



Observations

A Monthly Publication Of The
CHESTER COUNTY ASTRONOMICAL SOCIETY

Vol. 33, No. 2 **Three-Time** Winner of the Astronomical League's Mabel Sterns Award ☼ 2006, 2009 & 2016 February 2025

In This Issue

CCAS Winter/Spring Events.....	2
January 2025 Meeting Minutes	2
February 2025 Meeting Agenda.....	2
February 2025 Meeting Guest Speaker Bio.....	3
Discovery in the Dark Event at Chester County History Center.....	3
The Sky Over Chester County: February 2025.....	4
February 2025 Observing Highlights	5
Through the Eyepiece: Mars, the Red Planet.....	6
Binocular Challenge for February 2025	7
Night Sky Notes.....	8
Observing the Crescent of Venus.....	10
Astronomers Find the Most Distant Supernova Yet	11
Navigating the Mid-February 2025 Night Sky.....	12
Classic La Para.....	13
CCAS Directions: Brandywine Red Clay Alliance.....	13
Spring Astronomy Classes!.....	15
AL Horkheimer / O'Meara Youth Journalism Award.....	16
Night Sky Network Awards.....	17
Membership Renewals	18
New Member Welcome	18
CCAS Directions: WCU Map.....	18
Treasurer's Report	18
CCAS Information Directory	19-20

CCAS Members Earn Night Sky Network Awards!



CCAS members in attendance at the January 2025 monthly meeting pictured with their awards. See pg. 17 for details.
Image courtesy Don Knabb.

February 2025 Dates

- 5th • First Quarter Moon, 3:02 a.m. EST
- 6th • The Moon passes 5° north of Jupiter, 11 p.m. EST
- 12th • Full Moon, the **Snow Moon**, 8:53 p.m. EST
- 14th • Venus is at greatest brilliancy (magnitude -4.9), 6 p.m. EST
- 20th • Last Quarter Moon, 12:32 p.m. EST
- 27th • New Moon, 7:44 p.m. EST
- 27th • Venus is stationary, 10 p.m. EST
- 28th • Alignment of Mercury, Venus, Mars, Jupiter, Saturn, Neptune & Uranus immediately after sunset.



CCAS Upcoming Nights Out

In addition to our monthly observing sessions at the Myrick Conservancy Center, BRC (for directions, see pg. 13), 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.

- ☼ Thursday, March 6, 2025 - Kennet Middle School - STEM Night. Landenberg, PA.
- ☼ Monday, March 17, 2025 - Solar Observation, 10:30 a.m. to 1:30 p.m. WCU campus near Student Center.
- ☼ Monday, March 31, 2025 - Solar Observation, 12 to 1 p.m. Middletown Free Library Homeschool.

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

Membership Renewals Due

02/2025	Buki Ruggeri Sutton
03/2025	Angelini DellaPenna Fulton Rainville Sterrett
04/2025	Dennis Hepler Kataria McCabe Miller Noland Rossomando

Winter/Spring Society Events

February 2025

11th • CCAS Monthly Meeting, in person (as well as via Zoom) at West Chester University's Merion Science Center, Room 112. Guest Speaker: Gurbir Singh, a UK-based space science author and expert on India's emerging and impressive space program. His presentation is titled "India in Space: Past, Present and Future."

20th • Open call for articles and photographs for the March 2025 edition of [Observations](#).

21st • West Chester University Planetarium Show: "Exoplanets and the Search for Life," in the Schmucker Science Building. The show starts at 7 p.m. and runs approximately one hour in length. Visit [WCU Public Planetarium Shows](#) for more information and reservations.

26th • Deadline for newsletter submissions for the March 2025 edition of [Observations](#).

28th • CCAS Monthly Observing Session, Myrick Conservancy Center, BRC. The observing session starts at sunset.

March 2025

6th • Kennet Middle School - STEM Night. Landenberg, PA.

11th • CCAS Monthly Meeting, in person (as well as via Zoom) at West Chester University's Merion Science Center, Room 112. Guest Speaker: Dr. Naoko Kurahashi-Neilson, Dept of Physics, Drexel University, "Advances in Neutrino Astronomy and a New View of the Milky Way Galaxy from the IceCube Observatory."

17th • Solar Observation, 10:30 a.m. to 1:30 p.m. WCU campus near Student Center.

20th • Open call for articles and photographs for the April 2025 edition of [Observations](#).

26th • Deadline for newsletter submissions for the April 2025 edition of [Observations](#).

28th • CCAS Monthly Observing Session, Myrick Conservancy Center, BRC. The observing session starts at sunset.

28th • West Chester University Planetarium Show: "Eclipse Lite: A Partial Solar Eclipse," in the Schmucker Science Building. Visit [WCU Public Planetarium Shows](#) for more information and reservations.

31st • Solar Observation, 12 to 1 p.m. Middletown Free Library Homeschool.

January 2025 Meeting Minutes

by Bea Mazziotta, CCAS Secretary

- The January 2025 CCAS meeting was held in person at West Chester University and remotely on YouTube and Zoom.
- After Dave Hockenberry, Club President, welcomed member and guests, Don Knabb announced that CCAS would again participate in the Lifelong Learning Program with Chester County Night School. Classes will be held on Wednesdays from March 19 through April 23. Club members may attend at no charge. Find details at <https://chestercountynightschool.org/wconnect/ace/ShowSchedule.awp?&Mode=GROUP&Group=SHC&Title=Science+History+and+Culture>
- Don Knabb distributed the annual NASA Night Sky Network awards. Over 400 clubs now participate in this program. Thirty member of CCAS received the 2024 pins for their outreach efforts. In 2024 NASA also celebrated the 20th anniversary of this popular community program. The pins also marked this anniversary occasion.
- Don Miller, acting Observing Chair, reviewed January viewing highlights and some upcoming planned observing events. The solidified viewing and events calendar will be available in February at www.ccas.us.
- Bruce Ruggeri, Program Chair, gave an overview of the upcoming guest speakers scheduled for spring 2025 meetings. He noted that the February meeting will feature a guest speaker from the UK and will start at 6:30 PM.
- He also announced that CCAS is expanding its Scholarship Fund to include 2 additional recipients annually. Donations are ongoing and Bruce will send information on how to help us reach our goal by the end of February.
- Bruce Ruggeri introduced the evening's speaker Dr. Joel Leja. Dr. Leja is an Assistant Professor of Astronomy and Astrophysics at Penn State University. He is a Clarivate Highly Cited Researcher, a recipient of Yale's Brouwer Prize and an Endowed Chair at Penn State. His studies focus on modeling observations of distant galaxies and astrophysical computing. His presentation topic was "Surprises at the Dawn of Time from James Webb: A First Look at the First Stars, Galaxies and Black Holes." He discussed some of the early and surprising discoveries made by Webb's first deep field observations.

February 2025 CCAS Meeting Agenda

by Bruce Ruggeri, CCAS Program Chair

Our next meeting will be held on February 11, 2025, in person at West Chester University's Merion Science Center, Room 113. The Science Center is located at 720 S. Church St., West Chester, PA. Our guest speaker is Gurbir Singh, a UK-based space science author and expert on India's emerging and impressive space program. His presentation is titled "India in Space: Past, Present and Future."

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 beyond our 2024-2025 season. If you are interested in presenting, or know someone who would like to participate, please contact me at programs@ccas.us.

February 2025 Meeting Guest Speaker Information

by Bruce Ruggeri, CCAS Program Chair

We have a special meeting planned this month. Our in person and Zoom February monthly CCAS meeting scheduled for Tuesday, February 11, 2025, will commence with our speaker presentation at 7:00 p.m. EST, as our guest speaker will be in the UK. Our CCAS meeting announcements and updates following the presentation so please stay tuned in! If you are able to join us in person, our meetings are held at West Chester University's (WCU) Merion Science Center, Room 112. The Science Center is located at 720 S. Church St. in West Chester.

