Observations

A Monthly Publication Of The
CHESTER COUNTY ASTRONOMICAL SOCIETY

Vol. 17, No. 9 | Two-Time Winner of the Astronomical League's Mabel Sterns Award ¤ 2006 & 2009 | September 2009

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Membership Renewals Due

09/2009	Bogucki
	Cooperman & Family
	De Lucia & Family
	Lurcott
	Renshaw
10/2009	Anderson
	End
	Jay
	Linskens
11/2009	Athens
	Buczynski
	Holenstein
	O'Hara

CCAS Upcoming Nights Out

CCAS has several "nights out" over the next few months. Members are encouraged to help out during these events any way they can. See below for more information.

- ¤ Saturday, September 19th, we are hosting a night out at Anson Nixon Park in Kennett Square.
- ¤ Saturday, October 17th, we are co-hosting (with the West Chester Recreation Dept.) a night out at Hoopes Park, West Chester.
- ¤ Saturday, October 24th, we are hosting "Galilean Nights: International Year of Astronomy 2009 Cornerstone Project". The event will be held at Ridley Creek State Park 7-10 PM.
- ¤ Friday, November 13th, we are hosting a private night out at Goshen Friends School. We expect 50-75 students from the ages of 3 to 11, accompanied by parents, so we'll need everyone who is available to help out with this large event. More details will follow in the next newsletter.

Important September 2009 Dates

4th • Full Moon at 12:02 p.m.

12th • Last Quarter Moon at 18:55 p.m.

18th • New Moon at 2:44 p.m.

22nd • Autumnal Equinox begins, noon EDT.

26th • First Quarter Moon, 12:49 a.m.

Autumn 2009 Society Events

September 2009

1st • Hercules Cluster meets at dusk in West Goshen Township, weather permitting. Contact Kathy Buczynski for directions and details.

2nd • PA Outdoor Lighting Council monthly meeting.

8th • DVD Lecture Series: Warping of Space & Time, Room 113, Merion Science Center, WCU. The presentation starts at 7:00 p.m.

8th • CCAS Monthly Meeting, Room 113, Merion Science Center (former Boucher Building), West Chester University. Speaker: Roger Taylor, CCAS President, "Future Direction for CCAS"; The meeting starts at 7:30 p.m.

11th • WCU Planetarium Show," Jupiter: King of the Planets Schmucker", Science Building, Show starts at 7 p.m. and run approximately one hour in length.

15th • Hercules Cluster meets at dusk in West Goshen Township, weather permitting. Contact Kathy Buczynski for directions and details.

18th • Reservations start for the October 10th planetarium show at the WCU Planetarium. For more information, please contact Dr. Karen Vanlandingham, Planetarium Director, via e-mail or visit the planetarium's webpage.

19th • CCAS Monthly Observing Session at Anson Nixon Park in Kennett Square. The observing session starts at sunset.

22nd • Hercules Cluster meets at dusk in West Goshen Township, weather permitting. Contact Kathy Buczynski for directions and details.

26th • Deadline for newsletter submissions for the October 2009 edition of Observations.

29th • Hercules Cluster meets at dusk in West Goshen Township, weather permitting. Contact Kathy Buczynski for directions and details.

October 2009

6th • Hercules Cluster meets at dusk in West Goshen Township, weather permitting. Contact Kathy Buczynski for directions and details.

7th • PA Outdoor Lighting Council monthly meeting.

9th • WCU Planetarium Show, "Killer Rocks from Outer Space", Schmucker Science Building, Show starts at 7 p.m. For more information and reservations, please contact Dr. Karen Vanlandingham, Planetarium Director, via e-mail or visit the planetarium's webpage.

13th • DVD Lecture Series: Black Holes—Abandon Hope, Ye Who Enter. Room 113, Merion Science Center, WCU. The presentation starts at 7:00 p.m.

13th • CCAS Monthly Meeting, Room 113, Merion Science Center (former Boucher Building), West Chester University. Featured Speaker: TBA. The meeting starts at 7:30 p.m.

16th • CCAS Monthly Observing Session, Myrick Conservancy Center, BVA (inclement weather date October 17th). The observing session starts at sunset.

20th • Open call for articles and photographs for the November 2009 edition of Observations.

21st • Hercules Cluster meets at dusk in West Goshen Township, weather permitting. Contact Kathy Buczynski for directions and details.

23rd • Reservations start for the November 13th planetarium show at the WCU Planetarium. For more information, please contact Dr. Karen Vanlandingham, Planetarium Director, via e-mail or visit the planetarium's webpage.

26th • Deadline for newsletter submissions for the November 2009 edition of Observations.

27th • Hercules Cluster meets at dusk in West Goshen Township, weather permitting. Contact Kathy Buczynski for directions and details.

Free Lecture at the Franklin Institute

Submitted by Ted Williams

On Wednesday, September 9th, at 8:00 PM, the Rittenhouse Astronomical Society is sponsoring a free lecture at the Franklin Institute. Entitled *"Fixing Hubble: Eyewitness to Shuttle Atlantis Launch to save The People's Telescope"*, the lecture is presented by Dr. Ken Kremer, NASA Ambassador and The Planetary Society volunteer.

NASA's final human space flight mission to the iconic Hubble Space Telescope was dramatically accomplished by Shuttle astronauts in May 2009. Dr Ken Kremer will present an up close eyewitness account of the thrilling launch of Space Shuttle Atlantis from the Kennedy Space Center on its historic mission to restore and upgrade Hubble to the apex of its scientific capabilities. Ken will speak on the highlights, purpose and success of the daring shuttle flight STS -125 to save 'The People's Telescope'. He will present a behind the scenes perspective with top NASA and Hubble scientists while reporting in real time for The Planetary Society and *Space Flight* magazine. You can read Ken's first hand press reports online exclusively at The Planetary Society (www.planetary.org) and the Rittenhouse Astronomical Society (www.rittenhouseastronomicalsociety.org).

Dr. Kremer is a research scientist and science journalist whose articles and space exploration images have appeared in magazines, books and on websites, including *Astronomy Picture of the Day, ABC News, Spaceflight Now, New Scientist, International Year of Astronomy, The*

(Continued on page 6)

No Night without a Telescope

by Kathy Buczynski, CCAS Vice President

The Observatories and Universities of the Delaware Valley are celebrating the International Year of Astronomy 2009 by setting up a program called, "No Night without a Telescope." The idea would be that the public would have access to telescopes from some observatory every night for a 5-6 week period. The program was started by Bruce Partridge, a long-time and well-known astronomer from Haverford. Participating facilities include Swarthmore, Villanova, The Franklin Institute, Penn, Drexel and Widener.

