Observations

A Monthly Publication Of The
CHESTER COUNTY ASTRONOMICAL SOCIETY

Vol. 34, No. 5 ***Three-Time*** *Winner of the Astronomical League's Mabel Sterns Award ☼ 2006, 2009 & 2016* *May 2026*

In This Issue

Membership Renewals Due

05/2026	Blessing
	Cunningham
	Kagel
	Malkan
	Mulhall
	Nigro
	O'Hara
	Ostanke
	Quinn
06/2026	Bremser
	Crabb
	Curry
	Dhargalkar
	Harris
	Hebding
	Lindtner
	Mazziotta/Calobrisi
	McCausland
	Myers
	O'Neill
	Scott
	Thomas
07/2026	Hunsinger
	LaRocca
	Piehl
	Rauenzahn

Artemis II in Eclipse

Captured by the Artemis II crew during their lunar flyby on April 6, 202 the Moon created a solar eclipse with 54 minutes of totality and extending the view far beyond what is possible from Earth. Image courtesy NASA.

May 2026 Dates

1st • Full Moon, the Flower Moon (1:23 p.m. EDT).

3rd • Venus passes 7° north of Aldebaran, 3 a.m. EDT.

6th • Eta Aquariid meteor shower peaks.

9th • Last Quarter Moon (5:10 p.m. EDT).

14th • The Moon passes 5° north of Mars, 9 p.m. EDT.

16th • New Moon (4:01 p.m. EDT).

18th • The Moon passes 3° north of Venus, 10 p.m. EDT.

23rd • First Quarter Moon (7:10 a.m. EDT).

31st • Full Moon, Blue Moon (4:45 a.m. EDT).

CCAS Upcoming Nights Out

In addition to our monthly observing sessions at the Myrick Conservancy Center, BRC (for directions, see pg. 17), CCAS schedules special "nights out" throughout the year. Members are encouraged to help out during these events any way they can. See below for more information.

☼ Monday, May 11, 2026: CCAS Special Observing Session: Downingtown Library Astronomy Night, 7:00 PM - 8:00 PM EDT, Downingtown, PA.

☼ Saturday, May 23, 2026: CCAS Special Observing Session, Rushton Woods Preserve, 911 Delchester Rd, Newtown Square, PA 19073.

☼ Saturday, May 30, 2026: CCAS Special Solar Observing Session, STEMFest at the American Helicopter Museum & Education Center, 1220 American Blvd, West Chester, PA 19380. CCAS participation at the event is scheduled from 10:00 AM to 3:00 PM EDT.

For more information about future observing opportunities, contact our Observing Chair, Don Miller.

Spring/Summer Society Events

May 2026

11th • Downingtown Library Astronomy night. The event is scheduled from 7:00 to 8:00 p.m. EDT.

12th • CCAS Monthly Meeting in Room 112, Merion Science Center, WCU (as well as via Zoom). The meeting starts at 7:30 p.m. EDT. Guest Speaker: Kenneth Koeplinger, DVAA Outreach Chair & NASA/JPL Solar System Ambassador. His presentation is titled "Stars & Stripes in the Sky: U.S. Astronomy at 250 Years."

15th • West Chester University Pre-Recorded Planetarium Show: "Oasis in Space" in the Schmucker Science Building. The show starts at 7 p.m. EDT and runs approximately one hour in length. For more information and reservations, visit the WCU Public Planetarium Shows webpage.

15th • CCAS Monthly Observing Session, Myrick Conservancy Center, BRC. The observing session starts at sunset.

20th • Open call for articles and photographs for the June 2026 edition of Observations.

23rd • CCAS Special Observing Session, Rushton Woods Preserve, 911 Delchester Rd, Newtown Square, PA 19073.

26th • Deadline for newsletter submissions for the June 2026 edition of Observations.

30th • CCAS Special Solar Observing Session, STEMFest at the American Helicopter Museum & Education Center, 1220 American Blvd, West Chester, PA 19380. CCAS participation at the event is scheduled from 10:00 a.m. to 3:00 p.m. EDT.

June 2026

12th • CCAS Monthly Observing Session, Myrick Conservancy Center, BRC. The observing session starts at sunset. Rain date: June 13th.

20th • Open call for articles and photographs for the July 2026 edition of Observations.

20th • CCAS Special Solar Observing Session, Wolf's Hollow County Park, 1399 Schoff Rd, Atglen, PA 19310.

22nd • Downingtown Library Loaner Scope Talk #2, 122 Wallace Ave, Downingtown, PA 19335. The event is scheduled from 7:00 to 8:00 p.m. EDT.

26th • Deadline for newsletter submissions for the July 2026 edition of Observations.

26th • Friday Night Lights, ChesLen Preserve, 1199 Cannery Road, Coatesville, PA 19320. The event is scheduled from 7:00 to 10:00 p.m. EDT.

April 2026 Meeting Minutes

by Bea Mazziotta, CCAS Secretary

- The April meeting of the CCAS was held on Tuesday April 14, 2026 in person at WCU, and via Zoom and YouTube.
- Club President Dave Hockenberry welcomed attendees.
- Don Miller, Observing Chair, reviewed some April night sky observing highlights including the Lyrid meteor showers, lunar craters and planetary viewing opportunities. He went over upcoming club observing events both night sky and solar. Go to CCAS.US for details.
- Don also informed members about the Hubble Night Sky Monthly Challenge. Link for details at https://science.nasa.gov/mission/hubble/science/explore-the-night-sky/hubbles-night-sky-challenge/
- Dwayne Myers gave a presentation on NEAF, the annual Northeast Astronomy Forum. He recently attended the 2026 Forum and gave the group a detailed overview of the event in general and his own experiences while attending.
- Bruce Ruggeri introduced the evening's speaker, Dr. Hiro Ono. He is an MIT PhD in Aeronautics and Astronautics who works at NASA's JPL as the group supervisor of the Robotic Mobility Group.
  - Currently he is the principal investigator of the EELS project whose goal is to create a versatile super intelligent robot for exploration of unknown environments. His presentation was titled - To Boldly Go Where No Robots Have Gone Before - Searching Alien Landscapes and the Search for Life Beyond Earth with Autonomous Robotic Probes.
  - In mankind's ongoing search for life beyond Earth robots are taking the lead, enabling exploration of and gaining access to environments too remote and inaccessible for mere humans.

May 2026 CCAS Meeting Agenda

by Bruce Ruggeri, CCAS Program Chair

Our next meeting will be held on May 12, 2026, in person at West Chester University's Merion Science Center, Room 112. The Science Center is located at 720 S. Church St., West Chester, PA.

Our guest speaker is Kenneth Koeplinger, DVAA Outreach Chair & NASA/JPL Solar System Ambassador. His presentation is titled "Stars & Stripes in the Sky: U.S. Astronomy at 250 Years."

Please note that inclement weather or changes in speakers' schedules may affect the program. In the event there is a change, CCAS members will be notified via e-mail with as much advance notice as possible.

As for future meetings, we are looking for presenters for the coming 2026-2027 season. If you are interested in presenting, or know someone who would like to participate, please contact me at programs@ccas.us.

May 2026 Monthly Meeting Featured Speaker

by Bruce Ruggeri, Program Chair

I am pleased to announce the in-person and Zoom May 2026 meeting for Tuesday, May 12th, beginning informally at 7:00 p.m. EDT, with the meeting program commencing at 7:30 p.m. EDT.

Our guest speaker, Kenneth Koeplinger, is the Outreach Chair for the Delaware Valley Amateur Astronomers Association (DVAA) and a NASA/Jet Propulsion Laboratory Solar System Ambassador

Title: Stars & Stripes in the Sky: U.S. Astronomy at 250 Years

Join us in celebrating 250 years of American discovery, innovation, and wonder under the same night sky that inspired the nation's founders. This seminar weaves together an introduction to the science of

Kenneth Koeplinger

astronomy with reflections on the history of U.S. exploration, highlighting key milestones alongside the cutting-edge discoveries shaping our understanding of the Universe today.

Bio sketch:

Ken recently retired from a career as a research chemist at Merck and Co. One of the greatest rewards of retirement has been the opportunity to devote more time to interests that once took a back seat to a busy 9–5 schedule.

Among these are astronomy and space exploration—fields that have inspired him since childhood. He is actively involved in volunteer outreach with the DVAA astronomy club and at the NASA Wallops Island Visitor Center in Virginia, and he serves as a NASA Caltech/ JPL Solar System Ambassador.

In addition, Ken works as an adjunct Chemistry instructor at local colleges, including Delaware Vally Community College, where he continues to share his enthusiasm for science and inspire others to explore.

May 2026 Light Pollution News Roundup

by Bill McGeeney, Host of Light Pollution News Podcast

Here's your monthly dose of updates affecting our nighttime environment. As a reminder, you can hear all of this, and more by heading over to LightPollutionNews.com and listening to our May Episodes: Reverse Vertigo and Trust Nobody, Check Everything. I bring on four guests: journalist Megan Eaves-Egenes; the creator of DarkSky-Sites.com, Barrington Russell; Statistician, Paul Marchant; and lawyer / researcher, Yana Yakushina.