Our speaker is Gurbir Singh, a UK-based space science author and expert on India's emerging and impressive space program. The presentation title, synopsis and brief bio sketch for Gurbir Singh immediately follow.



Gurbir Singh

Title: India in Space: Past, Present and Future

Synopsis: Aryabhata, India's first satellite, was launched in 1975 and named after the 5th-century astronomer and mathematician, reflecting India's long tradition in sciences. The emergence of the space age coincided with establishing national insti-

tutions essential for all modern states. Today, India is one of a handful of nations capable of designing, building, launching and operating space-based services.

In this talk, Gurbir Singh, author of the 2017 book - *The Indian Space Program*, will outline India's roots in science, profile a few of the founding figures of its Space Program, summarize India's current space capabilities and recent mission successes, and outline India's goals in the immediate future, including human spaceflight. Beyond the scientific and technological aspects of the Indian Space Program, the geopolitical implications of the Indian Space Program will be discussed as well in his presentation.

(Continued on page 13)

Discovery in the Dark Event at Chester County History Center

by Dennis O'Leary, CCAS Education Co-Chair



CCAS member Dennis O'Leary demonstrating the phases of the moon at the Discovery in the Dark Event on January 25, 2025.

CCAS members participated in the Discovery in the Dark event at the Chester County History Center. The event was held on January 25, 2025, from 5:00 to 7:30 p.m. EST. The purpose of the event was to show children what life was like before electricity.

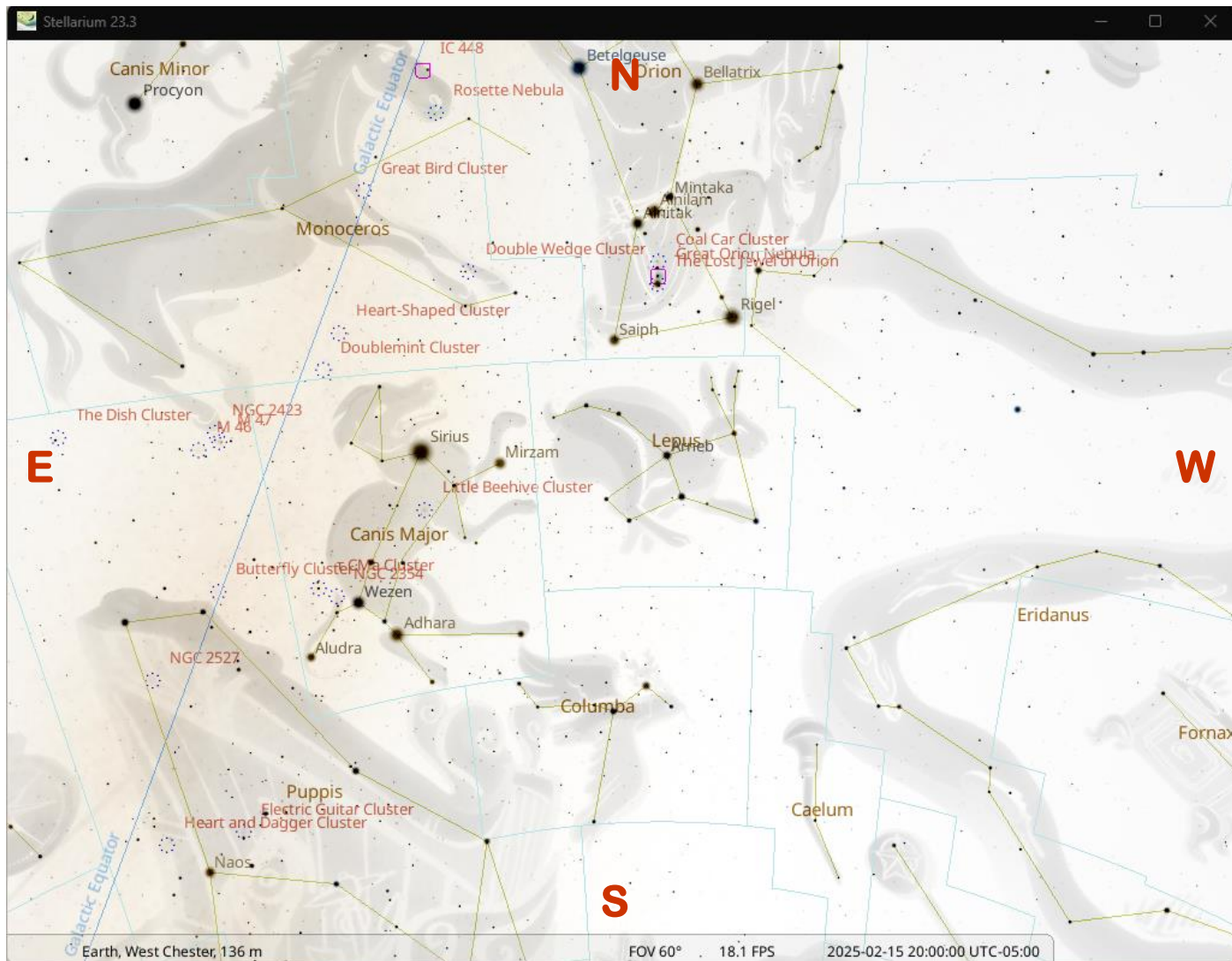
Dennis O'Leary demonstrated moon phases for over two hours. Lyssa & Alaric Han managed the literature table and Barb & Don Knabb managed the telescope. Rich Blessing managed a pair of binoculars. CCAS volunteers just taped a picture of the Moon on the wall at the far end

(Continued on page 7)

The Sky Over Chester County

February 15, 2025 at 8:00 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
02/01/2025	6:41 a.m. EST	7:10 a.m. EST	5:22 p.m. EST	5:50 p.m. EST	10h 11m 34s
02/15/2025	6:27 a.m. EST	6:54 a.m. EST	5:38 p.m. EST	6:06 p.m. EST	10h 43m 57s
02/28/2025	6:09 a.m. EST	6:36 a.m. EST	5:53 p.m. EST	6:20 p.m. EST	11h 16m 49s

Moon Phases					
First Quarter	02/05/2025	3:02 a.m. EST	Full Moon	02/12/2024	8:53 p.m. EST
Last Quarter	02/20/2025	12:32 p.m. EST	New Moon	02/27/2024	7:44 p.m. EST

February 2025 Observing Highlights

by Don Miller, CCAS Observing Chair



Planetary alignment on February 28, 2025

Key Event this month:

From the 13th to the 22nd (this timeframe is when the moon is not present in the night sky), the Zodiacal Light can be observed near the western horizon well after the sun has set. This is light scattered by dust in the plane of our solar system, which comes from pulverized asteroids and perhaps even Mars. Look to the western horizon in a dark location for a wedge-shaped glow that is widest and brightest near the horizon.

Discussion:

The current weather forecast for our area in February, if you trust forecasters, is generally warmer than January with some clear skies every so often. Here's hoping that they are correct (it's always a challenge to set up your scope in the snow).

Moon:

First quarter on the 5th; full moon on the 12th; last quarter on the 20th and new moon on the 28th.

Planets:

The planets will have another interesting clustering event at the end of February, on the 28th. All 7 planets will be in a relatively tight clustering immediately after sunset. While many of these planets are visible all month, this night's clustering will be the tightest for the year. Venus will be at its

brightest this month at -4.6 . This planet will be approaching solar inferior conjunction, which occurs in March, so it will set earlier toward the end of the month.

Mars is fading this month but still prominent in the constellation of Gemini.