Bob Thornton, Karen Van Landingham and Marc Gagne of West Chester University will participate on Friday nights from October 23rd to Nov 20th and are asking for our help.

They are requesting at least one CCAS member on each of those nights to staff a telescope, so we all don't have to show up every Friday in that time frame. In case of inclement weather, the folks at WCU will give an indoor program that we do not, necessarily, need to

(Continued on page 16)

2009 Mabel Sterns Award Winner!

by Roger Taylor, CCAS President

Mabel Sterns was the Astronomical League's first newsletter editor, from 1948 through 1952. This is the tenth year of granting the Mabel Sterns Newsletter award in her honor. The award is a way of recognizing one of the most important people in any club, a person who is the primary source of beneficial information to club members.

Most of the time newsletter editors don't get much recognition as they do their steady task of keeping the membership informed about what goes on in their astronomy clubs. They manage to publish the newsletters in spite of often not having enough articles to fill the edition, often magically creating interesting articles at the last minute.

The 2009 Astronomical League judges had a challenge in ranking the many outstanding submissions. All of the judges are former newsletter editors.

First Place Winner:
John Hepler

John is newsletter editor of *Observations*, the newsletter of the Chester County Astronomical Society, based in West Chester, PA. He has been editing this outstanding publication for one year.

The front cover like the rest of the newsletter is attractive and well-designed. A concise table of contents on the cover makes it easy to find items inside the newsletter. The month's moon phases were shown at the bottom of the cover, with the Astronomical League's logo prominently displayed as well.

The newsletter is filled with useful information. The front page has the all important table of contents that helps members go to the items that most interests them. Also on the front page is a section called “Upcoming Nights Out” that alerts the avid stargazer of group outside observing opportunities as well as public outreach “Star Parties”.

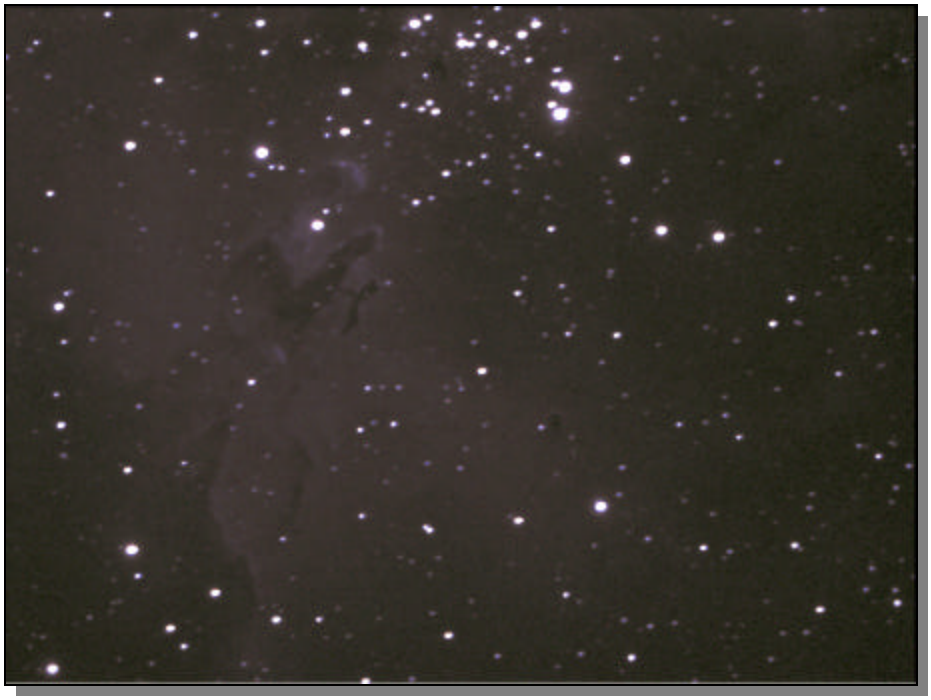
Also on the first page is a reminder of whose membership is due that month. This is a great help for members.

Inside are a whole host of goodies that run the gamut from Movie reviews to astrophotography. Articles by members on a wide variety of subjects pertaining to Astronomy add a special spice to the publication. Sprinkled through out are color images that magnify the articles and make it an exciting publication to look forward to each Month.

So again, a hearty congratulations goes to John Hepler from all of us at CCAS and the Astronomical League.

