originally designed and built with that primary purpose in mind. 🚀

"I recently decided to finally do something with a 4" f/11 Newtonian telescope that I designed and built 30 + years ago. The unique character of this scope was the reuse of an old cast steel and brass focuser, and a classic German mount given to me by the Perkins observatory director in Delaware OH at that time. The most unique feature in my design was the use of an optical window to mount the secondary mirror on vs a standard spider. This was intended to eliminate the usual diffraction spikes you see in most astrophotos. My reasoning was not really on target, as this is not really an issue on planets or the moon. Perhaps I had inadvertently anticipated being able to pursue my dreams of becoming an astrophotographer one day. Even though this scope was originally intended for planets & the moon, it never really got used more than a few times for that purpose. The year the above photo was taken, this telescope won an award at Astrofest for "Best use of re-cycled components & design", at the time awarded by Richard Berry, the editor of Astronomy Magazine.

I had it all reconfigured with a set of actual telescope rings and a vixen dovetail to rock-n-roll, but I quickly found out that due to the little short throw focuser I had originally used the camera would not focus. I built it to focus at a precise sweet spot for visual use. Unfortunately with a dedicated planetary / astro-camera it needed to be much closer to the secondary mirror to hit focus on the sensor. So the simplest solution I could think of was to move the main mirror in a little bit, pushing the focal plane outward. I decided at the same time I would replace the focuser with one that I had still in the box but had never used (originally for my 10" dobsonian focuser replacement). All that being said, I did this all the same day, re-assembled and collimated the telescope and used it that night for the first time as a longish focal length astrophotography telescope.



Images from that night, the first photos ever taken through this telescope.

**M104, NGC 4535, and NGC 3718**



# Isaac Newton and Edmond Halley

by Karl Adlon

Isaac Newton and Edmond Halley had one of the most productive partnerships in scientific history. Without Halley's persistence and financial backing, Newton's groundbreaking work might never have been published.

The collaboration began when Halley visited Newton at Cambridge in 1684 to ask a theoretical question: What shape would a planetary orbit be if gravity followed an inverse-square law? Newton immediately answered "an ellipse," claiming he had already calculated it. When he couldn't find his notes, he promised to redo the work and send it to Halley.

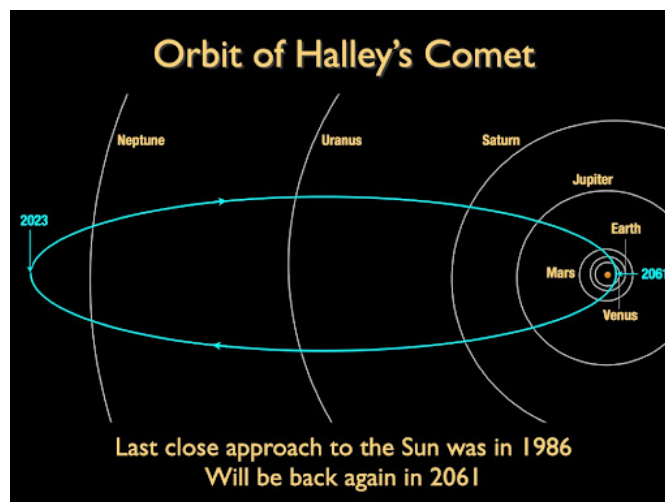
Newton eventually sent Halley a short treatise, which Halley recognized as revolutionary. Halley then:

- ★ Acted as Editor: He spent two years coaxing Newton to expand the work into a full book.
- ★ Paid for Publication: The Royal Society had run out of money (partly due to a failed book on the history of fish), so Halley paid for the printing of Newton's *Philosophiæ Naturalis Principia Mathematica* in 1687 out of his own pocket.
- ★ Proofread and Promoted: He corrected the proofs and wrote a Latin ode in Newton's honor for the preface.

## Proving the Theory with the Comet

Halley used Newton's new laws of motion and gravitation to study historical comet sightings. He noticed that the comets of 1456, 1531, 1607, and 1682 followed almost identical paths.

Applying Newton's physics, Halley realized these weren't different comets, but the same object returning periodically. In 1705, he used Newton's math to predict the comet would return in 1758. When it appeared exactly as scheduled (years after both men had died), it provided the first "real-world" proof that Newton's laws applied to objects beyond Earth.



That's 35 years from now!

## Under the (POD) Dome

*by Jon Stewart-Taylor*

We recently upgraded the Celestron C11 HD with a new RACI (Right Angle Correct Image) finder scope. When it was first installed I couldn't get it aligned with the main scope. On March 21 I tried again.