This month, we had a great story from Andy Cochrane whom discovered the joy in running without light at night after his eyes adapted during a full moon run in Joshua Tree. It begs the question, when was the last time you took a stroll solely under the light of the moon, or even the milky way?

Elsewhere, Utah celebrated Dark Sky Month for the sixth year with one state park offering full moon paddle tours.

And did you ever hear of Nyepi? It's a Balinese holiday whereby people stay home, off the streets, and without electricity for 24 hours. The official reasoning is to prove to the evil spirits that the Earth is desolate and that they should just move along…oh and it's the only time on Earth a Bortle 9 becomes a Bortle 1.

Finally, as far as experiences go, there's a thing called "dusking." Apparently, it's a ritual of watching the sky transition from day to night with lights kept off. Somehow the Dutch claim ownership to it, not sure how, or why.

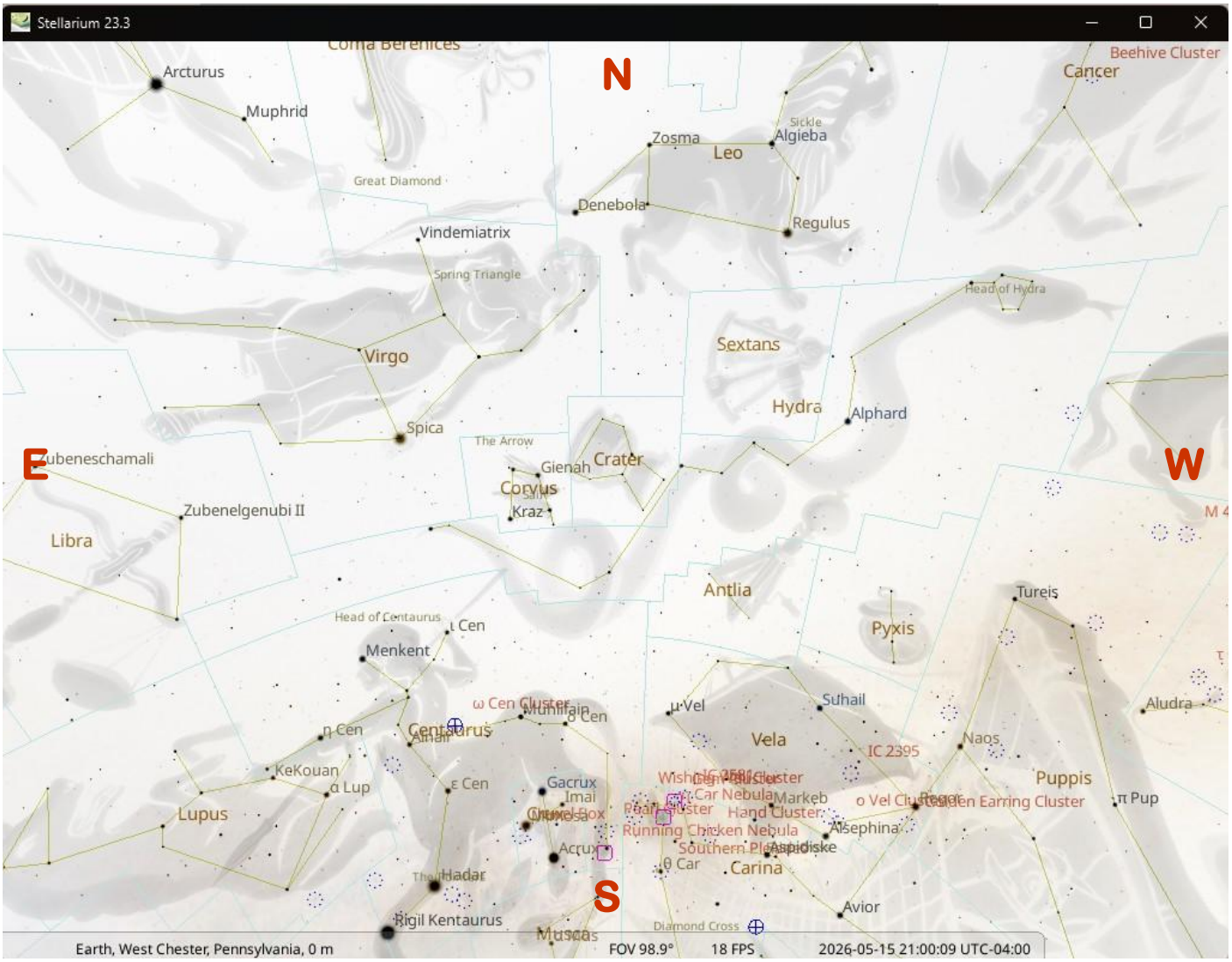
A study examined whether partial nighttime lighting benefited animals. Spiny toads exposed to partial lighting fled to shelters and shifted activity earlier in the evening, indicating circadian disruption. Pumas and

(Continued on page 7)

The Sky Over Chester County

May 15, 2026 at 9:00 p.m. ET

Note: This screen capture is taken from Stellarium, the free planetarium software available for download at www.stellarium.org.

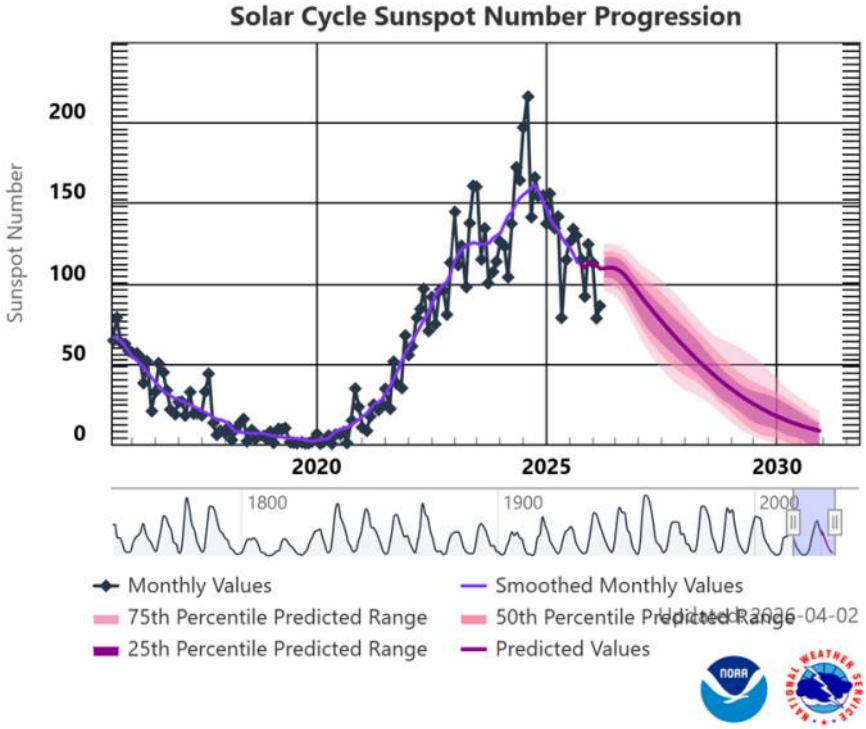


Date	Civil Twilight Begins	Sunrise	Sunset	Civil Twilight Ends	Length of Day
05/01/2026	5:33 a.m. EDT	6:02 a.m. EDT	7:57 p.m. EDT	8:26 p.m. EDT	13h 54m 38s
05/15/2026	5:16 a.m. EDT	5:47 a.m. EDT	8:10 p.m. EDT	8:41 p.m. EDT	14h 23m 37s
05/31/2026	5:04 a.m. EDT	5:36 a.m. EDT	8:24 p.m. EDT	8:56 p.m. EDT	14h 48m 12s

Moon Phases					
			Full Moon	05/01/2026	1:23 p.m. EDT
Last Quarter	05/09/2026	5:10 p.m. EDT	New Moon	05/16/2026	4:01 p.m. EDT
First Quarter	05/23/2026	7:10 a.m. EDT	Full Moon	05/31/2026	4:45 a.m. EDT

May 2026 Observing Highlights

by Don Miller, CCAS Observation Chair



nights this month. Jupiter continues to dominate the evening sky with Venus in the early evening. The winter constellations are saying goodbye and the summer ones are rising after midnight. It is a great bridge-time between these two seasons for astronomical viewing.

Sun:

The sun's activity is continuing on the downward side of the solar maximum for this cycle, but it is still showing a lot of activity. On April 20th for example, there were 11 flares (5 C- and 6 B-class). The latest cycle curve is presented at left. As the writing of this highlight, the sunspot number is 35, which is below the cycle average for Cycle 25. Minor geomagnetic storms and high-latitude auroras are still occurring. Go to https://earthsky.org/sun/sun-news-activity-solar-flare-cme-aurora-updates/ for the latest solar activity report.