CCAS Astrophotography: M16, The Eagle Nebula

by Dave Hockenberry

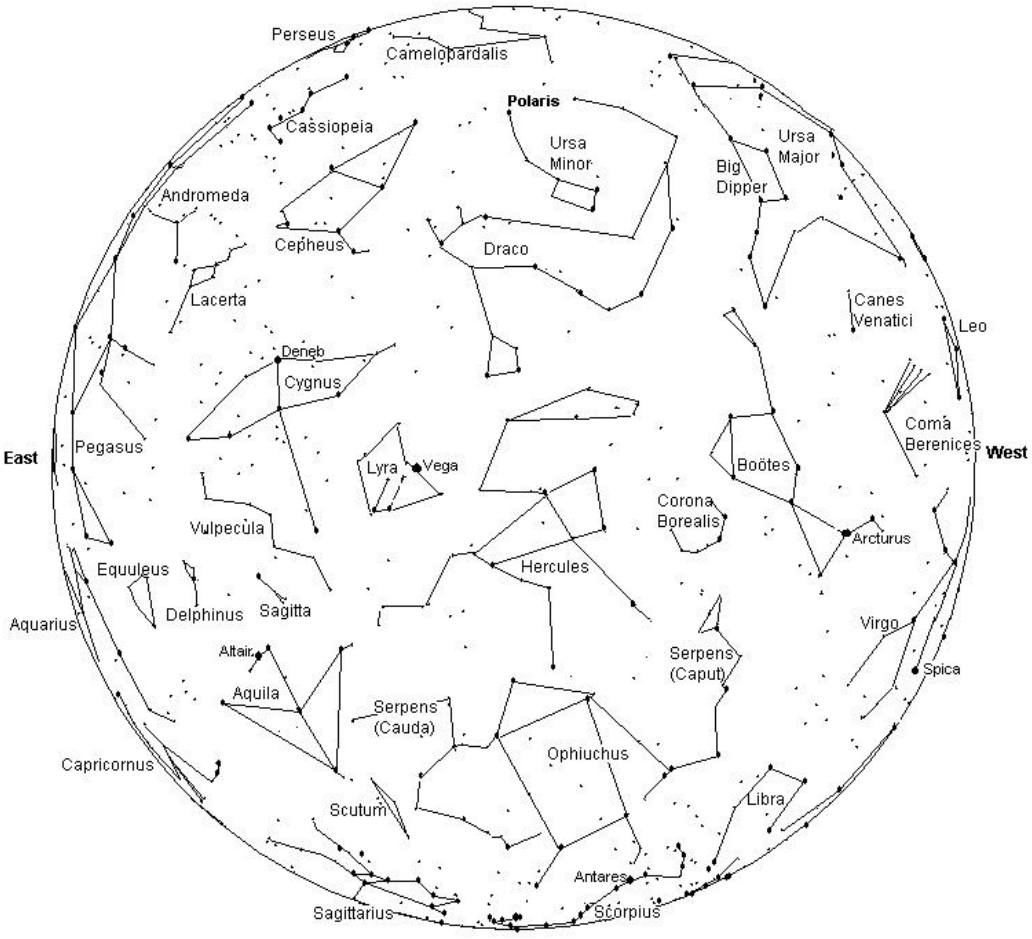


Close up of the "Pillars of Creation" in the Eagle Nebula. Stack of 7 images, 4 minutes each, Starlight Xpress SXFV-H9C color camera, taken 8/13/09 with Meade LX200R 10" F/6 reduced, auto-guided with Meade Envisage, stacked and Bayer array color synthesis with SX software and color adjusted in Photoshop.

The Sky Over Chester County

September 15, 2009 at 9:00 p.m. EDT

Note: the constellation stick figures used on the chart above were adapted from the book *The Stars: A New Way to See Them*, by H. A. Rey. This excellent guide to learning the constellations can be purchased at many area book stores, or from online booksellers.



This chart was produced using *Guide 8.0* skymapping software by Project Pluto, Bowdoinham, Maine

The faintest stars shown on this chart are fifth magnitude.

Date	Sunrise	Sunset	Moon Phases		
09/01/2009	6:29 a.m. EDT	7:32 p.m. EDT	First Quarter	09/26/2009	12:49 a.m. EDT
09/15/2009	6:42 a.m. EDT	7:09 p.m. EDT	Full Moon	09/04/2009	12:02 p.m. EDT
09/30/2009	6:56 a.m. EDT	6:44 p.m. EDT	Last Quarter	09/12/2009	10:16 p.m. EDT
			New Moon	09/18/2009	2:44 p.m. EDT

September 2009 Observing Highlights

by Don Knabb, CCAS Observing Chair

September 2	Jupiter is a few degrees below the nearly full Moon
September 2/3	Jupiter has no visible moons in the wee small hours
September 4	Full Moon 12:03 p.m.
September 11	Last quarter Moon 10:16 p.m.
September 18	New Moon 2:44 p.m.
September 22	Autumn begins at 5:19 p.m.
September 26	First quarter Moon 12:50 a.m.

The Planets: The only planet visible to the naked eye during the evening hours of September is Jupiter. For those who stay up late or more likely rise quite early, Venus is shining bright in the eastern sky and dimmer Mars is high in the sky before the sky starts to brighten.

Mercury: Mercury is deep in the glow of the sunset in early September and comes into the dawn sky late in the month. Therefore, this is not a good month for observing the planet closest to the Sun.

Venus: If you get up before dawn you cannot miss brilliant Venus in the eastern sky, shining at nearly -4 magnitude. By month's end Venus rises only 2 hours before the Sun.

Mars: The Red Planet rises a bit past midnight, but is best viewed in the hour or two before dawn when it is relatively high in the sky.

Jupiter: The king of the planets rules the evening skies, shining brightly at magnitude -2.8. An unusual event occurs on the night of September 2/3 when for a 2 hour period Jupiter appears to be moonless. That is because all 4 of the large moons are either behind or in front of Jupiter. This occurs between 12:43 a.m. and 2:29 a.m. on September 3rd. This is the last time this will happen until the year 2019!

Saturn: Saturn is lost in the glow of the Sun at the beginning of September. That's too bad, since on September 4th the rings disappear because they are edge on to the Earth. This will not happen again until the year 2025. The invisibly ringed planet goes behind the Sun on September 17th and reemerges into the dawn glow at the end of the month.

Uranus and Neptune: Uranus reaches opposition on September 17th so it is visible nearly all night. Use the finder charts at http://www.skyandtelescope.com/observing/highlights/41561382.html to find Uranus with binoculars and then with your naked eyes if you are at a reasonably dark site. Neptune is not far away in the sky and can also be found with binoculars or a telescope.

Pluto: Tiny, dim Pluto is in the southwest as the evening glow fades, shining at a dim magnitude 14. The June issue of Sky and Telescope has a finder chart if you would like to seek out this distant ex-planet.

The Moon: The Moon is full on September 4th and is called the Full Corn Moon by Native Americans. This full moon gets that name because it marked when corn was supposed to be harvested.

Constellations: The September sky is dominated by the constellations of the Summer Triangle, Lyra, Cygnus and Aquila. But stay out a little later and the Great Square of Pegasus is rising and you can find our neighbor galaxy Andromeda with binoculars. A bit later yet and you will get a preview of the fall and winter constellations with the beautiful Pleiades leading the charge.

Messier/Deep Sky: September is your last chance of 2009 to catch the Messier objects in the southern constellations of Sagittarius and Scorpius. If you can find a clear view of the southern horizon you can find M4, M6, M7, M17, M8 and M22. On the other side of the sky, if you stay out late, you can catch the star clusters in Auriga rising: M36, M37 and M38.

Comets: As during the last few months, the best comet for telescopic viewing in September is Comet

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M13: The Hercules Globular Cluster

Astrophotography by Gaston Baudat

Images taken August 16th 2009 at Glenmoore PA. 12 images of 4 minutes each, stacked, aligned, and processed with Maxim DL. Scope: Celestron C11 at f:6.3; Imager: SBIG ST4000 XCM with Orion 2" skyglow astrophotography filter; Guider: SBIG remote guiding head with AO-8 and home made on-axis guider.