Jupiter will be prominent in the evening sky.

Saturn will be moving ever closer to the western horizon and lost to viewing for a while by month's end.

Uranus will be a nice visible night sky object this month.

Neptune will be near Venus on the 1st but it will be fading into the evening twilight at the month progresses.

Algol: at minimum on the 2nd, 5th, 8th, 11th, 14th, 17th, 20th, 22nd, 25th, and 28th

Select Night Sky Objects and Events:

M41 – This open cluster is frequently overlooked given the nearby beacon Sirius, located in Canis Major. It is a naked eye object but becomes a wonderful object in binoculars or a wide-field telescope. Some have called this cluster an “ice-covered tag” for the great dog. Take a look.

(Continued on page 15)

Through the Eyepiece: Mars, the Red Planet

by Don Knabb, CCAS Treasurer & ALCOR

This winter we have a real treat to see in the sky – the Red Planet Mars. Mars reached opposition in mid-January. That is the point in its orbit when it is on the opposite side of the Sun as viewed

from the Earth. In early February Mars will shine at -1 magnitude so it will shine like a bright red point of light in the sky.

Mars, the fourth planet from

the Sun in the Solar System is named after Mars, the Roman god of war. It is also referred to as the "Red Planet" because of its reddish appearance as seen

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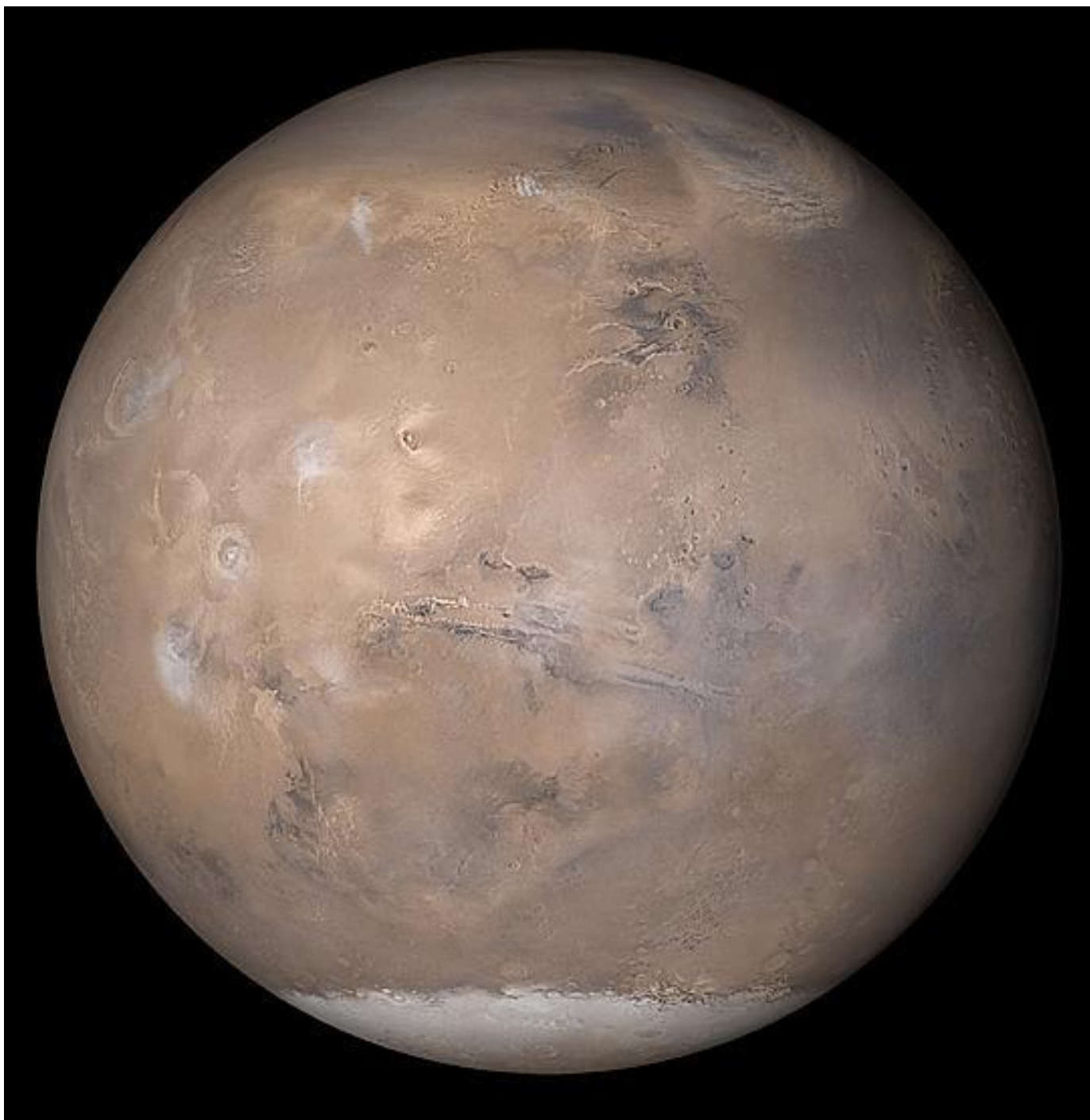
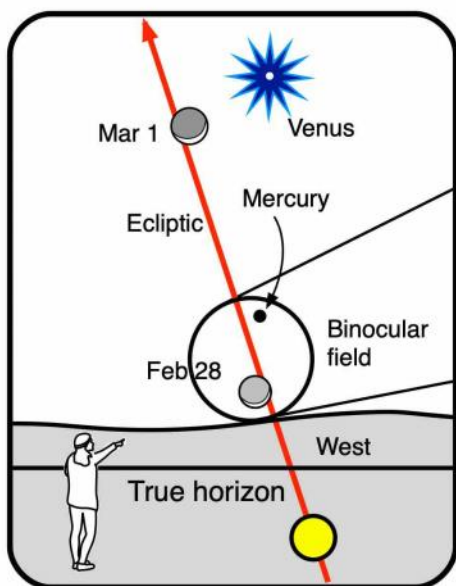


Image credit: NASA/JPL/Malin Space Science Systems

Mercury, Venus, and the young moon in the evening twilight

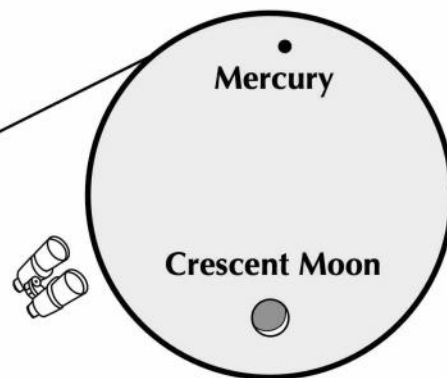


February 28 and March 1, 2025:
Mercury and the young crescent moon
forty minutes after sunset in the west

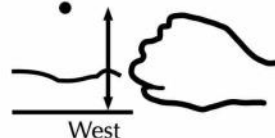


- Using binoculars, look on February 28 for the very thin crescent Moon floating above Mercury. Can you see Earthshine on the Moon's dark side or is the twilight too bright?
- On the next evening, Mercury is in the same place, but the moon has moved to higher and closer to brilliant Venus. Earthshine should be more easily visible.

View through
10x50 binoculars
on February 28



Mercury



Mercury appears about
"1 fist width on a fully
extended arm" above
the true western
horizon forty minutes
after sunset.

The young moon & Mercury in the evening twilight

Have you ever spotted Mercury? Many stargazers have not. The early evening on February 28 presents a good opportunity to catch the elusive little planet. Look low into the western twilight forty minutes after sunset.