After resetting the base screws I was finally able to get it aligned with the main scope. Before it got dark enough to do an alignment on the Atlas mount I manually found the moon and Venus, partly to zero-in the finder, and partly for a quick look to see how the scope was cooling. Especially with the scope pointed high in the sky the right-angle part of the new finder made the scope an order of magnitude more usable.

The scope may need to be collimated, because although the moon looked very good, I couldn't get Venus to focus into a clear crescent. Although the 32mm eyepiece gave quite nice views, when I popped in a 20mm it wouldn't focus stars to pinpoints. Anyone have any experience collimating SCTs?

Once it got dark enough to see some stars I told the Atlas to do a two-star alignment (Sirius, and Ruchbah in Cassiopeia). The alignment wasn't perfect, but it was good enough to put some of the objects in the 1/2 degree main scope field of view, and all of them within the finder FOV.

After verifying the alignment by going to Venus and the moon again, I started the "Tonight's Best" tour in the hand-paddle. Almost all of the objects were found with minimal fuss. The open clusters looked very good. The larger nebulae and some bright galaxies also looked good, but only if they were out of the Burgaw sky-glow to the east. Low-surface-brightness objects would fade or disappear in the muck.

A couple of notes:

The tour bounced all over the sky which necessitated rotating the dome back and forth, sometimes even a full 180°, to give the scope a clear view. It will probably be a good idea to make an observing plan ahead of time to reduce the distance the scope travels, and the amount of dome-spinning.

Unless you can't avoid it, try to wait for objects in the east. to rise out of the Burgaw skyglow. It is by far the worst light pollution visible at Starfields, and will severely impact low-surface-brightness objects.

The scope and mount are still somewhat complicated equipment. We'll be happy if you'd like to use it, but unless you have experience with SCTs on computerized equatorial mounts, you should "apprentice" to one of the experienced members to learn the ropes before you try it alone.

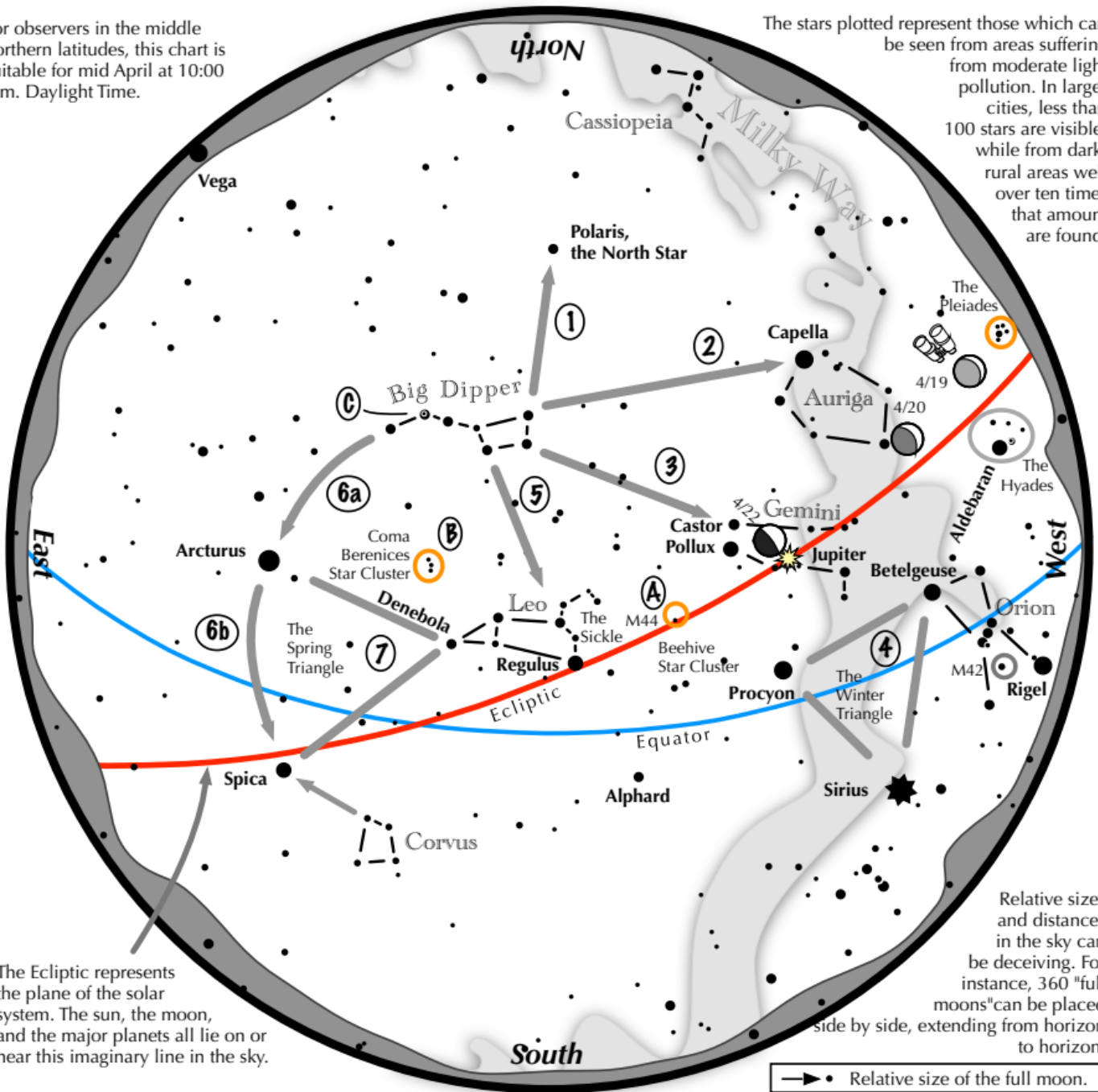
This observing session showed that the POD, C11, and Atlas are now ready for prime-time. Many thanks to Hank Lyon for all the time and effort he put in to bringing the project to completion.