Free Lecture at the Franklin Institute (cont'd)

(Continued from page 2)

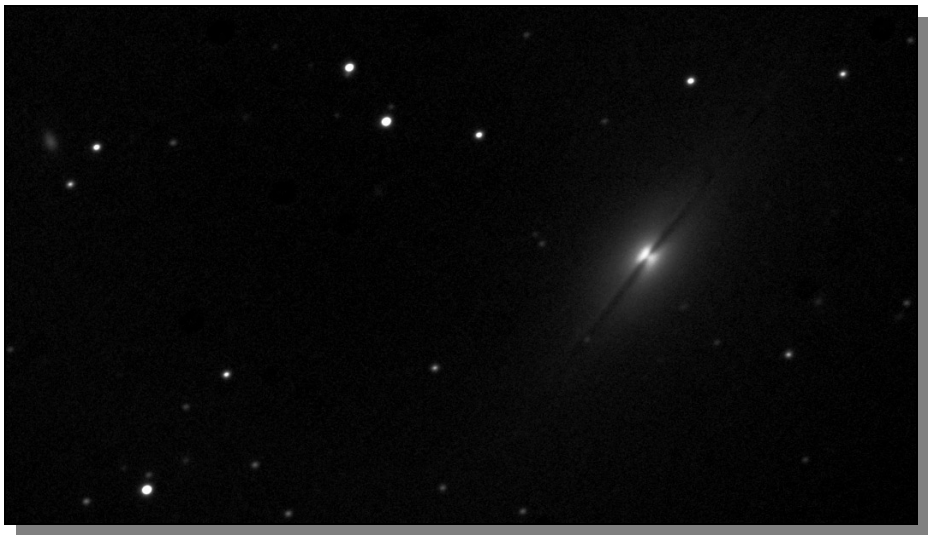
Planetary Society, Universe Today and the covers of *Aviation Week & Space Technology, Spaceflight* and the *Explorers Club* magazines. His numerous presentations at educational institutions, civic & religious organizations, museums and astronomy clubs aim to educate and excite kids and adults about science and space exploration.

The Rittenhouse Astronomical Society meets the second Wednesday of each month September through June. Meetings are open to the public and include a student lesson (7:30 PM), guest lecturer (8:00 PM) and weather permitting, observation in the Bloom Observatory atop the Franklin Institute (9:00 PM). Students are always welcome.

For more information on the upcoming presentation e-mail *TTUU@comcast.net.*

CCAS Astrophotography: C43, The Faint Fuzzy

by Dave Hockenberry



The "faint fuzzy" in Pegasus mag. 10.5. Taken 8/17/09 with a Meade DSI3Pro B&W camera, stack of 9, 4 minutes each, autoguided with MaxIm DL, stacked in AIP4WIN and final smoothing/stretching in Photoshop CS3. About 2/3 to the left and a little more that 1/2 way up the image forming a triangle with two brighter stars is IC5381, an even "fainter fuzzy" galaxy that incidentally found itself in the field of view. As usual, "scope was Meade LX200R, F/6, autoguided with Stellarview 70 mm.

Starstuff: A Long Way from Robby

by Roger Taylor, CCAS President

Leslie Neilson, Walter Pigeon and Ann Francis starred in one of the classic science fiction movies of the last century. *Forbidden Planet* provided many of us with the first look at what a robot would /should be. These early images of Robby the Robot from the planet Altair 4 shaped our view of how robots behaved and what to expect of them. The most recent examples of the fantasy robot came in the form of C3PO and R2D2 introduced in the 1977 epic *Star Wars.* To say that they are iconic would be an understatement. Modern robot

Robby the Robot

intelligence, while formidable by AI standards (artificial intelligence), is hardly at the conversational levels that we expected from the Robot B-9 in the TV series *Lost in Space*.

Enter the new generation of robots. For two weeks in September, at a remote desert site in the high dessert of southern Arizona, space suited figures roamed the terrain with quite alien looking robots. For the last eleven years this has been the testing site and proving grounds for the latest prototypes of robot vehicles and explorers. More than 100 scientists from industry, NASA and academia took part in the desert **RATS (Research and Technology Studies)** program. This program tests out the latest in prototypes of robotic devices that may someday find a place on the moon, Mars and beyond. Many of these fascinating constructs will help scientists to accomplish

Robot B-9

many of the tasks necessary in hostile environments by remote control.

To try and make these tests as real as possible, control of the devices was accomplished by communicating through a satellite uplink. The newest of these devices can roll across relatively smooth terrain or climb steep mountains. They employ sophisticated hazard avoidance systems and can work independently for short periods of time. One of the great challenges presented to remote robot explorers is how to respond to surprise situations. These robots don't want to be found in the situation of "I've fallen and I can't get up!"

Two of the most interesting entries were the **Robonaut** and the **ATHLETE (All-Terrain Hex-Legged Extra-Terrestrial Explorer)**. This pair represents the two radically different concepts

R2D2 & C3PO

in modern robotics. The first concept, that of independent action with minimal input from an observing human was demonstrated by the **ATHLETE**. The second and equally intriguing concept is the use of telepresence.

The **Robonaut** is designed to have the ability to mimic human

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Through the Eyepiece: Albireo, the double star in Cygnus

by Don Knabb, CCAS Observing Chair

During September look upward into the night sky while facing south and you cannot miss the Summer Triangle. Within the triangle is what is often considered the best double star in the sky, Albireo in Cygnus the Swan.

Cygnus, often informally termed the Northern Cross, represents the swan that Zeus, the Greek god, turned into during one of his romantic escapades. On early autumn evenings, Cygnus is high overhead, appearing to fly south along the bright sparkling band of the Milky Way.

Albireo is one of the most beautiful double stars, probably the finest in the night sky for small telescopes. The two components are known as Beta Cygni A and B. A is the primary member of the system, a golden yellow star shining at 3rd magnitude, while B is known as the companion, a fainter 5th-magnitude star with a beautiful bluish color.

Seen at even slight magnification, Albireo unfolds from a bright single point into a beautiful double star of strikingly different colors. At 380 light years distant, the two bright stars of Albireo are comparatively far from each other and take about 75,000 years to complete a single orbit. The brighter yellow star is itself a binary star system, but too close together to be resolved even with a telescope.

Albireo, also called Beta Cygni, is the fifth brightest star in the constellation Cygnus. Although it has the Bayer designation *beta* (normally the second brightest star in a constellation), it is fainter than three other stars in Cygnus.