Discovery in the Dark (Cont'd)



(Continued from page 3)

of the auditorium for the children to view with the telescope and binoculars. On the left, Alaric Han demonstrates using the telescope to view the image of the moon.

A book CCAS has for vision impaired people with braille lettering and raised plastic sheets of various astronomical objects was popular as well as educational.

Night Sky Notes: How Can You Help Curb Light Pollution?

by Dave Prosper; Updated by Kat Troche

This article is distributed by the NASA Night Sky Network, a coalition of hundreds of astronomy clubs across the US dedicated to astronomy outreach.

Visit nightsky.jpl.nasa.gov to find local clubs, events, stargazing info and more.

Light pollution has long troubled astronomers, who generally shy away from deep sky observing under full Moon skies. The natural light from a bright Moon floods the sky and hides views of the Milky Way, dim galaxies and nebula, and shooting stars. In recent years, human-made light pollution has dramatically surpassed the interference of even a bright full Moon, and its effects are now noticeable to a great many people outside of the astronomical community. Harsh, bright white LED streetlights, while often more efficient and long-lasting, often create unex-



pected problems for communities replacing their older streetlamps. Some notable concerns are increased glare and light trespass, less restful sleep, and disturbed nocturnal wildlife patterns. There is increasing awareness of just how much light is too much light at night. You don't need to give in to despair

over encroaching light pollution; you can join efforts to measure it, educate others, and even help stop or reduce the effects of light pollution in your community.

Amateur astronomers and potential citizen scientists around the globe are invited to participate in the [Globe at Night \(GaN\)](https://www.globeatnight.org/) program to measure light pollution. Measurements are taken by volunteers on a few scheduled days every month and submitted to their database to help create a comprehensive map of light pollution and its change over time. GaN volunteers can take and submit measurements using multiple methods ranging from low-tech naked-eye observations to high-

(Continued on page 9)



Before and after pictures of replacement lighting at the 6th Street Bridge over the Los Angeles River. The second picture shows improvements in some aspects of light pollution, as light is not directed to the sides and upwards from the upgraded fixtures, reducing skyglow. However, it also shows the use of brighter, whiter LEDs, which is not generally ideal, along with increased light bounce back from the road. Image Credit: [The City of Los Angeles](https://www.cityoflosangeles.org/)

Night Sky Notes (Cont'd)



Light pollution has been visible from space for a long time, but new LED lights are bright enough that they stand out from older streetlights, even from orbit. Astronaut Samantha Cristoforetti took the above photo from the ISS cupola in 2015. The newly installed white LED lights in the center of the city of Milan are noticeably brighter than the lights in the surrounding neighborhoods. Image Credit: [NASA/ESA](#)

(Continued from page 8)

tech sensors and smartphone apps.

Globe at Night citizen scientists can use the following methods to measure light pollution and submit their results:

- Their own smartphone camera and dedicated app
- Manually measure light pollution using their own eyes and detailed charts of the constellations
- A dedicated light pollution measurement device called a Sky Quality Meter (SQM).

The free GaN [web app](#) from any internet-connected device (which can also be used to submit their measurements from an SQM or printed-out star charts)

Night Sky Network members joined a telecon with Connie Walker of Globe at Night in 2014 and had a lively discussion about the program's history and how they can participate. The audio of the telecon, transcript, and



See pg. 19 for IDA contact information

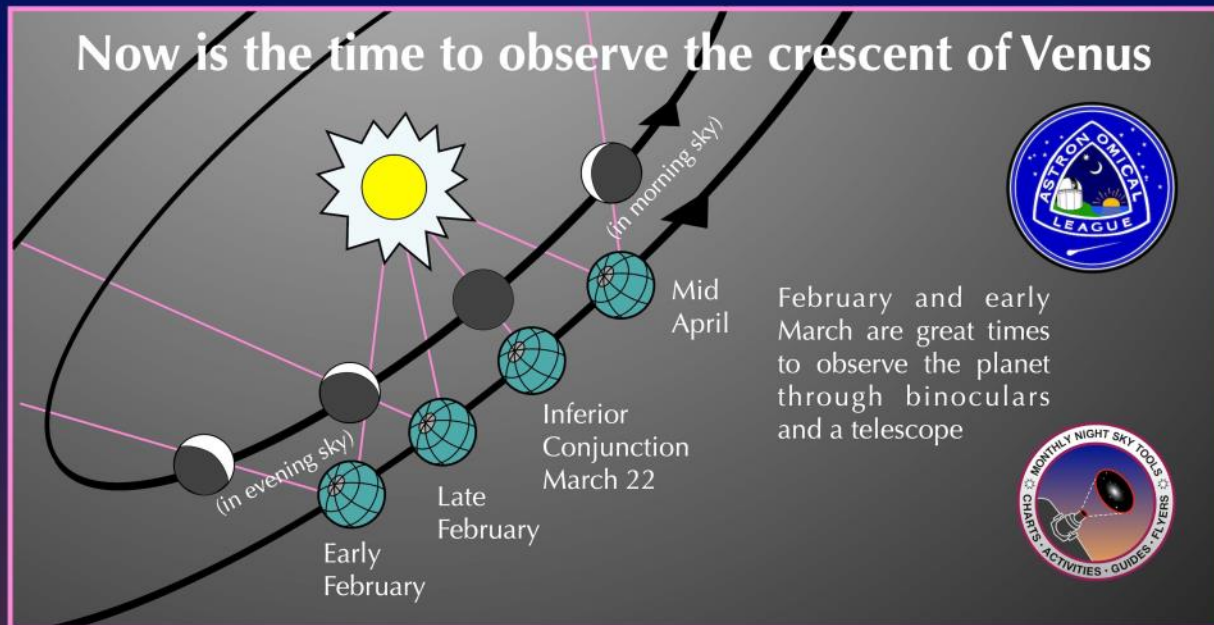
links to additional resources can be found on their [dedicated resource page](#).

The [International Dark-Sky Association \(IDA\)](#) has long been a champion in the fight against light pollution and a proponent of smart lighting design and policy. Their website provides many resources for amateur astronomers and other like-minded people to help communities understand the negative impacts of light pollution and how smart lighting policies can not only help bring the stars back to their night skies but also make their

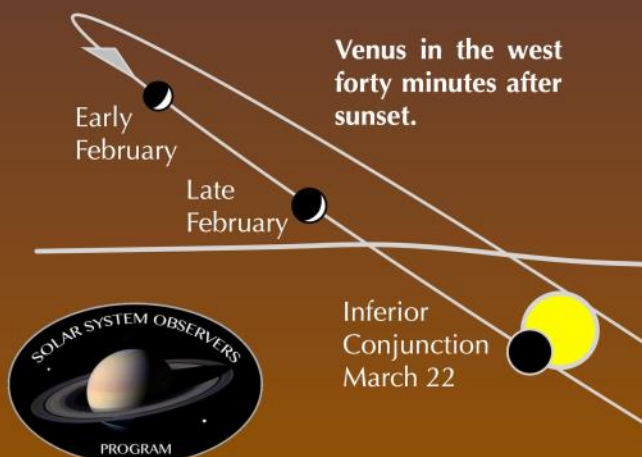
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Observing the Crescent of Venus

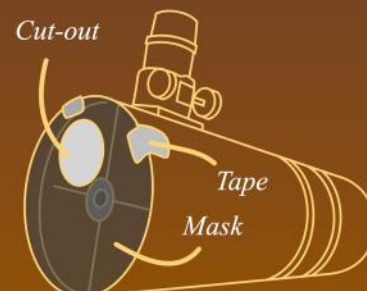
courtesy of Astronomical League



The view through a telescope changes quickly in just six weeks.
As the Venus - Earth gap narrows, Venus becomes a thinner, but wider crescent.