Moon:

- Full Moon: 1 May
- Last Quarter: 9 May
- New: 16 May
- First Quarter: 23 May

The Artemis II mission was a wonderful success. On the cover of this month's newsletter is one of my favorite photos from that mission, one which shows a solar eclipse from behind the moon. Simply fantastic and ethereal. You can view the complete photo collection from this mission at this URL: https://www.nasa.gov/artemis-ii-multimedia/

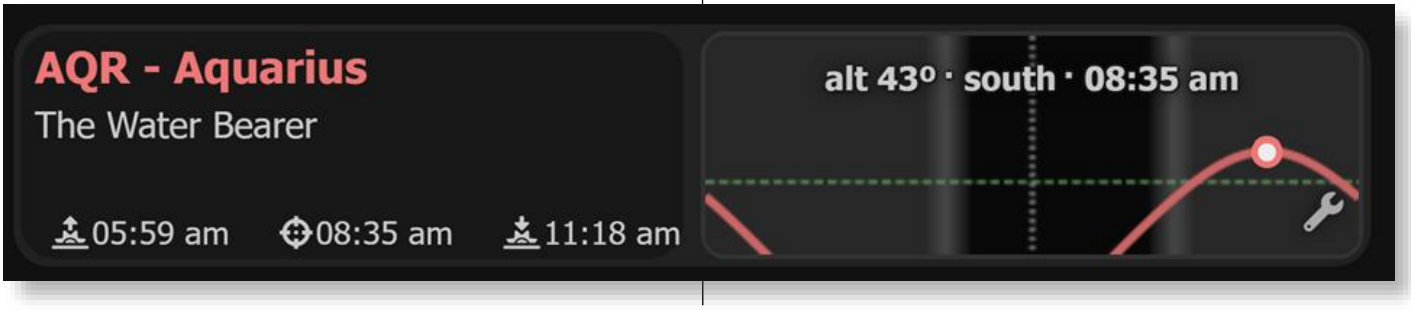
(Continued on page 7)

Key Events this month: We have a number of notable astronomical events this month.

The Psyche mission to its namesake asteroid (arriving in 2029) will make a course correction using a gravity assist around Mars this month. This craft is using an ion drive for propulsion (Hall-Effect Thrusters).

The eta-Aquarids peak on May 5th/6th this year. Unfortunately, the low angle for its radiant and the waning moon will be an issue (not to mention the weather that we typically have around here). The plot below shows the elevation of the Aquarius constellation so your only chance for a view of the meteor shower will be near dawn. The waning gibbous moon (88%) will not set until after sunrise.

Discussion: We had a fantastic night at BRCA in late April with clear skies and warm temperatures. Let's hope that we will have many more of those



Through the Eyepiece: Globular Cluster M3

by Don Knabb, CCAS Treasurer & ALCOR

As spring progresses our view of the night sky is once again beginning to turn toward the center of the Milky Way. That, of course, means it is globular cluster time! So grab your binoculars or your telescope and join the search for these treasures of the sky. On a dark night a good view of a globular cluster in your telescope will get a nice response from family and friends.

Messier 3, also known as M3 or NGC 5272, is a globular cluster in the constellation Canes Venatici. It was discovered by Charles Messier in 1764, and resolved into stars by William Herschel around 1784. This globular cluster is one of the largest and brightest, and is made up of around 500,000 stars. It is located at a distance of about 33,900 light-years away from Earth. M3 has an apparent magnitude of 6.2, making it barely visible to the naked eye under ideal, very dark conditions.

A globular cluster is a spherical collection of stars that orbits a galaxy as a satellite. They can contain anywhere from ten thousand to a million stars. These stars orbit the collective center of mass of the cluster in a veritable bee hive of motion, and the cluster itself orbits the Milky Way as a distinct object, occasionally plunging right through the main disk and out the other side. Although the cluster appears extremely dense, the distance between individual stars is actually quite large. As a result, stars within them rarely collide, and globular clusters survive relatively unscathed by their passage through the galaxy's disk.

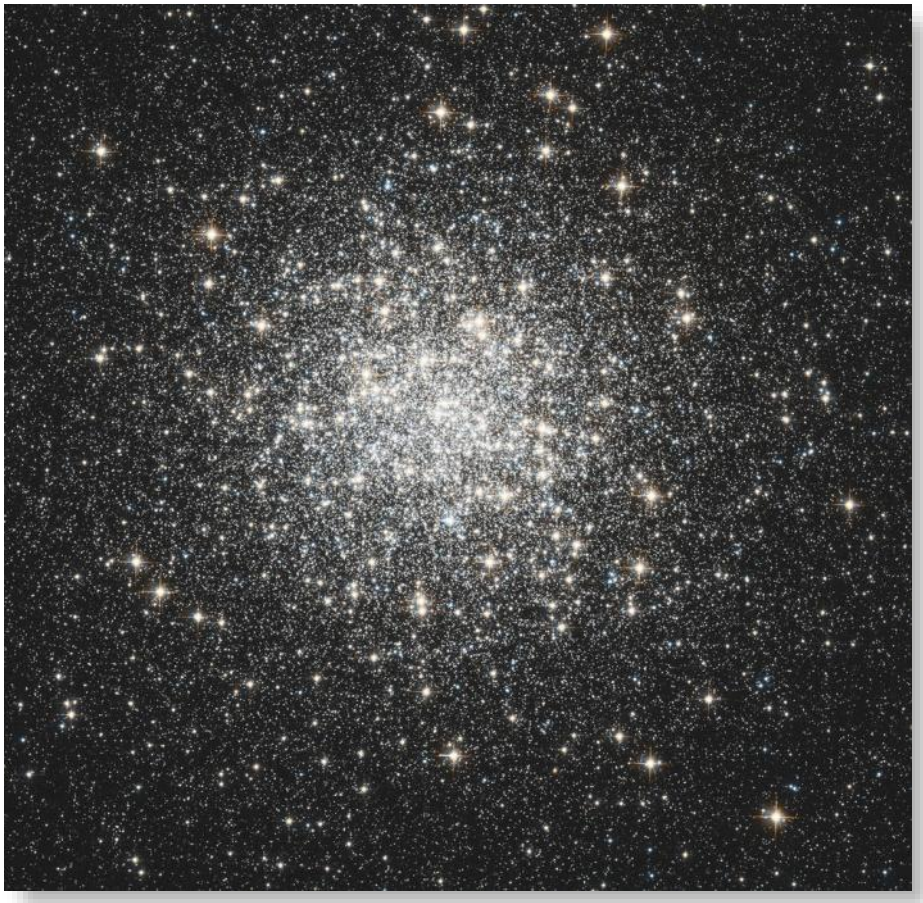


Image credit: Credits: NASA, ESA, STScI and A. Sarajedini (University of Florida)

It is interesting to contemplate what the night sky might look like if we lived on a planet revolving around a star in M3. Contrary to what seems obvious, one would not be dazzled by a sky swarming with stars. There might be a dozen or so stars much brighter than any we see and perhaps a hundred as bright as our brightest but it would still get dark out. However, as it would be lighter than our darkest skies, we might not have a clue about the dim galaxies and nebulae that lie outside our cluster.

Globular cluster M3 is extremely rich in variable stars, more than in any other globular cluster in our Milky Way galaxy. M3 also contains a relatively large number of so-called Blue Stragglers, blue main-sequence stars which appear to be rather young, much younger than the rest of the globular's stellar population would suggest. A mystery for a long time, these stars are now thought to have undergone dramatic changes in stellar interactions, getting their cooler outer layers stripped away in close encounters, which occasionally occur when stars are passing through the dense central regions of globular clusters.

M3 is visible to the naked eye only under ideal conditions and stays below the limit of visibility under more average conditions. It can be easily seen with the aid of binoculars or any telescope.

(Continued on page 16)

Observing (Cont'd)

(Continued from page 5)

Planets: (description below is for the 15th of the month at 8 p.m. EDT)

- Mercury: Not visible
- Venus: Visible, sets in the west 2 hours after the sun
- Mars: Rises in the east one hour before the sun
- Jupiter: Visible, sets 12:30 a.m. EDT
- Saturn: Rises 2 hours before the sun
- Uranus: Not visible

Top to bottom: NGC2392; NGC6543, NG6894

- Neptune: Rises 3:40 a.m. EDT

Select Night Sky Objects and Events:

One of my observing passions is viewing planetary nebulae. Their shapes, faint colors and knowing that I am looking at the remnants of a star as it returns gas to the interstellar medium is fascinating. Here are a few of my favorites for this month:

NGC2392 (Eskimo Nebula/ Clown Face Nebula) in Gemini. This gorgeous object has an incredible bipolar structure with a shell within a shell that can resemble a face within a parka (for some folks). It will look like a fuzzy bluish-green disk. Use of an OIII filter will improve your viewing. By mid-month, it will be approximately 30° above the southern horizon and sets by midnight. While you're looking in Gemini, check out the open cluster M35 but you'll need a good southern view, best with a wide-field view. NGC2158 is also nearby and is a more compact star cluster.

NGC6543 (Cat Eye Nebula) in Draco. This is a high surface brightness nebula that is easily seen, even in small scopes. The color is also bluish-green and an OIII filter will be helpful. This object has a nice high altitude (40°) at sunset and rising as the night progresses.