Albireo in Cygnus. Photo credit: Hunter Wilson, http://hwilson.zenfolio.com/f129011888

Albireo is easy to find in the September sky. Find the Summer Triangle high in the southern sky, and then look for the "Northern Cross" shape of Cyg-

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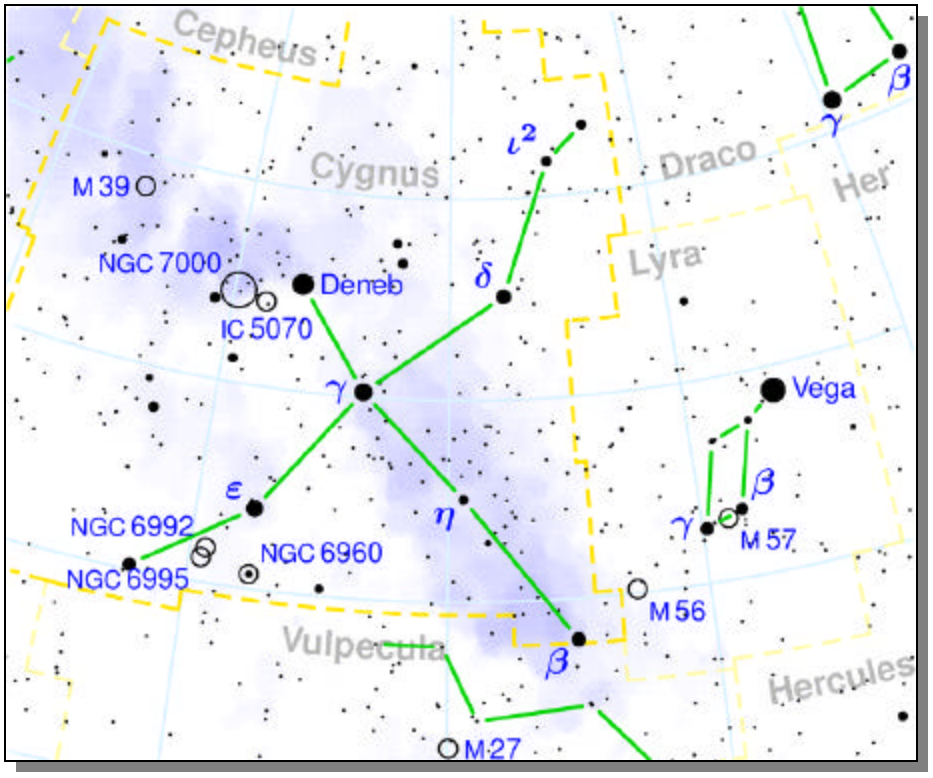


Sky map credit: http://en.wikipedia.org/wiki/File:Cygnus_constellation_map.png

Nicholas's Cartoon Corner

by Nicholas La Para

"YEP, THE SHROUD KEEPS DEW, STRAY LIGHT, AND GRANOLA BAR CRUMBS OFF THE MIRROR!"

Albireo, the Double Star in Cygnus

(Continued from page 8)

nus. Albireo is marked on the chart on page 5 as beta ß and represents the head of the swan.

Information credits:

Dickinson, Terence (2006). Nightwatch: a practical guide to viewing the universe. Buffalo, NY. Firefly Books

http://en.wikipedia.org/wiki/Albireo
http://www.nightskyinfo.com/archive/albireo/
http://antwrp.gsfc.nasa.gov/apod/ap050830.html

Observing Highlights

(Continued from page 5)

22P/Kopff. This 9th magnitude fuzzy spot is in the constellation Aquarius. You can find a chart in the September issue of Astronomy to help you find this visitor from the outer solar system. And if you look a few degrees to the south of the comet you can find the Helix Nebula, NGC 7293.

Meteor showers: The only meteor shower during September is the Alpha Aurigids on September 1st. But don't expect much from this shower, with a peak of only 5 meteors per hour predicted.

Starstuff (cont'd)

(Continued from page 7)

movements and range of motion and controlled directly by a human from a remote location. Imagine donning a suit full of actuators and receptors that let you control a robot from thousands of miles away! You lift your arm; the robot lifts its arm. You turn your head; it turns its head. You wear a helmet that gives you a virtual view of what the remote robot sees. Looking down causes the robot to look down and you see what it sees. The pressure sensors in the robot's hand send signals back to you through pressure actuators in your own suit. Thus telepresence.

The implications of this technology are vast. In future space missions "telepresence" would allow remote explorations of hostile environments from a relatively safe base station. Your robot avatar would be using human tools to do human style manipulations at a distance. You could pick up Moon rocks, dig holes, look into little nooks and crannies, and do it in hard vacuum without need of watching your air supply or trying to keep warm. The future of space exploration will rely on the combination of robotics both dependent and independent.

There is a limit to how far away a human can be from their robot counterparts though. The time lag would prove troublesome from a distance of more than a few thousand miles. The speed

(Continued on page 11)

A Planet Named Easterbunny?
by Jet Propulsion Laboratory

You know Uranus, Neptune, and Pluto. But how about their smaller cousins Eris, Ceres, Orcus, and Makemake? How about Easterbunny?

These are all names given to relatively large "planet-like" objects recently found in the outer reaches of our solar system. Some were just temporary nicknames, others are now official and permanent. Each has a unique story.

"The names we chose are important," says Caltech astronomer Mike Brown, who had a hand in many of the discoveries. "These objects are a part of our solar system; they're in our neighborhood. We 'gravitate' to them more if they have real names, instead of technical names like 2003 UB313."

NASA Space Place

Nearby planets such as Venus and Mars have been known since antiquity and were named by the ancient Romans after their gods. In modern times, though, who gets to name newly discovered dwarf planets and other important solar-system bodies?

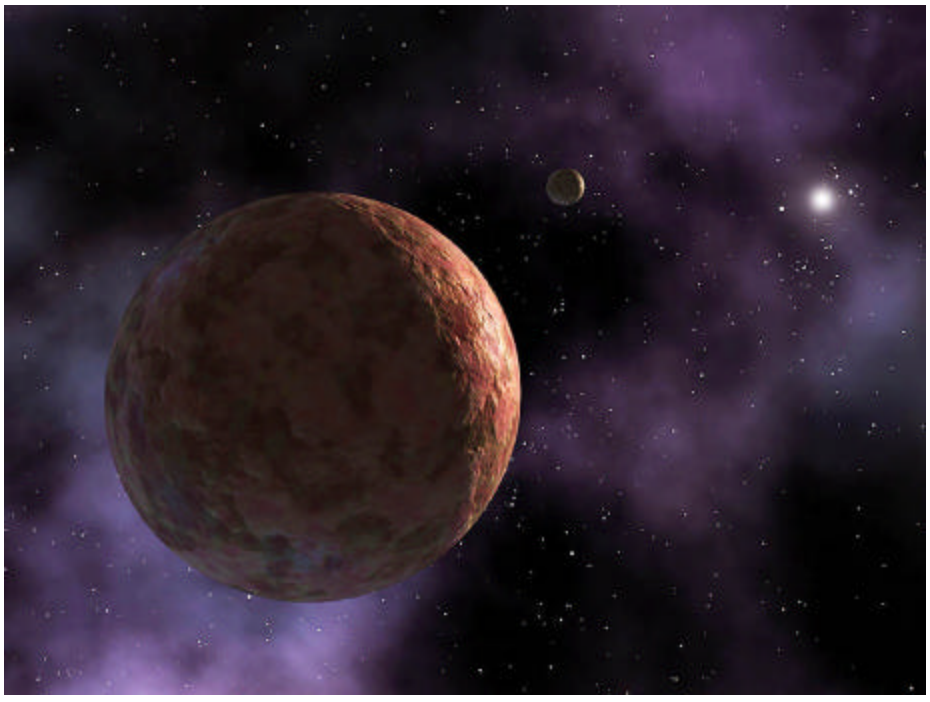
In short, whoever finds it names it. For example, a few days after Easter 2005, Brown and his colleagues discovered a bright dwarf planet orbiting in the Kuiper belt. The team's informal nickname for this new object quickly became Easterbunny. However, ever since its formation in 1919, the International Astronomical Union (IAU) ultimately decides whether to accept or reject the name suggested by an object's discoverers. "Easterbunny" probably wouldn't be approved.