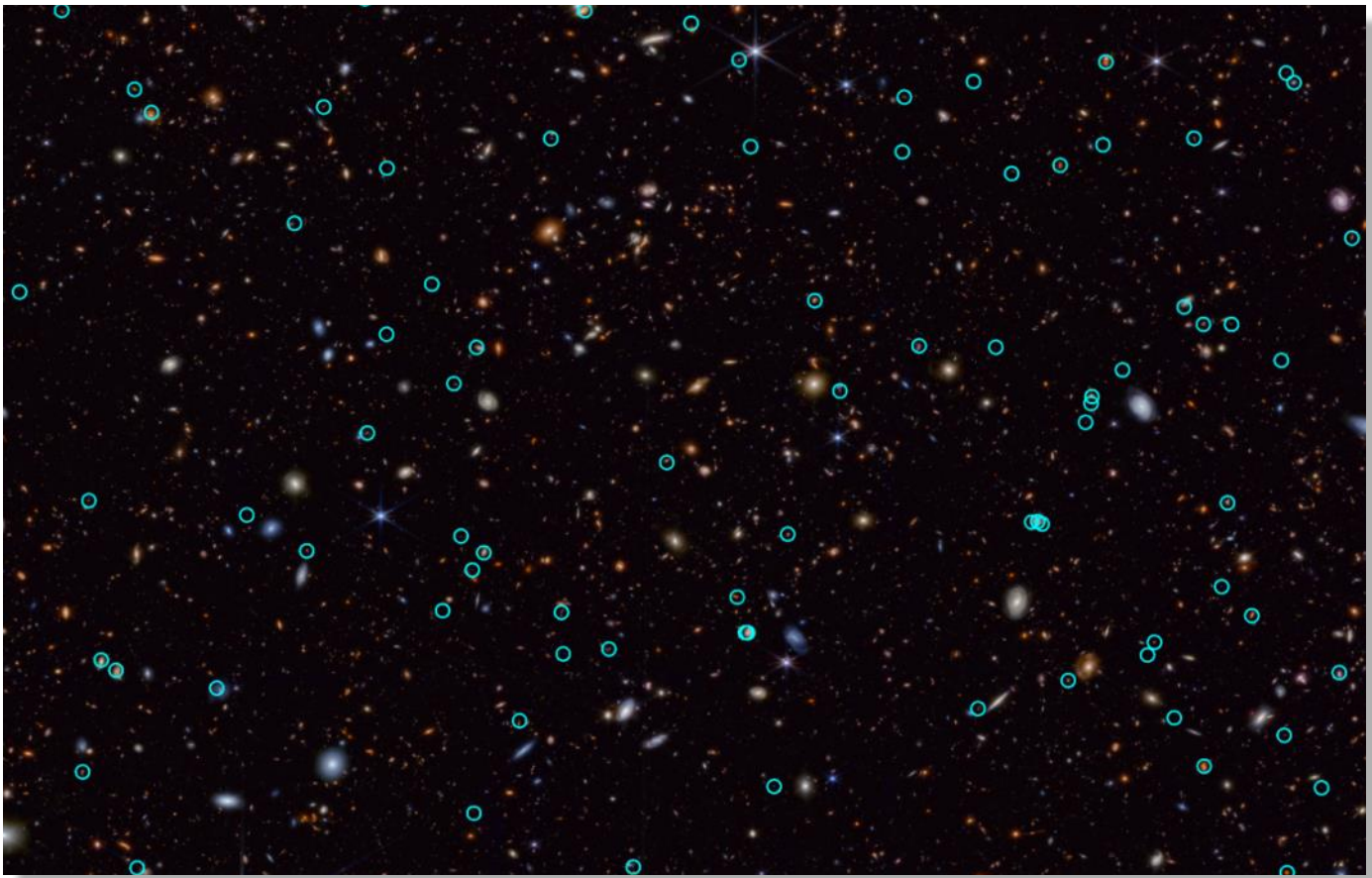


If you use a reflector or SCT, placing an off-centered cut-out mask over the optical tube entrance helps give a sharper view.



Astronomers Find the Most Distant Supernova Yet

by Daniela Mata, courtesy of Astronomy.com



This image from the JWST Advanced Deep Extragalactic Survey shows transient objects, many of which are supernovae, noted with circles. Credit: NASA, ESA, CSA, STScI, JADES Collaboration

During the week of January 12-16, 2025, astronomers presented some of their most recent and exciting finds from the James Webb Space Telescope (JWST) at the 245th meeting of the American Astronomical Society in National Harbor, Maryland.

One such discovery was the identification of the most distant so-called core-collapse supernova ever confirmed. These explosions mark the end of life for massive stars, and this supernova occurred when the universe was just a toddler, some 1.8 billion years old.

David Coulter, a postdoc at the Space Telescope Science Institute (STScI), studied numerous images from JWST's Advanced

Deep Extragalactic Survey (JADES) program, which targets and characterizes the earliest galaxies. Coulter and his team captured images up to a year apart with the Near Infrared Camera.

The team uncovered supernova cataloged as AT2023 ADS-V, along with more than 80 other transients (objects that vary in luminosity over time). In the case of AT2023 ADS-V, images from 2022 and 2023 allowed astronomers to compare the star's behavior over that interval.

When a massive star exhausts all its fuel for nuclear fusion, an imbalance of forces causes the star to collapse in on itself and then explode outward, which is

categorized as a type II supernova. Stars must be at least eight times our Sun's mass to undergo such a transformation. In this case, astronomers estimate the mass of AT2023 ADS-V's progenitor at a gargantuan 20 solar masses, a real behemoth.

AT2023 ADS-V's long-ago environment contained only one-third of the amount of heavy elements — those with more protons than hydrogen and helium — found in today's "older" local universe. Heavy elements are made through fusion in the cores of massive stars, which then explode as supernovae, enriching the cosmos with them.