NGC6894 (little Ring Nebula) in Cygnus. A beautiful, small apparent ring that is 12th magnitude. You will need a scope of 8 inches or greater to find this one visually. This object will only reach a reasonable altitude in the sky after midnight.

Light Pollution (Cont'd)

(Continued from page 3)

bobcats avoided artificially lit areas while mule deer moved toward them presumably to stay close to humans for protection.

Bull ants in Australia navigate using polarized moonlight cues, and follow-up research revealed they possessed an internal lunar compass capable of predicting how the moon arcs over the night sky.

Black capuchin monkeys slept higher in trees during less moonlit nights. Researchers believed that this was caused by a sense of darkness elevating perceived predation risk, but I think it's because they just wanted to admire the milky way.

Global nighttime brightness increased 16% between 2014 and 2022, though actual brightening increased 34% offset by 18% dimming. While dimming included some responsible policies, much of it was due to less fortunate circumstances, including war and poverty. Global brightening, conversely, included the electrification of Sub-Saharan Africa.

New York's light pollution legislation made waves. Assemblywoman Debora Glick and State Senator Brad Holyman-Sigal introduced bills requiring all exterior lighting to be shielded after January 2028. Non-shielded fixtures must turn off between 11 p.m. and sunrise.

Response proved contentious. Some sensational news sources claimed that the bill enabled crime despite shielding requirements and no mention of lighting removal. Exemptions to the

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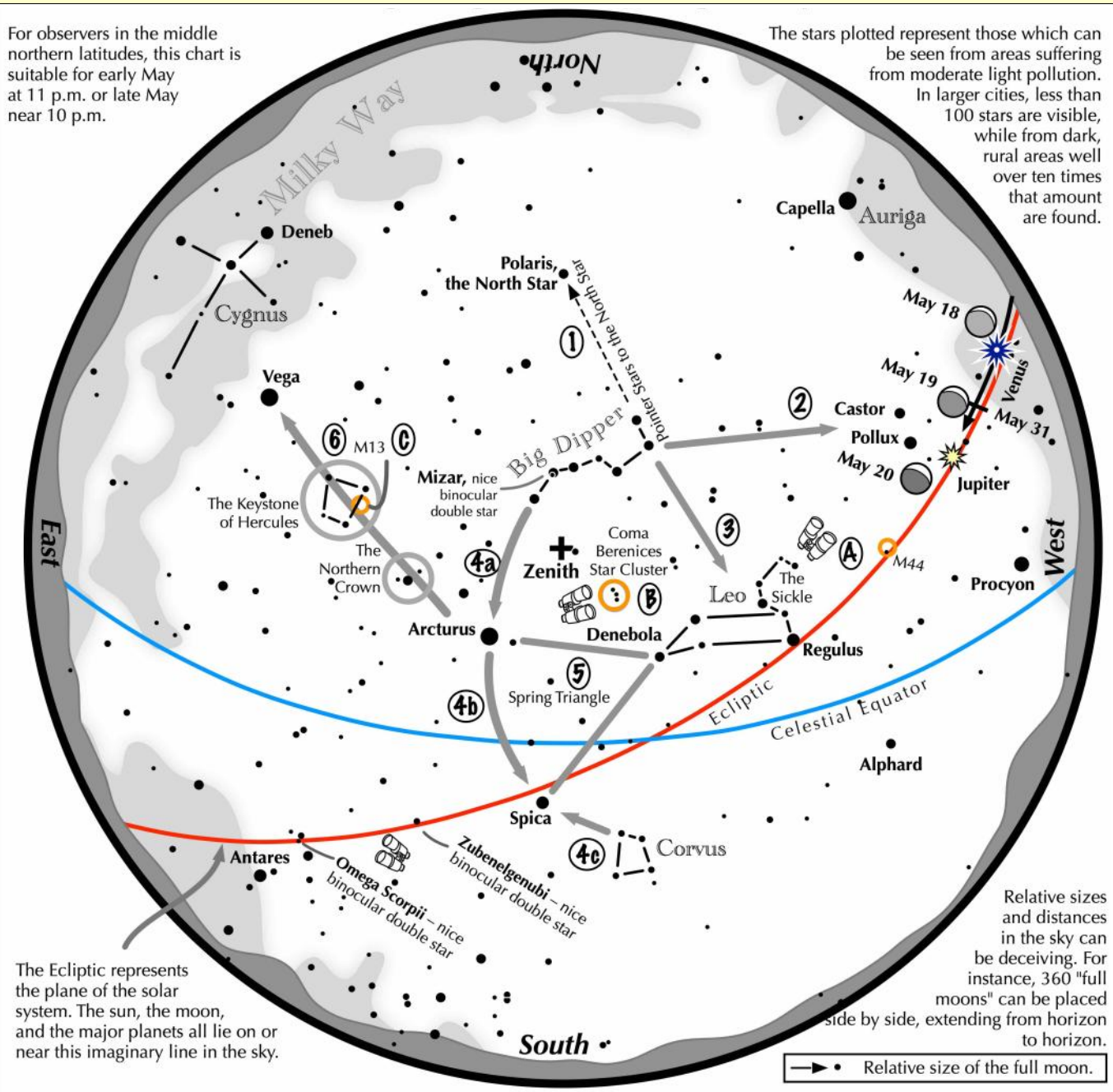
Navigating the mid-May Night Sky

courtesy of the Astronomical League



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

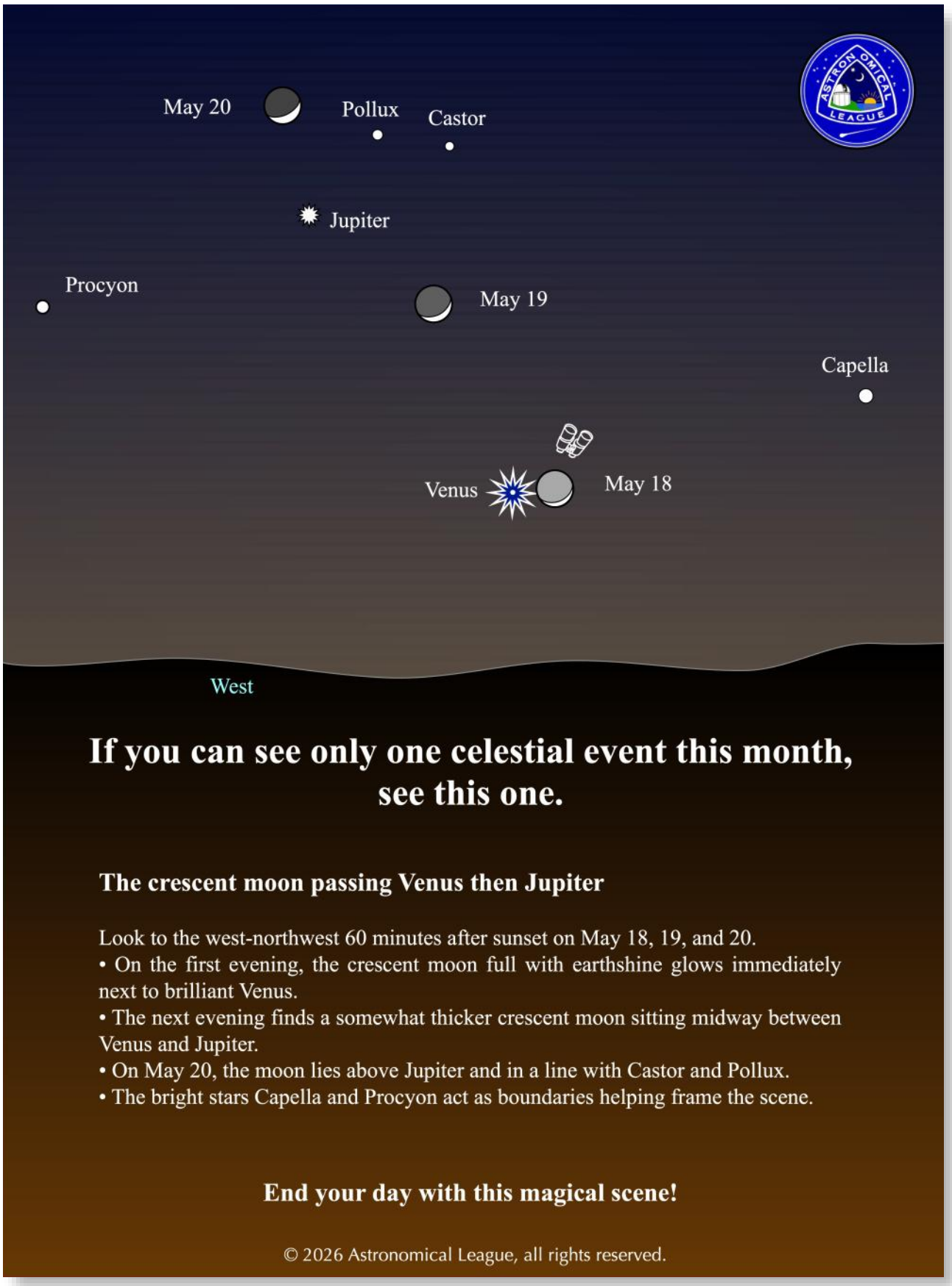
1. Extend a line northward from the two stars at the tip of the Big Dipper's bowl. It passes by Polaris, the North Star.
2. Through the two diagonal stars of the Dipper's bowl, draw a line pointing to the twin stars of Castor and Pollux in Gemini.
3. Directly below the Dipper's bowl reclines the constellation Leo with its primary star, Regulus.
4. Follow the arc of the Dipper's handle. It first intersects Arcturus, then continues to Spica. Confirm Spica by noting that two moderately bright stars just to its southwest form a straight line with it.
5. Arcturus, Spica, and Denebola form the Spring Triangle, a large equilateral triangle.
6. Draw a line from Arcturus to Vega. One-third of the way sits "The Northern Crown." Two-thirds of the way hides the "Keystone of Hercules." A dark sky is needed to see these two dim stellar configurations.