According to IAU guidelines, comets are named after whoever discovered them—such as comet Hale-Bopp, named after its discoverers Alan Hale and Thomas Bopp. Asteroids can be named almost anything. IAU rules state that objects in the Kuiper belt should be given mythological names related to creation.

So Brown's team started brainstorming. They considered several Easter-esque names: Eostre, the pagan mythological figure that may be Easter's namesake; Manabozho, the Algonquin rabbit trickster god.

In the end, they settled on Makemake (pronounced MAH-kay MAH-kay), the creator of humanity in the mythology of Easter Island, so named because Europeans first arrived there on Easter 1722.

Other names have other rationales. The dwarf planet discovered in 2005 that triggered a fierce debate over Pluto's status was named Eris, for the Greek goddess of strife and discord. Another dwarf planet with an orbit that mirrors Pluto's was dubbed Orcus, a god in Etruscan mythology that, like Pluto, ruled the underworld.



Artist's rendering of dwarf planet MakeMake, discovered around Easter 2005. Unlikely to gain acceptance for their nickname Easterbunny, the discoverers named it for the god of humanity in the mythology of Easter Island.

(Continued on page 11)

Easterbunny (cont'd)

(Continued from page 10)

Brown says he takes "this naming business" very seriously and probably spends too much time on it. "But I enjoy it." More tales of discovery and naming may be found in Brown's blog MikeBrownsPlanets.com.

Constellations have also been named after ancient gods, human figures, and animals. Kids can start to learn their constellations by making a Star Finder for this month at spaceplace.nasa.gov/en/kids/st6starfinder/st6starfinder.shtml. There you will also find a handy explanation of why astrology has no place in science.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

Starstuff (cont'd)

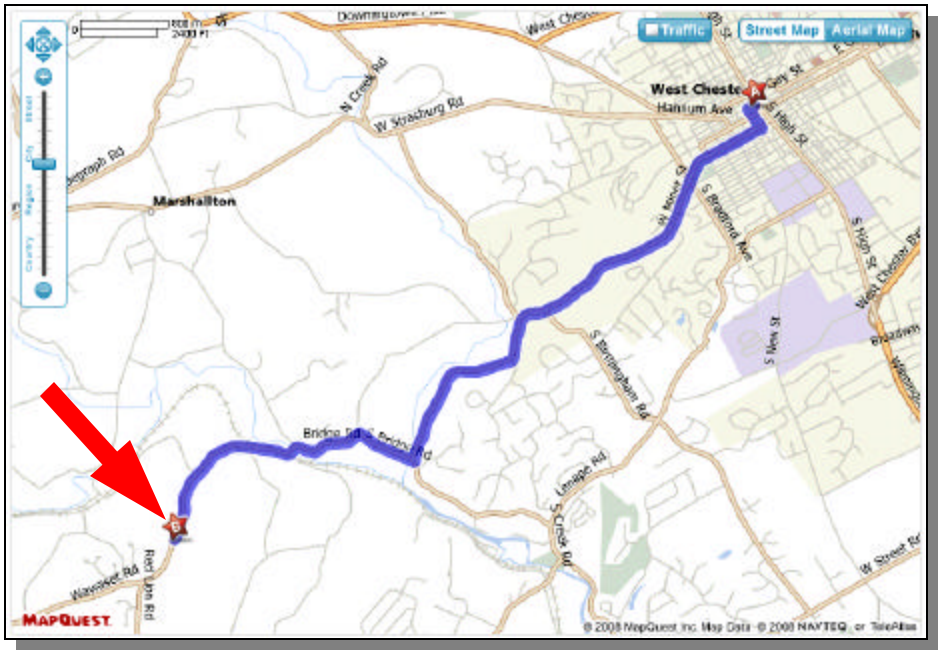
(Continued from page 9)

of light still is the limit of communications speed, so you wouldn't want to take a virtual stroll on Mars and find out thirty seconds later you walked off a cliff.

These full-scale devices were put through their paces with quite promising results. The Robonaut device was used to load and unload cargo from the **ATHLETE** and perform a visual sorting and inspection of the loads contents. An amazing feat considering that this was accomplished in Arizona by the human operators in Houston, Texas. These next generation devices far outstrip the performance of the now famous **MER (Mars Exploration Rover)**. The **ATHLETE** for example can travel over 100 times faster than the **MMER** and climb slopes twice as steep. In addition, the **ATHLETE** has a carrying capacity of over half a ton. Imagine a future mission where your robot avatar loads up the **ATHLETE** and tells it to go home and on its way back, bring that power drill that you hadn't brought along.

Wouldn't it be interesting to explore the methane lakes from orbit above Saturn's moon Titan or ice mining operations on Jupiter's moon Europa? A fascinating future, but I fear that it just doesn't have the romance of scantily clad and injured Ann Francis being brought back for help in the arms of Robby. Ah, life on Altair 4.

CCAS Directions



Brandywine Valley Association

The monthly observing sessions (held year-round) are held at the Myrick Conservation Center of the Brandywine Valley Association.

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 BVA 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 Valley Association
1760 Unionville Wawaset Rd
West Chester, PA 19382
(610) 793-1090
http://brandywinewatershed.org/

BVA 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.

Classic Refracting Telescope: Sans And Streiffe Model 612

by Vic Long

So what do you do when it rains every day for two months in a row? If you're a baby boomer who longed for a 3 inch f/16 equatorial refractor in your childhood, the answer is obvious - restore a classic 1960's vintage telescope. I really appreciate the versatility and relative affordability of modern ED refractors and catadioptric telescopes, but long focus achromatic refractors have undeniable character and can produce fantastic images..