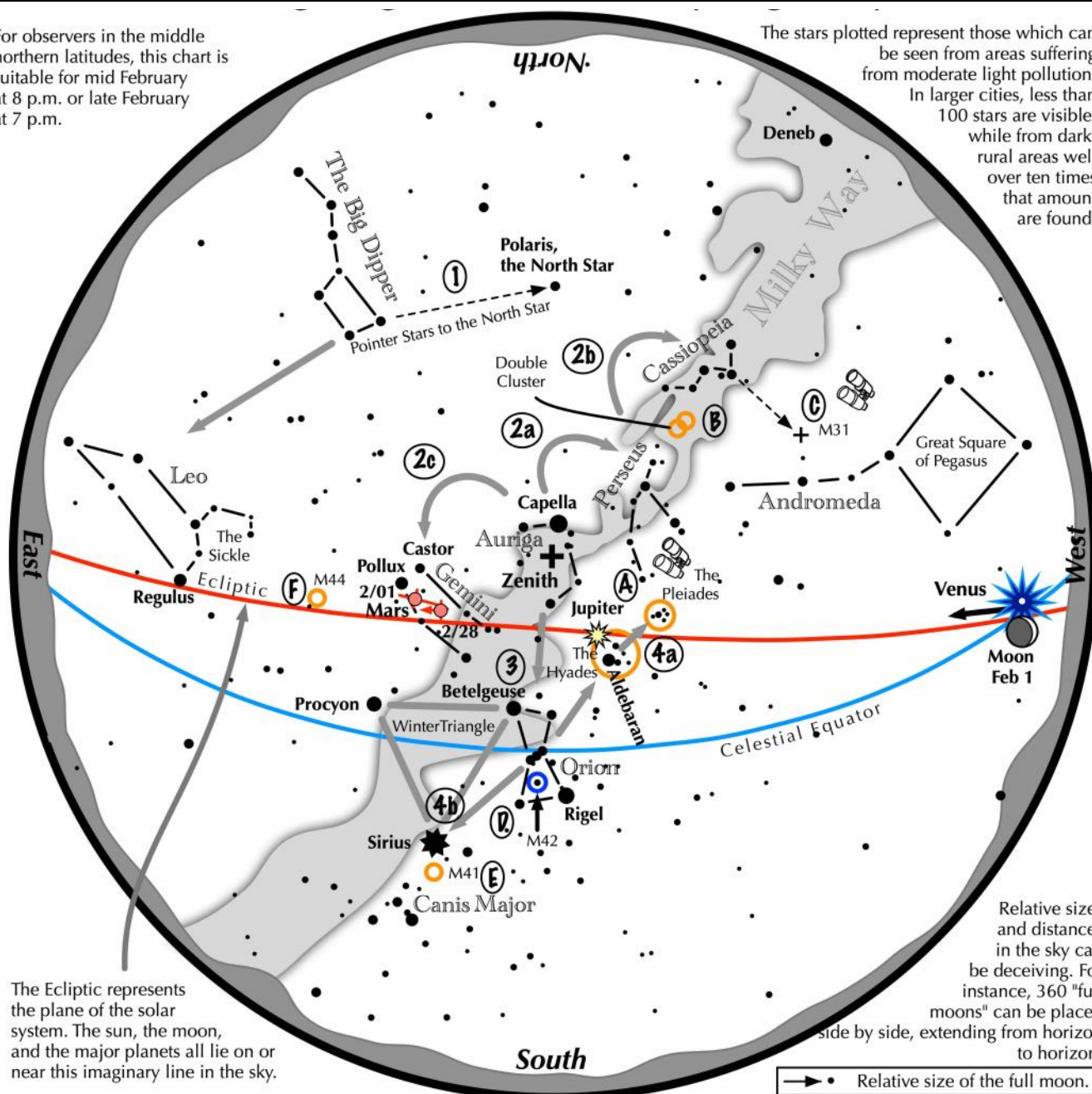
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Navigating the Mid-February 2025 Night Sky

courtesy of the Astronomical League

For observers in the middle northern latitudes, this chart is suitable for mid February at 8 p.m. or late February at 7 p.m.

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 February night sky: Simply start with what you know or with what you can easily find.

- 1 Above the northeast horizon rises the Big Dipper. Draw a line from its two end bowl stars upwards to the North Star.
- 2 Face south. Overhead twinkles the bright star Capella in Auriga. Jump northwestward along the Milky Way first to Perseus, then to the "W" of Cassiopeia. Next jump southeastward from Capella to the twin stars of Castor and Pollux in Gemini.
- 3 Directly south of Capella stands the constellation of Orion with its three Belt stars, its bright red star Betelgeuse, and its bright blue-white star Rigel.
- 4 Use Orion's three Belt stars to point northwest to the red star Aldebaran and the Hyades star cluster, then to the Pleiades star cluster. Travel southeast from the Belt stars to the brightest star in the night sky, Sirius, a member of the Winter Triangle.

Binocular Highlights

- A:** Examine the stars of two naked eye star clusters, the Pleiades and the Hyades.
B: Between the "W" of Cassiopeia and Perseus lies the Double Cluster.
C: The three westernmost stars of Cassiopeia's "W" point south to M31, the Andromeda Galaxy, a "fuzzy" oval.
D: M42 in Orion is a star forming nebula. **E:** Look south of Sirius for the star cluster M41. **F:** M44, a star cluster barely visible to the naked eye, lies southeast of Pollux.

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



Speaker Bio (Cont'd)

(Continued from page 3)

Bio sketch: Gurbir Singh is a UK-based space writer with degrees in science and computer science. His professional background is in the IT sector. In 2019, he retired from his role as a cybersecurity consultant.

Once keen on aviation, he has a private pilot's license for the UK, USA and Australia. He was one of 13,000 unsuccessful applicants responding to the 1989 advertisement in the UK, "Astronaut wanted. No experience necessary", to become the first British astronaut, for which Helen Sharman was eventually selected and flew on the Soviet space station MIR in 1991.

In 2011, Gurbir published his first book, *Yuri Gagarin in London and Manchester*. The book

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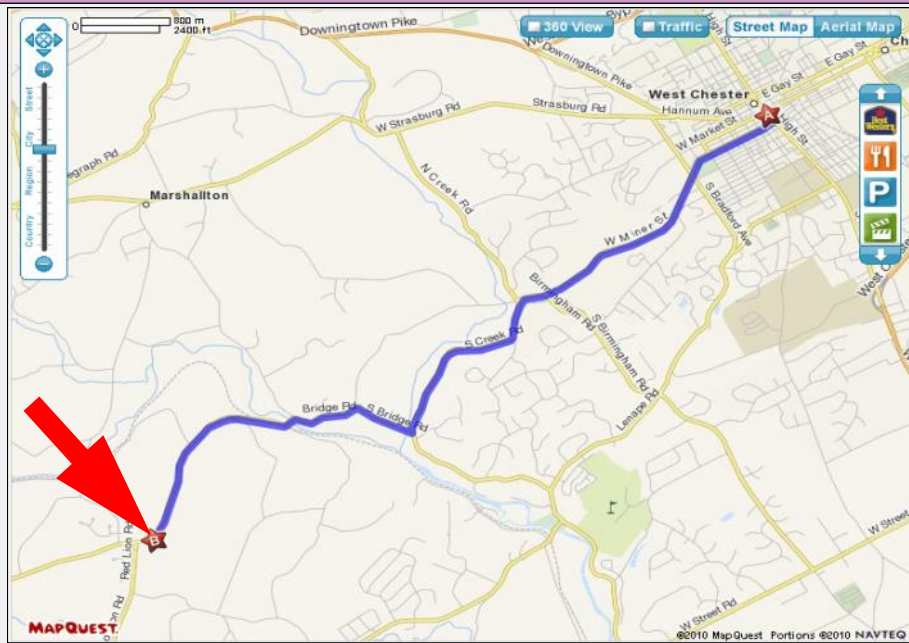
Classic La Para by Nicholas La Para

NASA FINDS A USE FOR NEAR-EARTH ASTEROIDS



LaPara

CCAS Directions



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).

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.

Eyepiece (Cont'd)

(Continued from page 6)

from Earth. Before humans had telescopes, fear and foreboding rose whenever a blood-red dot looped its way across an otherwise still sky.

Mars is a rocky or terrestrial planet, with a thin atmosphere. Its surface features are reminiscent of the impact craters of the Moon and the volcanoes, valleys, deserts and polar ice caps of Earth.

If it was not for the high radiation levels, with a good scuba suit and a warm winter jacket you could walk around on the surface of Mars. Are there places on Earth that are like Mars? Yes, the Canadian arctic for example, where Mars astronaut suits have been tested. Or perhaps Death Valley, California where we find geologic features

like Mars.

Mars is home to Olympus Mons, the highest known mountain in the solar system, and of Valles Marineris, the largest canyon. In addition to its geographical features, Mars' rotational period and seasonal cycles are like those of Earth.

To observe Mars, you really do not need a sky chart. Just go outside after the sky is fully dark and look toward the southeast. You will immediately see why Mars is called the Red Planet.

It is hard to know how much detail we'll be able to see during this opposition. The dust storms on Mars are hard to predict. If conditions are good, you might be able to glimpse the northern ice cap using a 6 inch or larger telescope under good viewing

conditions. Take your time at the eyepiece. The more you look, the more you will see as the planet's atmospheric conditions change.

NASA's Perseverance Mars rover took this selfie over a rock nicknamed "Rochette," on September 10, 2021, the 198th Martian day, or sol of the mission.