Binocular Highlights

A: M44, a star cluster barely visible to the naked eye, lies to the southeast of Pollux. **B:** Look near the zenith for the loose star cluster of Coma Berenices. **C:** M13, a round glow from a cluster of over 500,000 stars.

Astronomical League *www.astroleague.org/outreach; duplication is allowed and encouraged for all free distribution.*

Binocular Challenge for May 2026
courtesy of the Astronomical League



In Memoriam: CCAS Founder Ed Lurcott

by Cathy Buczynski

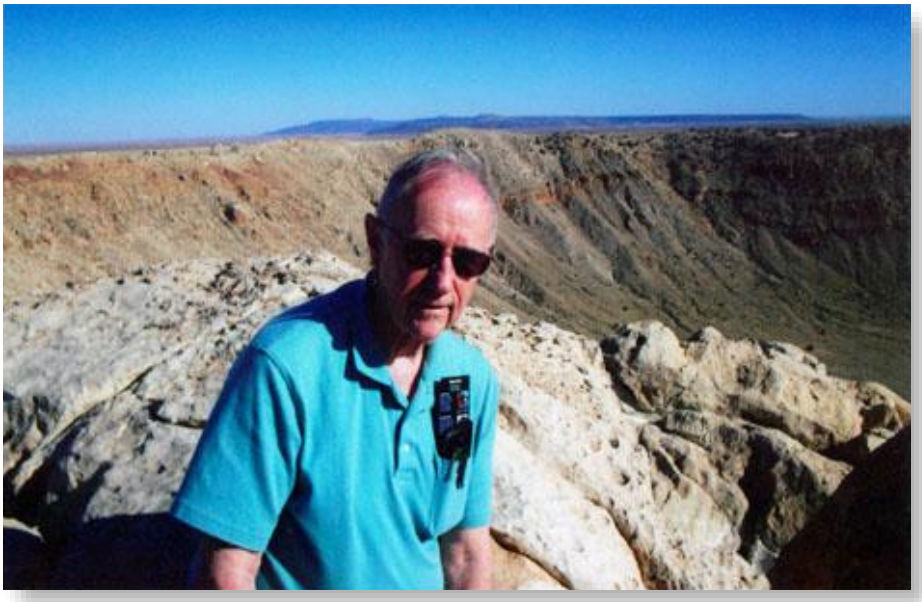
My name is Kathy Buczynski, I was privileged to speak at the service held for Ed Lurcott on April 17, 2026. I'm past President, Program Chair and Education chair at Chester County Astronomical Society, founded by Ed in 1993. I've known Ed since 1994 when I joined the club. I'd like to share some of the experiences I've had with Ed.

HOW I JOINED

In July of 1994, Jupiter was hit by a Comet, Shoemaker-Levy 9 and astronomy was the rage. All over the news. That summer the free *Community Courier* newspaper landed on my driveway and before I recycled it, I took a Quick Look. On the cover was a picture of Ed with his homemade telescope. The article inside was about the newly formed Chester County Astronomical Society and they were looking for new members. I called the phone number, and I asked what the club was all about, then I ASKED if I could join. He giggled and said, "Sure".

At first, Ed was holding meetings in his home but soon the club grew to about 40 members and the meetings were moved to the planetarium at West Chester University. Because Ed was an adjunct professor and helped refurbish their scope, we also had access to the telescope up on the roof.

In November of 1994 I joined the club and so our friendship began. At that meeting in the planetarium, the results were in on the logo competition and the winner was revealed. Four members submitted their drawings and the winner was—— Ed Lurcott. If you've seen the logo, it's a map of Chester County bisected with the latitude and longitude. Around the perimeter are the words, Chester County Astronomical Society and the map was superimposed with an eye looking through a telescope at a single star. The eye, he told us, represents the people of the club. (More on the logo to follow.)



Ed at Meteor Crater in May 2009 (part of a trip to Lowell Observatory)

ARTISTIC ED

Ed was quite the artist, and he amazed me with many of his sketches of his observations. He once showed me drawings of a star he was following for years. It was a double star in Cygnus. Ed especially liked double stars and often observed them and

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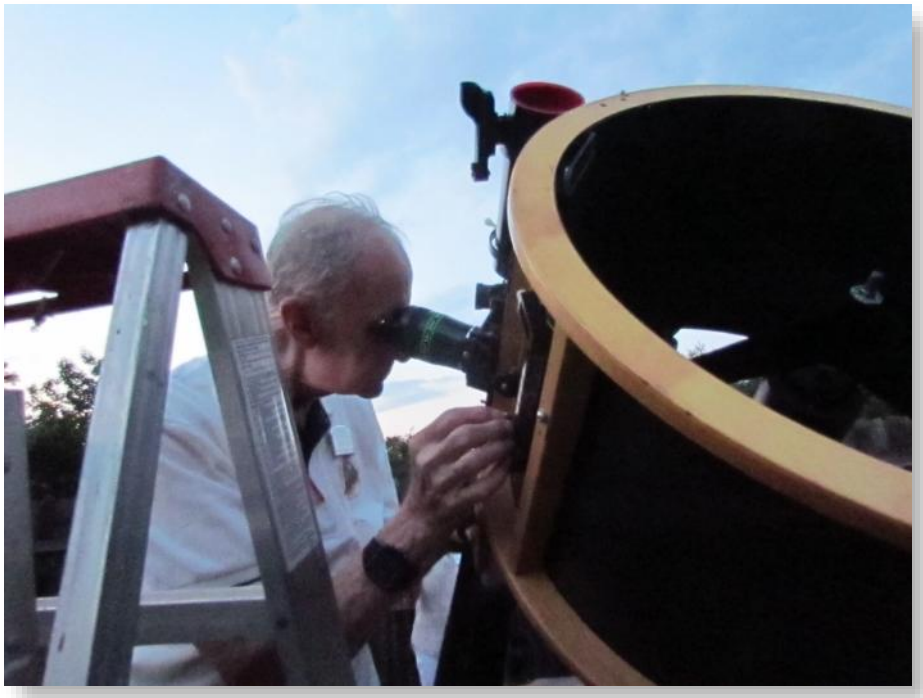
Ed waiting for nightfall, Public Observing Event, Ridley Creek State Park on June 27, 2009

In Memoriam (Cont'd)



Ed checking the setup with the finderscope on the 20-inch Dobsonian Telescope

(Continued from page 10)

drew them as their positions changed in relation to each other over time. This one had a big wobble on it relative to the background stars. He told me that he may have discovered a planet!!!!

I said, "Really!?" And he smiled and shrugged it off in his usual nonchalant way!

Here's another example of Ed's artistry: In January 1996, I went to Hawaii, and my friends indulged me in an observing session at a nearby hotel. The astronomer/host showed me a triangle of stars near Aldebaran in Taurus. These stars formed an equilateral triangle, and at each point were double stars (optical doubles).

Ed explaining the solar system, Space Adventure Week, Everhart Park in West Chester on June 27, 2007

When I came back home, we had a night out at Mt. Cuba, and I showed my new astronomy friends what I had seen when I was in Hawaii. Ed had never noticed this configuration of stars before and dubbed it "Kathy's Triangle". He drew me a revised logo, just for me, and instead of a single star at the end of the telescope, it was "my triangle". I treasure it.

ED AS OBSERVER

Ed's observations were iconic. Some of his favorites, as I remember, were the Andromeda Galaxy, M13, Double Cluster in Perseus, the ring nebula and lots of doubles, including Alcor and Mizar in the Big Dipper, the pretty Alberio pair in Cygnus and the Double-Double in Lyra. These became my favorites, too.

We were out observing at Springton Manor one night and Ed showed up with his brand-new telescope that his family had bought him. He loved it. (Prior to this, we'd always find him with his homemade Newtonian.) Well, he pointed this new scope at the double-double; a pair of stars that typically look like two stars in the eyepiece. But with the right conditions and a good scope and the right eyepiece, those two stars split into four stars perpendicular to each other. Ed had such excitement in his voice and seemed

(Continued on page 12)

In Memoriam (Cont'd)

(Continued from page 11)

like he couldn't wait to show me the best separation of it that he had ever seen. He was so happy with that telescope!