# 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!**

[www.astroleague.org](http://www.astroleague.org)

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.



# Get to Know YOUR Astronomical League



The Astronomical League (Astroleague or AL) is one of the largest amateur astronomical organizations in the world. The organization serves to encourage an interest in astronomy (especially amateur astronomy) and promote the science of astronomy by:

- ✓ *fostering astronomical education;*
- ✓ *providing incentives for astronomical observation and research;*
- ✓ *assisting communication among amateur astronomical societies.*

CFAS is one of over 300 member societies affiliated with the Astroleague. Your membership in CFAS allows you take full advantage of this relationship so periodically review the AL links below to see how the Astroleague can support your astronomical interests and endeavors.

Astroleague Home Page	<a href="http://www.astroleague.org">www.astroleague.org</a>
Astroleague YouTube Channel	<a href="https://www.youtube.com/channel/...">https://www.youtube.com/channel/...</a>
AL Observing Programs <i>(Alphabetical Listing)</i>	<a href="https://www.astroleague.org/alphabeticobserving/">https://www.astroleague.org/alphabeticobserving/</a>
Night Sky Tools	<a href="https://www.astroleague.org/navigating-the-night-sky-guides/">https://www.astroleague.org/navigating-the-night-sky-guides/</a>
<b>Remembering Al Nagler</b>	<a href="https://www.astroleague.org/wp-content/uploads/2025/10/Nagler.pdf">https://www.astroleague.org/wp-content/uploads/2025/10/Nagler.pdf</a>
Current and Past Issues of <i>Reflector Magazine</i>	<a href="https://www.astroleague.org/reflector/">https://www.astroleague.org/reflector/</a>

Information: Click [HERE](#) for the Astroleague News Page and be sure to check the Astroleague Home Page weekly for new and important posts.

### **AL Related News, Information and Reminders**

**REMINDER - Beware of Fraudulent Emails appearing to originate from the AL.**  
Click [HERE](#) for more information.

Contact the CFAS ALCOR for any changes to your Reflector delivery preferences (US Mail, Email or Both).

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#### **CFAS Correspondence:**

Please contact the society at: CFAS, P.O. Box 7685, Wilmington, NC 28406

***Cape Fear Astronomical Society is a tax-exempt organization under Section 501(c)(3) of the Internal Revenue Code.***

#### **CFAS Officers:**

President:	Karl Adlon
Vice-Pres:	Damain Smith
Associate VP	Alan Hilburn
Secretary:	Jon Stewart-Taylor
Treasurer:	Ben Steelman
ALCOR	Ben Steelman

**Dues:** Dues for 2026 are \$25 for Individual and \$32 for Family Membership. Students dues are \$5 per year.  
Mail to: CFAS, P.O. Box 7685, Wilmington, NC 28406  
Or you can pay electronically by following this link: <https://www.capefearastro.org/payment.htm>

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