Observations

A Monthly Publication Of The
CHESTER COUNTY ASTRONOMICAL SOCIETY

Vol. 26, No. 6 ***Three-Time*** *Winner of the Astronomical League's Mabel Sterns Award ☼ 2006, 2009 & 2016* *June 2018*

In This Issue

CCAS Members Repair Society Scope

CCAS Members Frank Angelini, Kathy Buczynski, Pete La France, Ed Lurcott, Pete Kellerman, and Don Knabb adjusted the collimation of the 20 in. society scope on May 30th.

Membership Renewals Due

06/2018	Hanspal Harris Hebding Mazziotta & Calobrisi
07/2018	Hockenberry & Miller Hunsinger Johnston Piehl
08/2018	Buki Dwyer Knabb & Family Lurcott, L. Tiedemann

June 2018 Dates

6th • Last Quarter Moon, 2:31 a.m. EDT

10th • Venus, Castor and Pollux line up in the west

13th • New Moon, 3:43 p.m. EDT

20th • First Quarter Moon, 6:50 a.m. EDT

21st • Summer Solstice, 6:07 a.m. EDT

27th • Saturn is at opposition and is 1 degree from the nearly Full Moon

28th • Full Moon, the Strawberry Moon or the Trees Fully Leaved Moon, 12:53 A.M. EDT

CCAS Upcoming Nights Out

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

☼ **Saturday, June 2, 2018** - Bucktoe Creek Preserve, Avondale, PA. The event is open to be public but registration for non-CCAS members is required through The Land Conservancy for Southern Chester County website. A small fee is required by The Land Conservancy of Southern Chester County to attend this event.

☼ **Saturday, June 16, 2018** - Nottingham County Park, Nottingham, PA, from 8:00 to 10:00 p.m. The event is open to the public but registration for non-CCAS members is required through the Nottingham County Park website.

Spring/Summer 2018 Society Events

June 2018

6th • PA Outdoor Lighting Council monthly meeting, 1438 Shaner Drive, Pottstown, PA 19465, starting at 7:30 p.m. For more information and directions, visit the PA Outdoor Lighting Council website.

8th • CCAS Monthly Observing Session, Myrick Conservancy Center, BRC. The observing session starts at sunset.

16th • CCAS Special Observing Session at Nottingham Park, Nottingham, PA.

20th • Open call for articles and photographs for the July 2018 edition of Observations.

21st • Summer solstice at 6:07 a.m. First day of summer, northern hemisphere.

26th • Deadline for newsletter submissions for the July 2018 edition of Observations.

July 2018

6th • CCAS Monthly Observing Session, Myrick Conservancy Center, BRC. The observing session starts at sunset.

10th-13th • CCAS Special Camping & Observing Session at Cherry Springs State Park, Coudersport, PA.

12th-13th • The von Kármán Lecture Series: Walking on Mars, Jet Propulsion Laboratory, Pasadena, California. Live stream of free lecture presented by NASA & Caltech.

13th • CCAS Special Observing Session, Friday Night Lights, ChesLen Preserve, Coatesville, PA. For non-members registration is required with The Natural Lands Trust.

20th • Open call for articles and photographs for the August 2018 edition of Observations.

26th • Deadline for newsletter submissions for the August 2018 edition of Observations.

Minutes from the May 8, 2018, CCAS Meeting

by Ann Miller, CCAS Secretary

- Roger Taylor, CCAS president, welcomed members and guests to the May 8, 2018 meeting of the Chester County Astronomical Society.
- Roger reminded everyone that the expedition to Cherry Springs for camping and star gazing will be May 15 to 17, 2018, weather permitting.
- Roger also welcomed Kathy Buczynski back from Florida. He then presented her with a Night Sky Network certificate of recognition for Exceptional Outreach. Congratulations, Stella the Star Lady.
- Our club also received certificates of appreciation for being conduits for distribution of 500 eclipse glasses at the Exton Library and in Cherokee, NC for the August 21, 2017 solar eclipse.
- Don Knabb, observing chair, reminded our group of upcoming events.
  - May 12-Bucktoe Star Party 8pm-9:30pm
  - May 15-17 Cherry Springs Camping Trip
  - May 18-Joint BRC Star Party and monthly observing
  - May 19-Anson Nixon Park Star Party
  - June 8-BRC monthly observing
  - June 16-Nottingham County Park Star Party
  - July 6-BRC monthly observing
  - July 13-Friday Night Lights at Chelsea Preserve
- Don presented the Summer Night Sky using Sky Safari. Jupiter will be at opposition tomorrow May 9. Scorpio will be rising in the summer night sky. Look for the Northern Jewel Box/NGC 6231 in Scorpio.
- Bruce Ruggeri attended the Franklin Institute Science Festival on April 20th on the Parkway in Philadelphia, PA. He encouraged our group to consider having a booth at the 2019 Science Festival. Other astronomy clubs are also participating.
- David Hockenberry, program chair, introduced our evening's speaker, Scott Engle, PhD, from Villanova University Department of Astronomy. Dr. Engle presented a talk on "The Variations of Cepheids—What we have learned and what we hope to learn."