He was also encouraging of any observations others made, as well. One night, Barb and Don Knabb invited a few of us to their place in the Poconos for some observing, movie watching, and good food. The skies were dark, the seeing was great, atmosphere was steady. I've always heard that the North America Nebula was a binocular object (but not to be seen in the light-polluted skies of Chester County). I thought I'd give it a try and borrowed binoculars from Roger Taylor. With a steady hand and letting the photons hit my retina, I declared "I see Mexico!"

I was so excited I wrote an article for *Observations*, our club newsletter. When Ed read it, he told me that I had seen something he had never seen. It made my day! He was so encouraging of others and their observations.

ED AS EDUCATOR

After I had been in the club for few years, I wanted to do more outreach, so, with Ed's blessing, I became Education Chair and developed a curriculum for beginners in Astronomy to be taught by members of the club. Ed taught a class called "Spaceship Earth" which explained how the Earth relates to the rest of the solar system, why seasons exist, and why the sky changes with the seasons.

With his charm and enthusi-

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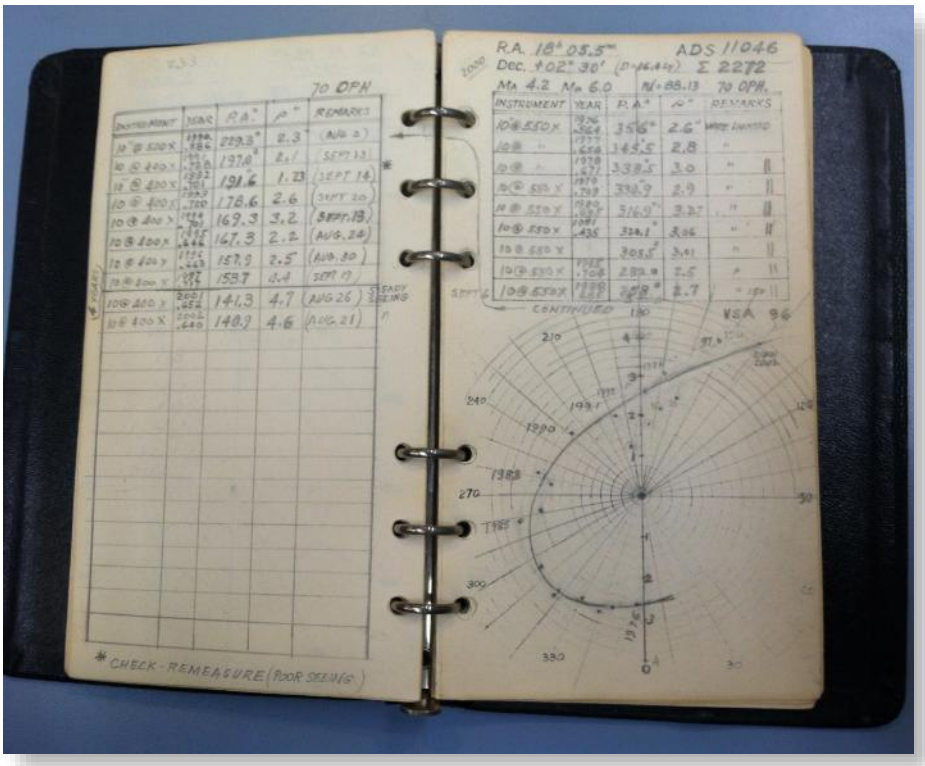
Ed and his Night Sky Network Award, issued in December 2023



Ed's Binary Star Notes

In Memoriam (Cont'd)

Setting up the Dobsonian at the Knabbs' Annual Summer Party

Ed Celebrating the 20th Anniversary of the founding of the Chester County Astronomical Society with then-President Roger Taylor, September 2013

(Continued from page 12)

asm and self-drawn illustrations, his class was one of the best. These classes, by the way, still exist through Chester County Lifelong Learning.

He always showed his patience when teaching. For instance, he tried to teach me how to find the Lady in the Moon. He'd point her out, and I could never see it. YEARS went by. "See the Lady in the Moon?" he'd ask and try to show me again. Next time we were out, "See the Lady?" Nope! Then one night I saw her! How could I have missed it?!?! Now I can't NOT see her. And every time I do see her, I think of him and the patience he had with me.

OUTREACH

Whenever we had a night out with the scouts or a school, he was always there. One of my favorite nights out was with a fourth-grade class in a school in West Chester. Ed brought his Orrery/coffee table. This was a box–maybe 3'x3'x1'–displaying a scale model of the solar system with a glass lid. He was inside the school with half the class explaining the model and Bill O'Hara and I were outside with the other half waiting for the skies to darken.

All of a sudden, I noticed that the sky was getting pink. Not in the west like a beautiful sunset, but in the north. We were seeing the Northern Lights! I was so excited because I didn't know they were expected.

I ran in to tell Ed, "We have the northern lights! He was ex-

(Continued on page 16)

In Memoriam (Cont'd)

Astronomical League Appreciation Award, August 2016

Night Sky Network Awards, April 2018, wit
lor, Frank Angelin

Ed was a real inspiration to me. For many years he and Stan brought the 20-inch scope to star gazing events, and he would help people look though it all evening. He set it up for several of our summer picnics. That was a big scope to handle, but he did it.

Ed was such a kind and quiet gentleman. I never saw him get upset with anyone. His knowledge of the night sky was amazing. He was an inspiration to everyone who knew him.

~ Don Knabb, CCAS Treasurer & ALCOR

Ed and Stan Lurcott at the

Setting up the Dobsonian with Kathy & Stan

Space Adventure Week, Everhart Park, June 27, 2007

Ed and Stan Lurcott at the Knabb's Viewing Circle, July 2015

In Memoriam (Cont'd)

h Don Knabb (rear), and l-to-r, Roger Tay-
i & Bruce Ruggeri

Ed Introducing the Night Sky to Children

An educator at heart, Ed's ability to connect with people of all ages inspired me to become a teacher. We visited Willistown Country Day School back in 2006 and I watched him explain the organization of the solar system to preschoolers. His patience and understated humor held the children's attention and encouraged them to participate in the lesson.

By watching him, I learned how to adjust my instructional methods to meet my students' development stages. A lot of my classroom management techniques I took from him!

~John Carl Hepler, Ph.D.,
CCAS Webmaster & Newsletter Editor

Knabb's Viewing Circle, July 2013

Mather Planetarium Rededication, 2013

Astronomical League Stellar Outreach Award, with son
Stan and daughter Linda, with Roger Taylor, April 2016

Eyepiece (Cont'd)

Image credit: Stellarium, the Free Planetarium Software

(Continued from page 6)

In binoculars, it appears as a hazy, nebulous patch. A 4-inch telescope shows its bright compact core within a round and mottled, grainy glow, which fades slowly and uniformly to the outer edges. A 6-inch telescope resolves the outer two thirds of the cluster into faint stars on a background glow formed by the unresolved fainter member stars of the cluster. An 8-inch telescope shows stars throughout the cluster but not in the very core, which is resolved into stars only by larger telescopes.

Although M3 is in the constellation Canes Venatici, I locate it more easily using the constellation Boötes. As you can see in the Stellarium screen capture, if you find bright Arcturus and scan towards Canes Venatici you can find M3 relatively easily. I have not seen it naked eye but find it easily with hand-held binoculars.

So, the next night the Moon is not obscuring the view of deep sky objects, seek out M3. It is a nice way to put 500,000 stars in your eyepiece!

Information credits:

- http://www.seds.org/messier/m/m003.html
- http://en.wikipedia.org/wiki/Messier_3
- https://www.nasa.gov/feature/goddard/2017/messier-3

In Memoriam (Cont'd)

(Continued from page 13)

plaining his model coffee table and calmly and sweetly said, " Yeah, I was expecting that"—or something calm and serene as I was jumping up and down with excitement. But that was Ed, calm and true and matter of fact.

THEN LIFE GETS IN THE WAY

In 2013, Ed's health took a turn and was diagnosed with cancer in his jaw. I thought we were going to lose him. At the last CCAS meeting he attended before his surgery, I took him aside and told him that I never had a father and although I didn't think he was my father, we had done things together that I thought I may have done with my father. He meant that much to me.

IN CLOSING

I'd like to thank Steve, Linda, Stan, Nancy and their families for sharing him. He spent a lot of time with us and we appreciate it.

He brought together people with similar interests that became friends. The club is in great hands to ensure its future. Last I heard, 165 members. Dave and Ann, Don and Barb, and all the others in the Executive Committee are committed to keeping the club alive: starting a scholarship fund, continuing the outreach and education, and that's what Ed wanted. Look what he did! I'm so happy to be a small part of it.