There is clear evidence that in the distant past, the Martian climate allowed liquid water – an essential ingredient for life as we know it – to pool at the surface. Data from the NASA Curiosity rover reveal that billions of years ago, a water lake inside Gale Crater held all the ingredients necessary for life, including chemical building blocks and energy sources.

(Continued on page 15)



Image credit: NASA/JPL-Caltech - <https://mars.nasa.gov/resources/26253/perseverances-selfie-at-rochette/>

Night Sky Notes (Cont'd)

(Continued from page 9)

streets safer by using smarter lighting with less glare. Communities and individuals find that their nighttime lighting choices can help save considerable sums of money when they decide to light their streets and homes "smarter, not brighter" with shielded, directional lighting, motion detectors, timers, and even choosing the proper "temperature" of new LED light replacements to avoid the harsh "pure white" glare that many new streetlamps possess. Their pages on [community advocacy](#) and on [how to choose dark-sky-friendly lighting](#) are extremely helpful and full of great information. There are even [local chapters of the IDA](#) in many communities made up of passionate advocates of dark skies.

The IDA has notably helped usher in "[Dark Sky Places](#)", areas around the world that are protected from light pollution. "[Dark Sky Parks](#)", in particular, provide visitors with incredible views of the Milky Way and are perfect places to spot the won-

ders of a meteor shower. These parks also perform a very important function, showing the public the wonders of a truly dark sky to many people who may have never before even seen a handful of stars in the sky, let alone the full glorious spread of the Milky Way. More research into the negative effects of light pollution on the [health of humans](#) and the [environment](#) is being conducted than ever before. Watching the nighttime light slowly

increase in your neighborhood, combined with reading so much bad news, can indeed be disheartening! However, as awareness of light pollution and its negative effects increases, more people are becoming aware of the problem and want to be part of the solution. There is even an episode of PBS Kid's [SciGirls](#) where the main characters help mitigate light pollution in their neighborhood!

Astronomy clubs are uniquely situated to help spread awareness of good lighting practices in their local communities to help mitigate light pollution. Take inspiration from [Tucson, Arizona](#), and other dark sky-friendly communities that have adopted good lighting practices. Tucson even reduced its skyglow by 7% (as of 2018) after its own [citywide lighting conversion](#), proof that communities can bring the stars back with smart lighting choices.

Originally posted by Dave Prosper: November 2018

Last Updated by Kat Troche: January 2025

Spring Astronomy Classes!

by Don Knabb, CCAS Education Co-Chair

CCAS has partnered with [Chester County Lifelong Learning](#) to offer a six-week program meeting Wednesday nights from 7:00 to 8:00 PM. The classes run from March 19 through April 23, 2025.

- March 19th: Spaceship Earth
- March 26th: Our Moon—Phases and Faces
- April 2nd: Other Kids on the Block
- April 9th: Observing Basics, Star Charts and Planetarium Software
- April 16th: Observing Equipment, Binoculars, and Telescopes
- April 23rd: Beyond Naked-Eye Observing

The cost for the courses is \$59.00 per person. Visit the Chester County Lifelong Learning website to [register online](#).

Looking Up (Cont'd)

(Continued from page 14)

Information sources:

- <https://www.nasa.gov/press-release/nasa-finds-ancient-organic-material-mysterious-methane-on-mars>
- <http://mars.jpl.nasa.gov/extreme/>
- <http://en.wikipedia.org/wiki/Mars#Viewing>
- [https://en.wikipedia.org/wiki/Perseverance_\(rover\)](https://en.wikipedia.org/wiki/Perseverance_(rover))

Observing (Cont'd)

(Continued from page 5)

IC 2149 – A little gem of a globular cluster in Auriga (a constellation that has so many wonderful clusters to view). You'll need a scope of approximately 5" or more to see it well. The high magnification required for viewing should help with the light pollution (and of course, use an O-III filter if you have one).

UU Auriga – This is a 5th magnitude variable star. A cool giant star, it is not composed of hydrogen and helium but instead by carbon. It has a red tint. When I look at a star like this one, I marvel at the wonder of my ability to observe such an interesting object. Knowing some of the details for what you're looking at, for me, enriches the experience.

AL Horkheimer / O'Meara Youth Journalism Award
courtesy of the Astronomical League



**Attention
Grandparents!**

Do you have a grandchild who

- is 8-14 years of age,
- enjoys writing, and
- loves astronomy?

Encourage your young person to
enter the **AL Horkheimer/
O'Meara Youth Journalism**
competition!



**Nomination and essay
deadline: March 31**

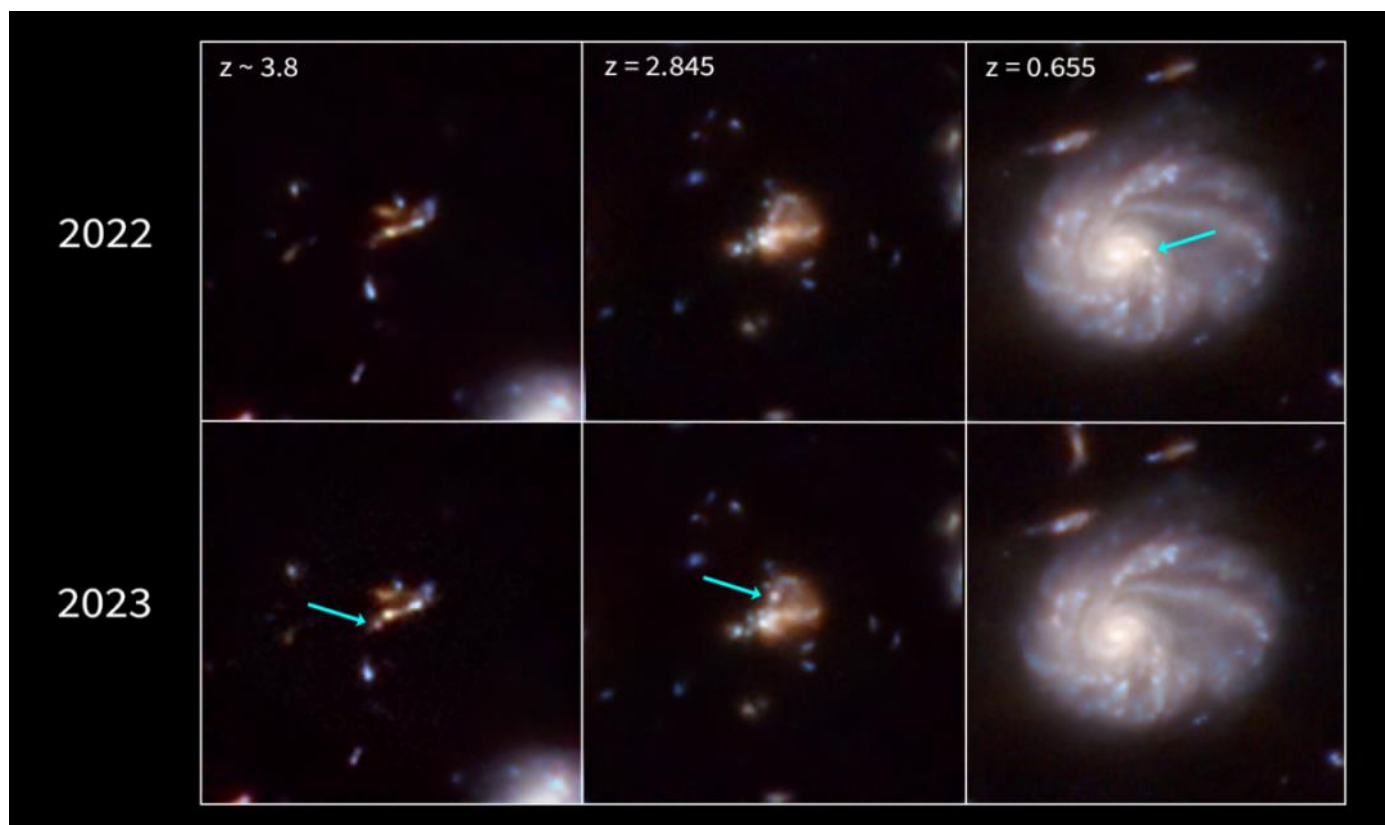
<https://www.astroleague.org/jack-horkheimer-youth-awards/>

Actually, the young writer may be nominated by anyone, not just by a grandparent. But they must be sponsored by an Astronomical League regional officer or by an Astronomical League club officer. Only one nominee per sponsor is permitted.