September 2018 CCAS Meeting Agenda

by Dave Hockenberry, CCAS Program Chair

Our next meeting will be held on September 11, 2018, starting at 7:30 p.m. The meeting will be held in Room 113, Merion Science Center (former Boucher Building), West Chester University. Guest Speaker: TBA.

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 our 2018-2019 season. If you are interested in presenting, or know someone who would like to participate, please contact me at programs@ccas.us.

Alan Bean, 4th Person to Walk on the Moon, Dies at 86

by Richard Goldstein, New York Times

Alan Bean, who became the fourth man to walk on the moon and turned to painting years later to tell the story of NASA's Apollo missions as they began receding into history, died on Saturday, May 26, 2018, at Houston Methodist Hospital. He was 86.

His death was announced by his family in a statement released by NASA.

Mr. Bean stepped onto the lunar surface preceded by Pete Conrad, the mission commander of their Apollo 12 flight, in November 1969, four months after Neil Armstrong and Buzz Aldrin became the first lunar explorers.

Mr. Bean, right, with his Apollo 12 crewmates, Pete Conrad, left, and Richard Gordon. Image Credit: NASA.

The flight of Apollo 12, while thrilling in its own right, was not nearly as dramatic as the pioneering mission of Apollo 11, but it resulted in a more extensive exploration of the moon.

Mr. Bean returned to space in July 1973, when he commanded a three-man flight to the orbiting space research station Skylab, the forerunner of the International Space Station. The astronauts on that mission spent 59 days in space, a record at the time.

Alan LaVern Bean was born on March 15, 1932, in Wheeler, Tex., but grew up in Fort Worth. He was fascinated by model planes as a youngster and received a bachelor's degree in aeronautical engineering in 1955 from the University of Texas.

He obtained a commission in Navy aviation and after completing test-pilot school was selected by NASA as one of 14 new astronauts in October 1963. But it wasn't until Apollo 12 that he flew in space.

Twelve astronauts ultimately walked on the moon in six Apollo missions. When Mr. Bean, a former Navy test pilot, left NASA in 1981, he drew on a longstanding interest in painting to become a full-time artist, creating images of the era when science fiction morphed into reality.

About 45 of Mr. Bean's paintings were displayed at the Smithsonian National Air and Space Museum in Washington in an exhibition marking the 40th anniversary of the first moon walk.