April Speaker (Cont'd)

(Continued from page 7)

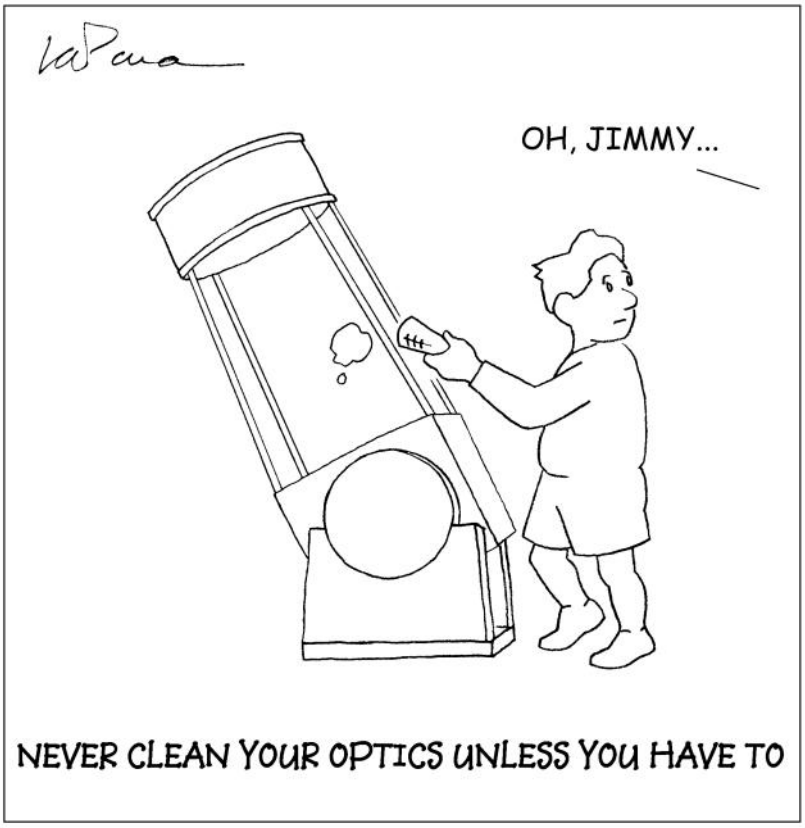
bill were lengthy and, almost, all encompassing. They included sports facilities, advertisement signs, FAA lighting, worker safety lighting, and most hypocritically, Times Square.

Elsewhere in policy news, Buellton, California updated ordinances requiring shielded downward fixtures with 2700-3000 Kelvin color temperatures. Arcata, Oregon adopted Dark Sky International guidelines. Huntsville's 2016 ordinance took effect in January with the community opting for education rather than fines for non-compliance.

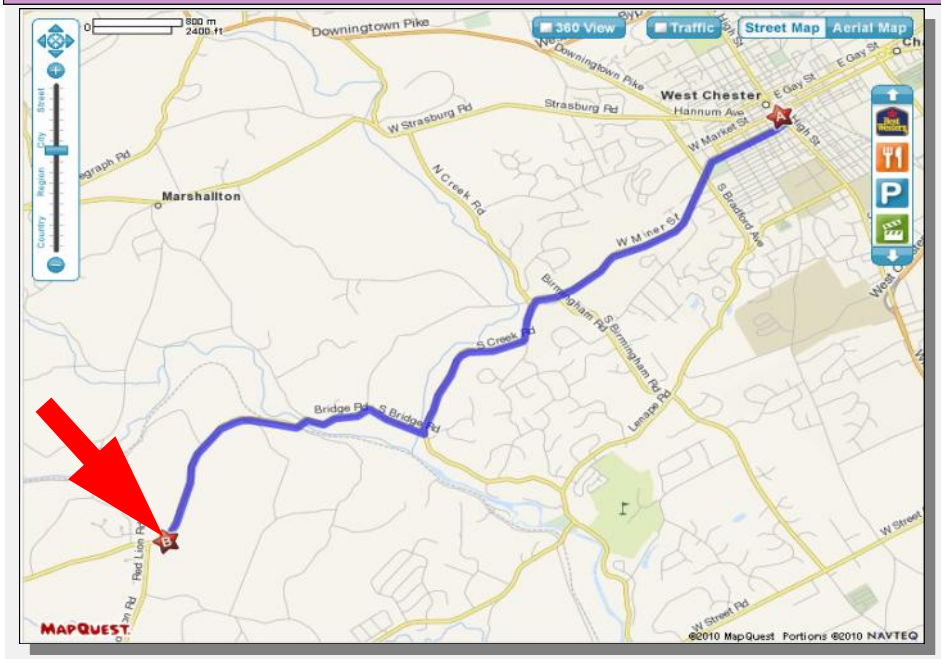
(Continued on page 18)

Classic La Para

by Nicholas La Para



CCAS Directions



Brandywine Red Clay Alliance
1760 Unionville Wawaset Rd
West Chester, PA 19382
(610) 793-1090
http://brandywinewatershed.org/

BRC was founded in 1945 and is committed to promoting and protecting the natural resources of the Brandywine Valley through educational programs and demonstrations for all ages.

Brandywine Red Clay Alliance

The monthly observing sessions (held February through November) are held at the Myrick Conservation Center of the Brandywine Red Clay Alliance.

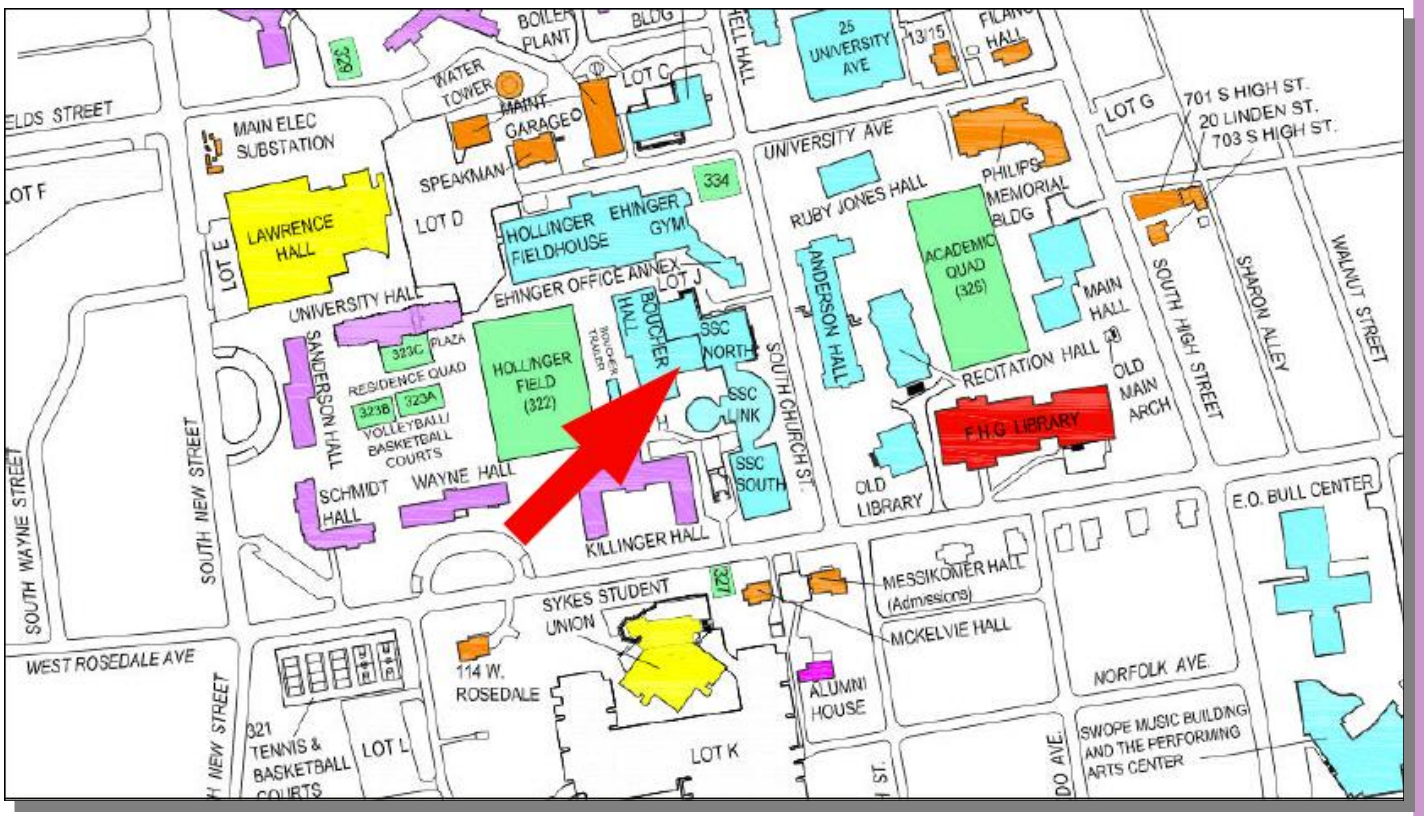
To get to the Myrick Conservation Center from West Chester, go south on High Street in West Chester past the Courthouse. At the next traffic light, turn right on Miner Street, which is also PA Rt. 842. Follow Rt. 842 for about 6 miles. To get to the observing site at the BRC property, turn left off Route 842 into the parking lot by the office: look for the signs to the office along Route 842. From that parking lot, go left through the gate and drive up the farm lane about 800 feet to the top of the hill. The observing area is on the right.