<https://www.astroleague.org/wp-content/uploads/2007/11/Journalism-Form.pdf>

AL Horkheimer/O'Meara Youth Journalism Award

Most Distant Supernova (Cont'd)



These images show three of the supernovae identified in the JADES images. AT2023 ADS-V appears in the lefthand column, with a redshift (z) of 3.8, which indicates it occurred at a time when the universe was 1.7 billion years old. Credit: NASA, ESA, CSA, STScI, Christa DeCoursey (University of Arizona), JADES Collaboration

(Continued from page 11)

AT2023 ADS-V is just one of many transients discovered in JADES. “This is really our first sample of what the high-redshift universe looks like for transient science,” said study team member Justin Pierel, also at STScI, in a press release. “We are trying

to identify whether distant supernovae are fundamentally different from or very much like what we see in the nearby universe.”

Certainly yet more early stellar explosions will also be discovered. And they will no doubt give astronomers a fuller picture

of the early days of the universe, when simplicity was beginning to give way to a more complex, richer cosmos filled with heavier elements, and ultimately leading to the emergence of life.

[Read the [original article](#) online at [Astronomy.com](#)]

CCAS Members Earn Night Sky Network Awards!

by Don Knabb, CCAS Treasurer & ALCOR

Thirty member of CCAS received the 2024 NASA Night Sky Network pins for their outreach efforts during the previous year. In 2024, NASA also celebrated the 20th anniversary of this popular community program with specially designed pins celebrating this anniversary occasion.

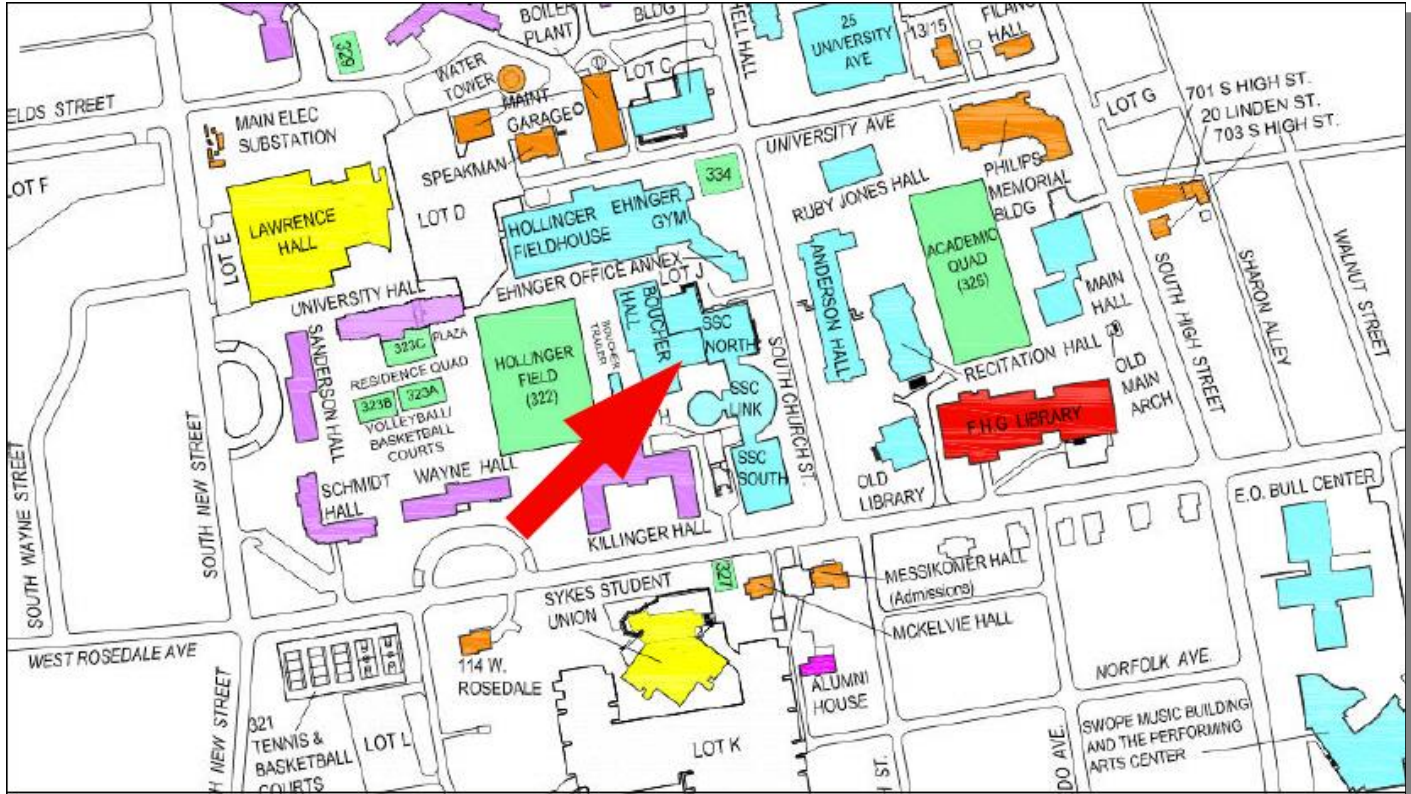
While not every member who earned the Night Sky Network award this year was able to attend the January 2025 meeting, the complete list includes: Kathy Buczynski, John Conrad, Lyssa Han, Alaric Han, Steve Harner, John Hepler, Dave Hockenberry, Janet Holloway, Mike Hopper, Sue Johnston, Bill Kellar, Pete

Kellerman, Roger Kennedy, Linda Kennedy, Don Knabb, Barb Knabb, Ed Lurcott, Mike Manigly, Jim McGuigan, Ann Miller, Don Miller, Dennis O'Leary, John Quinn, Randy Rainville, Kate Richardson, Bruce Ruggeri, Emily Scott, Phyllis Skupien, Meg Tredinnick, Chris Trunk.

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).



Speaker Bio (Cont'd)

(Continued from page 13)

traces the world's first space-man's visit to England with first-hand accounts from those who saw and met him. His second book, *The Indian Space Program*, published in October 2017, is a detailed (600+ pages) and illustrated account of India's space program, its history, current capabilities, achievements and future ambitions. He also co-authored "The Atlas of Space Rocket Launch Sites", published in 2019.

More about Gurbir Singh can be found on his podcast astrotalkuk.org/about and website gurbir.co.uk.

CCAS Membership Information and Society Financials

Treasurer's Report by Don Knabb

Dec. 2024 Financial Summary

Beginning Balance	\$1828
Deposits	\$310
Disbursements	-\$0
Ending Balance	\$2138

New Member Welcome!

Welcome to new CCAS members Ishku Varada from Chester Springs, PA, and WCU student Stephanie Hire.

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.

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

Lighthouse Outdoor Lighting is a dedicated lifetime corporate member of the [International Dark-Sky Association](http://www.darksky.org). 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

Public Relations: Ann Miller
610-558-4248

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 & Telescope 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.