NASA Night Sky Network Outreach Certificate Awarded

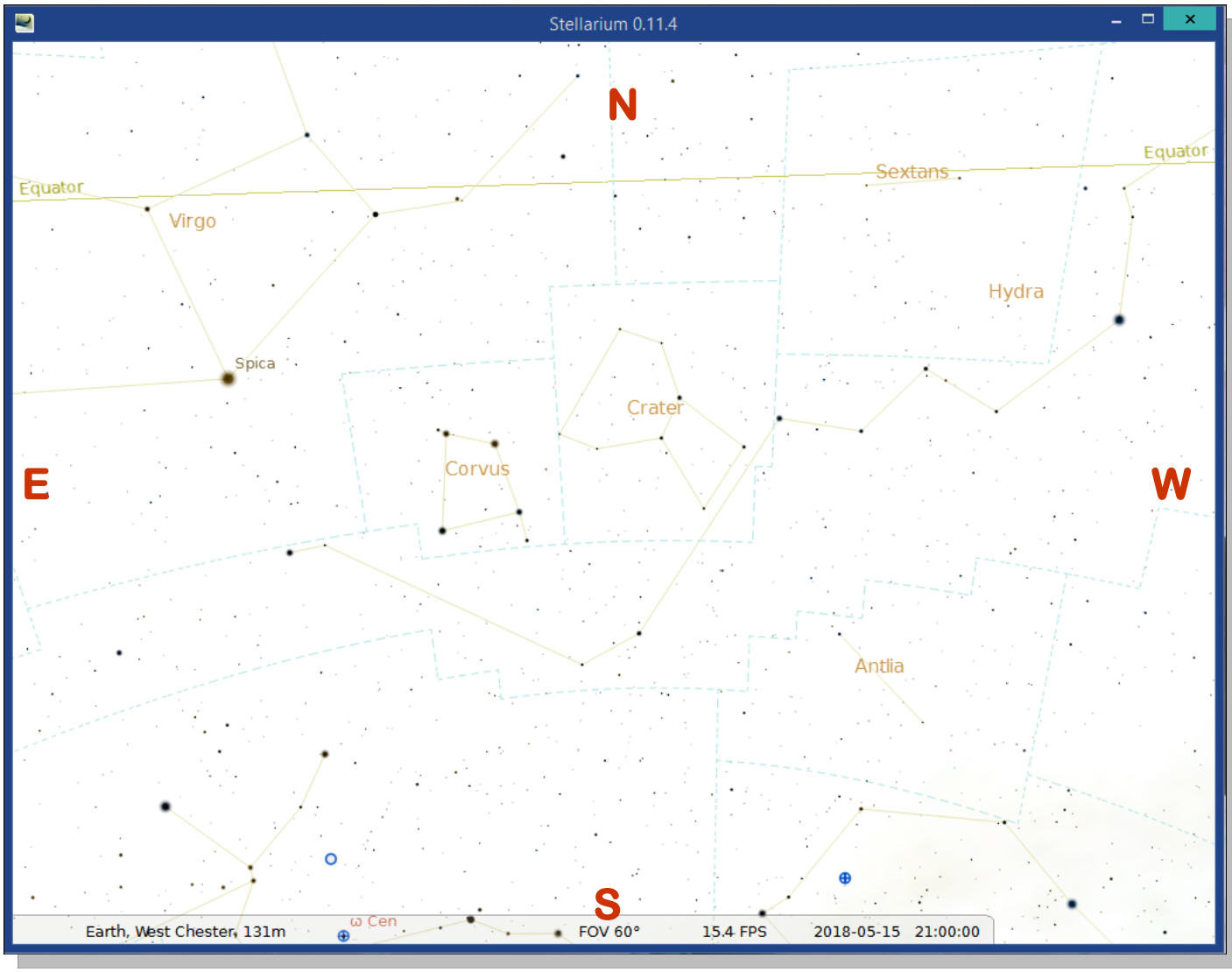
by Roger Taylor, CCAS President

CCAS President Roger Taylor presents Kathy Buczynski with her Night Sky Network Outreach Award at the May 8, 2018, CCAS Monthly Meeting.

The Sky Over Chester County

June 15, 2018 at 9:00 p.m. ET

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



Date	Civil Twilight Begins	Sunrise	Sunset	Civil Twilight Ends	Length of Day
06/01/2018	5:03 a.m. EDT	5:35 a.m. EDT	8:25 p.m. EDT	8:57 p.m. EDT	14h 49m 14s
06/15/2018	5:00 a.m. EDT	5:33 a.m. EDT	8:32 p.m. EDT	9:05 p.m. EDT	14h 59m 39s
06/30/2018	5:04 a.m. EDT	5:37 a.m. EDT	8:35 p.m. EDT	9:07 p.m. EDT	14h 58m 03s

Moon Phases					
Last Quarter	06/06/2018	2:31 a.m. EDT	New Moon	06/13/2018	3:43 p.m. EDT
First Quarter	06/20/2018	6:50 a.m. EDT	Full Moon	06/28/2018	12:53 a.m. EDT

June 2018 Observing Highlights

by Don Knabb, CCAS Treasurer & Observing Chair

6	**Last Quarter Moon, 2:31 a.m. EDT**
10	**Look for asteroid Vesta this week**
10	**Venus, Castor and Pollux line up in the west**
13	**New Moon, 3:43 p.m. EDT**
16	**The waxing crescent Moon lines up with Venus and the Beehive Cluster**
19	**Vesta is at opposition**
21	**Summer solstice, 6:07 a.m. EDT**
20	**First Quarter Moon, 6:50 a.m. EDT, and the Lunar X is visible at 4 p.m.**
21	**The Lunar Straight Wall is visible**
27	**Saturn is at opposition and is 1 degree from the nearly Full Moon**
28	**Full Moon, the Strawberry Moon or the Trees Fully Leaved Moon, 12:53 A.M. EDT**