If you arrive after dark, *please turn off your headlights and just use parking lights* as you come up the hill (so you don't ruin other observers' night vision).

CCAS Directions

West Chester University Campus

The monthly meetings (September through May) are held in Room 112 in Merion Science Center (formerly the Boucher Building), attached to the Schmucker Science Center. The Schmucker Science Center is located at the corner of S. Church St & W. Rosedale Ave. Parking is generally available across Rosedale in the Sykes Student Union parking lot (Lot K).



Light Pollution (Cont'd)

(Continued from page 17)

In satellite news, we knew SpaceX filed to launch one million mega-satellites but we didn't know these satellites would be equipped with 600-foot solar panels, each. Professor Hugh Lewis calculated that such satellites would require 272 million annual collision avoidance maneuvers!! Amazon's Blue Origin planned 51,600 satellites. Starcloud matched Amazon and raised them 30k with a proposed 88,000 data center satellites.

And bust out the champagne, SpaceX officially reached 10,000 Starlink satellites in March.

CCAS Membership Information and Society Financials

Treasurer's Report
by Don Knabb

April 2026 Financial Summary

Beginning Balance	$2322
Deposits	$15
Disbursements	-$0
Ending Balance	$2337

New Member Welcome!

Welcome to new CCAS members Larry McClain from West Chester, PA, Mary Whittam from West Chester, PA, and Nicholas Bunio from Downingtown, PA.

We're glad you decided to join us under the stars! Clear skies to you!

Membership Renewals

You can renew your CCAS membership by writing a check payable to "Chester County Astronomical Society" and sending it to our Treasurer:

Don Knabb
988 Meadowview Lane
West Chester PA 19382

The current dues amounts are listed in the *CCAS Information Directory*. Consult the table of contents for the directory's page number in this month's edition of the newsletter.

CCAS Information Directory

Join the Fight for Dark Skies!

You can help fight light pollution, conserve energy, and save the night sky for everyone to use and enjoy. Join the nonprofit International Dark-Sky Association (IDA) today. Individual memberships start at $35.00 for one year. Send to:

International Dark-Sky Association
5049 E Broadway Blvd, #105
Tucson, AZ 85711

Phone: **520-293-3198**
Fax: **520-293-3192**
E-mail: **ida@darksky.org**

For more information, including links to helpful information sheets, visit the IDA web site at:

http://www.darksky.org

Dark-Sky Website for PA

The Pennsylvania Outdoor Lighting Council has lots of good information on safe, efficient outdoor security lights at their web site:

http://www.POLCouncil.org

Find out about Lyme Disease!

Anyone who spends much time outdoors, whether you're stargazing, or gardening, or whatever, needs to know about Lyme Disease and how to prevent it. You can learn about it at:

http://www.lymebasics.org

Take the time to learn about this health threat and how to protect yourself and your family. It is truly "time well spent"!

Good Outdoor Lighting Websites

One of the biggest problems we face in trying to reduce light pollution from poorly designed light fixtures is easy access to good ones. When you convince someone, a neighbor or even yourself, to replace bad fixtures, where do you go for good lighting fixtures? Check out these sites and pass this information on to others. Help reclaim the stars! And save energy at the same time!

Light pollution from poor quality outdoor lighting wastes billions of dollars and vast quantities of valuable natural resources annually. It also robs us of our heritage of star-filled skies. Starry Night Lights is committed to fighting light pollution. The company offers the widest selection of ordinance compliant, night sky friendly and neighbor friendly outdoor lighting for your home or business. Starry Night Lights is located in Phoenix, Arizona.

Phone: **520-280-3846**

http://www.starrynightlights.com

★ ★ ★ ★ ★

Lighthouse Outdoor Lighting is a dedicated lifetime corporate member of the International Dark-Sky Association. Lighthouse's products are designed to reduce or eliminate the negative effects outdoor lighting can have while still providing the light you need at night.

211 North Walnut St.
1st Floor
West Chester, PA 19380

Phone: **484-291-1084** or **800-737-4068**

https://www.lighthouse-lights.com/landscape-lighting-design/pa-west-chester/

Local Astronomy-Related Stores

Listing retail sites in this newsletter does not imply endorsement of any kind by our organization. This information is provided only as a service to our members and the general public.

High Point Scientific is a retailer of telescopes, binoculars, eyepieces and telescope accessories from Meade, Celestron, Televue, Orion, StellarMate, Takahashi, and many more. They also have an extensive blog of advice and education for amateur astronomers.

High Point Scientific
442 Route 206
Montague NJ, 07827

Phone: **800-266-9590**

https://www.highpointscientific.com/

★ ★ ★ ★ ★

Located in Manayunk, Spectrum Scientifics educates and entertains customers with an array of telescopes, microscopes, binoculars, science toys, magnets, labware, scales, science instruments, chemistry sets, and much more.

4403 Main Street
Philadelphia, PA 19127

Phone: **267-297-0423**
Fax: **215-965-1524**

Hours:
Monday thru Friday: 9AM to 5PM

http://www.spectrum-scientifics.com

CCAS Information Directory

CCAS Lending Telescopes

Contact Don Knabb to make arrangements to borrow one of the Society's lending telescopes. CCAS members can borrow a lending telescope for a month at a time; longer if no one else wants to borrow it after you. Don's phone number is 610-436-5702.

Contributing to *Observations*

Contributions of articles and images relating to astronomy and space exploration are always welcome. If you have a computer, and an Internet connection, you can attach the file to an e-mail message and send it to: **newsletter@ccas.us** to:

Dr. John C. Hepler
21 Medinah Drive
Reading, PA 19607

The deadline for submissions to the monthly newsletter is the 26th of each month. Articles and images should be original or the author/artist must be given credit. Articles should be in MS Word format with 12 point Times New Roman Font with single row spacing and one-inch margins on all four sides. Images should be in JPG or PNG file format. The submission window opens on the 20th of each month.

CCAS Newsletters via E-mail

You can receive the monthly newsletter (in full color!) via e-mail. All you need is a PC or Mac with an Internet e-mail connection. To get more information about how this works, send an e-mail request to Dr. John Hepler, the newsletter editor, at: **newsletter@ccas.us**.

CCAS Website

Dr. John Hepler is the Society's Webmaster. You can check out our Website at:

http://www.ccas.us

Dr. Hepler welcomes any additions to the site by Society members. The contributions can be of any astronomy subject or object, or can be related to space exploration. The only requirement is that it is your own work—no copyrighted material! Give your contributions to Dr. Hepler at (484) 883-5033 or e-mail to webmaster@ccas.us

CCAS Purpose

The Chester County Astronomical Society was formed in September 1993, with the cooperation of West Chester University, as a non-profit organization dedicated to the education and enjoyment of astronomy for the general public. The Society holds meetings (with speakers) and observing sessions once a month. Anyone who is interested in astronomy or would like to learn about astronomy is welcome to attend meetings and become a member of the Society. The Society also provides telescopes and expertise for "nights out" for school, scout, and other civic groups.

CCAS Executive Committee

For further information on membership or society activities you may call:

President:	Dave Hockenberry 610-558-4248
Vice President:	Pete Kellerman 610-873-0162
ALCor & Treasurer:	Don Knabb 610-436-5702
Observing:	Don Miller 610-247-8712
Secretary:	Beatrice Mazziotta 610-933-2128
Program:	Bruce Ruggeri 610-256-4929
Education:	Don Knabb 610-436-5702
	Dennis O'Leary 610-701-8042
Webmaster & Newsletter:	John Hepler 484-883-0533

CCAS Membership Information

The 2023 membership rates are as follows:

REGULAR MEMBER……$30/year
SENIOR MEMBER…….$15/year
STUDENT MEMBER……..$ 5/year
JUNIOR MEMBER……..$ 5/year
FAMILY MEMBER…….$40/year

Membership Renewals

Check the Membership Renewals on the front of each issue of *Observations* to see if it is time to renew. If you need to renew, you can mail your check, made out to "Chester County Astronomical Society," to:

Don Knabb
988 Meadowview Lane
West Chester PA 19382-2178

Phone: **610-436-5702**
e-mail: **treasurer@ccas.us**

*Sky & Tel*escope Magazine

The club membership subscription cost for *Sky and Telescope* magazine has increased to **$45.75**. This is still a good saving from the regular rate of **$57.75**.

There is no need to go through the CCAS treasurer for subscriptions or renewals. Just go to the Sky and Telescope website and select "Magazine", then under the FAQs you can subscribe at the club rate.

https://skyandtelescope.org/subscribe/

If you have **any** questions call Don Knabb at 610-436-5702.

Astronomy Magazine Group Rates

Subscriptions to this excellent periodical are available through the CCAS at a reduced price of **$34.00** which is much less than the individual subscription price of **$42.95** (or $60.00 for two years).

There is no need to go through the CCAS treasurer for subscriptions or renewals. Just call customer service at 877-246-4835 and request the club rate for your new subscription or renewal.