When I was young, an achromatic telescope really meant "without color". It might not have a wide field of view or great light grasp but the optics were typically excellent. The problem was that the good ones were expensive. So when I saw an affordable, but less than pristine **Sans and Streiffe** 76mm refractor for sale I knew I had to have it. Unfortunately, the shipping company made the restoration a bit more complicated by dropping the box off the truck a couple of times.

So what is a **Sans and Streiffe**? **Sans and Streiffe** was an optical equipment supplier, located in Brookfield Illinois. They supplied a variety of instruments including slide rules, drawing equipment, telescopes, binoculars, and microscopes. They did not actually manufacture most of their inventory but had it manufactured with their label. The company may have been in business as late as 1971 according to one source; while others have it disappearing in the 1960s.

My **Sans and Streiffe** Model 612 shown in Figure 1 is a 76mm refractor with an unusual f 16.4 focal ratio. While small in aperture, it is most definitely not small in stature. Although it appears similar to the more common **Tasco** 10TE / Sears 76mm refractors made by **Royal Astro of Tokyo** during the 60's and 70's, there are some notable differences. **Sans and Streiffe** later offered a Model 618 that is essentially the same as the **Tasco** 10TE/ Sears telescopes.

The lens cell and focuser bear the same serial number. Addi-

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Figure 1: Model 612 76mm refractor

Sans And Streiffe (cont'd)

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tionally the lens cell carries a circle K marking. **Yamatar, Royal Astro, Circle OKKK** and **Kenko** marketed essentially identical models. Reportedly **Vixen** and **H&G** also sold a version, although I have not seen photos of these. The **Circle OKKK** version may well have been sold by **Kyanon Kamara Kompany**; that company later changed its name to **Canon Camera Company** in 1969.

The actual manufacturer of the telescope is uncertain. As best I can gather from reading posts in the Classic Telescopes forum on Cloudynights, the trademark circle K has been used by **Kenko** and **Towa**. **Kenko** sold **Towa's** telescopes and others. Although **Towa** designed and sold their own labeled products, they mainly supplied OEM to other companies. At least one sage (Galakuma) on Cloudynights thought this telescope model might have been made by **Towa** and exported by **Kenko** or others. This specific model reportedly has highly regarded optics.

Figure 2: Focuser

Here are the main differences between the **Sans and Streiffe** and the **Tasco** 10TE / Sears 76mm.

1. The **Sans and Streiffe** has a much longer optical tube than the **Tasco** 10TE eliminating the coarse focus drawtube found on the **Tasco**; the shorter drawtube does not sag or affect collimation. See Figure 2. An additional benefit of the drawtube is that it accepts the **Vixen** or **Borg** 1.25" visual back allowing the use of modern eyepieces. I NEVER want to look through a HM 6mm tiny eye lens ever again. After cleaning and re-greasing with synthetic lubricant (super-lube), I was impressed by the smoothness of the helical rack and pinion. It is comparable to the focuser on my Vixen.

2. No collimation screws on the air-spaced objective. – instead it has an unusual two piece lens cell. The outer cell threads into the aluminum tube; the objective lens cell threads into the outer cell. I am not sure of the purpose of this arrangement but I was relieved to find the scope in perfect collimation after being dropped during shipment hard enough to crack the wooden storage case.

3. The objective does not appear to be coated.

4. Push-on dew shield vs. a screw on for the **Tasco**. This dew shield was probably designed to be very light, however, the aluminum is thin and care must be taken not to bend it out of shape. Mine

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Sans And Streiffe (cont'd)

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had a dent that I very carefully removed. It is also too short to be of much use.

5. Different mount than the **Tasco** 10TE telescope. See Figure 3. This mount is similar to the one supplied with the **Tasco** 7TE, but beefed up with a larger diameter counterweight shaft and heavier counterweight. It can function in alt-azimuth or equatorial modes. I have seen similar mounts manufactured by **Mizar**. My mount was very stiff and gummed up with old petroleum-based grease glue. There is a great manual on the Internet by JamesE (http://geogdata.csun.edu/~voltaire/classics/tasco/Tasco_7TE_mount.pdf) describing how to tear down a **Tasco** 7TE mount that was useful in disassembling this mount. I then degreased every part with Awesome and re-greased with Super Lube as I reassembled the mount. It now moves smoothly. Though well made, this mount is barely adequate to handle the f/16.4 tube length. This OTA will probably ride on a clock driven **Stellarvue** M4 mount.

6. Minimal or no coating on the objective lens.

7. Same finder/ similar focuser as the **Tasco** 7TE.

8. No setting circles – not much of a loss, since the ones on the **Tasco** mount are pretty small.

So how does it perform? Big grin. An artificial star displayed a well collimated objective with identical diffraction patterns in and out of focus. Chromatic aberration is not apparent to my eyes (it is an f /16.4!).

I haven't had much of a chance to observe with it, but a quick look at Jupiter and a handful of stars confirmed my suspicion that this will be a great small planetary and double star scope. Very sharp, high contrast image with numerous belts that snaps into focus. Stars are pinpoints. Since I can use comfortable modern eyepieces, I suspect this 45 year old beauty will spend little time in its storage box.

Figure 3: Equatorial Mount

NASA's Space Place on Facebook

by Colleen Barboza, NASA Space Place Coordinator

We have created a Facebook page for the NASA Space Place. Our Facebook page contains original activities NOT on the Space Place, as well as highlights of the new activities on our site.

NASA's Space Place Web site's URL is *http://spaceplace.nasa.gov*. The Space Place an extensive, content-rich Web site for upper elementary age kids, their teachers, parents, and anyone else who likes a simple, readable, fun presentation of a wide range of space and Earth science and technology topics. Most of the site is great for kids to explore on their own, with interactive games, hands-on projects, and fun facts. But it also has lots of stuff for teachers. Teachers especially appreciate the bimonthly Space Place Newsletter for educators, which has lots of suggestions for how to use the resources of this Web site in the classroom. See the "Teacher's Corner" at http://spaceplace.nasa.gov/en/educators.

Check out "NASA's The Space Place" new page on Facebook, where you will also find exclusive content only for our Facebook fans! Become a fan, and we'll also let you know whenever we add a new game, animation, cartoon "talk show," fun fact, or any other interesting stuff. It's a great way to explore space!

Thanks for helping us get out the word on this new feature!

Astrophotography: The Moon & Lunar Eclipse

by Ekam Noor Singh

The Moon, taken on 08.08.2009 at Ropar, Punjab, India. Telescope used: 100mm Reflector. Camera used : Sony Digital. Camera Setting: Twilight.

Lunar Eclipse: Sept 2008 , At Chandigarh, Punjab, India. Again the day was cloudy and charming.

Read a Good Book Lately?

submitted NASA Space Place

Sometimes there's just nothing as cozy as curling up with a good storybook.

Whether you prefer turning real pages or virtual pages, you will enjoy the five spacey storybooks on The Space Place. Joining our classic stories in verse *"Professor Starr's Dream Trip"* and *"Lucy's Planet Hunt"* are the new *"What's in Space," "Supercool Space Tools,"* and *"The First Annual Planet Awards."* All are available as richly illustrated online "books" with interactive page turning or viewable and printable Adobe Reader files. So settle down with a good and fun book at http://spaceplace.nasa.gov/en/kids/storybooks.

Test Your Infrared Memory

submitted by NASA Space Place

No human can see infrared light. But the question is, can you think in infrared? Give your visual memory a workout with a few rounds of the Spitzer Infrared Concentration game at The Space Place.

Click on tiles in a grid to find matches of striking and colorful infrared images of galaxies, nebulae, and renderings of other solar systems. Start with a 3x3 grid and work your way up to a 9x6 grid‹if you can! All the images have short captions so you can better marvel at what you are seeing. Focus your brain at http://spaceplace.nasa.gov/en/kids/spitzer/concentration.

CCAS Directions

West Chester University Campus

The monthly meetings (September through May) are held in Room 113 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).

No Night (cont'd)

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participate in.

The West Chester University staff has given us much in the past and has been there for us with lectures, rooms for our meetings and classes. They rarely ask for our help. This is an opportunity to give back.

If you can participate any of those nights, please let me know. I will pass on your information to Bob Thornton, who is coordinating this event. Contact me via e-mail at vp@ccas.us.

CCAS Membership Information and Society Financials

Treasurer's Report
by Bob Popovich

July 2009 Financial Summary

Beginning Balance	$1,394
Deposits	$143
Disbursements	$161
Ending Balance	$1,376

What's in a name?

Just a reminder, CCAS hasn't moved, the WCU building where we meet has been renamed. On Friday, April 24th, 2009, West Chester University's Boucher Hall became the Merion Science Center, named in honor of **Retired Army Brigadier General Richard D. Merion**, class of '59.

Membership Renewals

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

Bob Popovich
416 Fairfax Drive
Exton, PA 19341-1814

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 $30.00 for one year. Send to:

International Dark-Sky Association
3225 North First Avenue
Tucson, AZ 85719

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:

www.darksky.org

Note that our CCAS Webmaster John Hepler has a link to the IDA home page set up on our Society's home page at **www.ccas.us**.

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:

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:

www.LymePA.org

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

CCAS Event Information

We've set up a special phone number you can dial to find out if our monthly observing session and other scheduled events will be held or postponed. Call **610-436-0829** after 5 PM ET to hear a recording to find out the latest news.

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!

Starry Night Lights

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 Park City, Utah.

Phone: **877-604-7377**
Fax: **877-313-2889**

www.starrynightlights.com

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Green Earth Lighting
Formerly
Outdoor Lighting Associates

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

Green Earth Lighting LLC
620 Onion Creek Ranch Rd
Driftwood, Texas 78619

Phone: **512-944-7354**

www.greenearthlighting.com

Local Astronomy-Related Stores

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

Skies UNLIMITED

Skies Unlimited is a retailer of telescopes, binoculars, eyepieces and telescope accessories from Meade, Celestron, Televue, Orion, Stellarvue, Takahashi, Vixen, Losmandy and more.

Skies Unlimited
Suburbia Shopping Center
52 Glocker Way
Pottstown, PA 19465

Phone: **610-327-3500** or **888-947-2673**
Fax: **610-327-3553**

www.skiesunlimited.net

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Spectrum Scientifics
Quality Science Products for All Ages

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: **215-667-8309**
Fax: **215-965-1524**

Hours:
Tuesday thru Saturday: 10AM to 6PM
Sunday and Monday: 11AM to 5PM

www.spectrum-scientifics.com

CCAS Information Directory

CCAS Lending Telescopes

Contact Kathy Buczynski 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. Kathy's phone number is 610-436-0821.

CCAS Lending Library

Contact our Librarian, Linda Lurcott Fragale, to make arrangements to borrow one of the books in the CCAS lending library. Copies of the catalog are available at CCAS meetings, and on the CCAS website. Linda's phone number is 610-269-1737.

Contributing to *Observations*

Contributions of articles 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**

Or mail the contribution, typed or handwritten, to:

John Hepler
500 W. Rosedale Ave.
Apt. A-3 Trinity Bldg.
West Chester, PA 19382

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 John Hepler, the newsletter editor, at: **newsletter@ccas.us**.

CCAS Website

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

www.ccas.us

John 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 John Hepler (484-266-0699) 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 "star nights" for school, scout, and other civic groups.

CCAS Executive Committee

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

President:	Roger Taylor 610-430-7768
Vice Pres:	Kathy Buczynski 610-436-0821
ALCor and Treasurer:	Bob Popovich 484-467-5562
Secretary:	Don Knabb 610-436-5702
Librarian:	Linda Lurcott Fragale 610-269-1737
Observing:	Don Knabb 610-436-5702
Education:	Kathy Buczynski 610-436-0821
Webmaster and Newsletter:	John Hepler 484-266-0699
Public Relations:	Deb Goldader 610-304-5303

CCAS Membership Information

The present membership rates are as follows:

REGULAR MEMBER……$25/year
SENIOR MEMBER…….$10/year
STUDENT MEMBER……..$ 5/year
JUNIOR MEMBER……..$ 5/year
FAMILY MEMBER…….$35/year

Membership Renewals

Check the Treasurer's Report in 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:

Bob Popovich
416 Fairfax Drive
Exton, PA 19341-1814

Phone: 484-467-5562
e-mail: B2N2@verizon.net

*Sky & Tele*scope Magazine Group Rates

Subscriptions to this excellent periodical are available through the CCAS at a reduced price of **$32.95,** much less than the newsstand price of $66.00, and also cheaper than individual subscriptions ($42.95)! Buying a subscription this way also gets you a 10% discount on other Sky Publishing merchandise.

To **start** a **new** subscription, make **sure** you make out the check to the **Chester County Astronomical Society**, note that it's for *Sky & Telescope*, and mail it to Bob Popovich.

To **renew** your "club subscription" contact Sky Publishing directly. Their phone number and address are in the magazine and on their renewal reminders.

If you have **any** questions call Bob first at **610-363-8242.**

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). If you want to participate in this special Society discount offer, **contact our Treasurer Bob Popovich.**