The best sights this month: Venus, Jupiter and Saturn rule the evening sky. Also look for asteroid Vesta this month when the Moon is absent from the sky. From a dark sky site, it will be visible to the naked eye, but from Chester County skies we'll need binoculars or a telescope. How often do you get to see an asteroid? Go for it!

Mercury: Look for dim Mercury late in the month as the glow of the Sun fades from the sky.

Venus: Our sister planet continues to shine brightly in the west after sunset, reaching its highest sunset altitude of the year on June 6th. Venus also lines up nicely with Castor and Pollux on June 10th and is on the outskirts of M44, the Beehive Cluster, on June 19th and 20th.

Mars: The red planet rises around 11 p.m. in mid-June and is rapidly growing in size and brightness. I happened to take a brief walk outside in late May around 4 a.m. and was amazed at how bright Mars is already. Its going to be a great show in about 2 months!

Jupiter: The king of the planets is high in the sky around 11 p.m. and cannot be missed in the southern sky. I had the joy of seeing the shadow of Jupiter's moon Io transit the planet in late May.

Saturn: Saturn reaches opposition on June 27th. On that day there is less than 1 degree separation between the Moon and Saturn. The rings are tilted at nearly the maximum we can ever observe, so this is a wonderful time to gaze at the ringed beauty in a telescope. Show your family, friends and neighbors – they will never forget it!

Uranus and Neptune: The distant gas giants can only be observed just before morning twilight.

Asteroid Vesta: Vesta reaches opposition on June 19th and at magnitude 5.3 it is visible to the naked eye at a dark sky location. This is the brightest Vesta has been in 10 years or will be for 13 years in the future. The June issue of Sky and Telescope has a finder chart or use a good astronomy app to find this big space rock.

The Moon: Full Moon is on June 28th. Native Americans called this the Full Strawberry Moon. This name was universal to every Algonquin tribe. However, in Europe they called it the Rose Moon. Native Canadians called this the Trees Fully Leaved Moon.

Constellations: Sunset is so late during June that we need to stay up late to see the stars, but the warm nights and the fireflies make it worth the effort. Leo the Lion is running into the west as if he is fleeing from Hercules in the east. And if you stay up a bit later look to the south for bright red Antares in the constellation Scorpius the Scorpion. In the east the big birds of summer, Aquila the Eagle and Cygnus the Swan are rising. But I'll spend most of my time staring at Sagittarius and Scorpius in the southern sky for the next few months, enjoying their brief time above the horizon.

Messier/deep sky: For a telescopic treat seek out M3 in Canes Venatici in the southwest, one of the three brightest globular clusters in the northern sky. Then switch to a low power/wide field eyepiece and swing over to the east where M39, a loosely structured open cluster is rising with Cygnus. The rest of

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Through The Eyepiece: Rupes Recta, the Straight Wall on the Moon

by Don Knabb, CCAS Treasurer & Observing Chair

Every month we have an opportunity to see an interesting feature on the moon, Rupes Recta, also known as the Straight Wall. This feature appears around a day after First Quarter and is the most well-known “fault” on the moon.

Around 3 billion years ago the flow of molten lava that formed the lunar seas, or maria, dwindled and the Moon entered a much quieter phase during which impact events and global crustal adjustments began to form the lunar surface we see today. Faults appeared when tension and compression forces exceeded the strength of the lunar crust as the moon cooled and began to reach a state of equilibrium.

“Normal” faults are those where tension forces have pulled the crust apart and gravity pulls down one side of the fault exposing a fault-scarp, or *rupes*. Rupes Recta, the Straight Wall, is the best example of a normal fault on the Moon.

Rupes Recta is not far from the famous Lunar X feature that many of our club members have seen and photographed. It is in the southeastern part of Mare Nubium.

When the Sun illuminates the “Straight Wall” at an oblique angle at about day 8 of the Moon's cycle the fault casts a wide shadow that gives it the appearance of a steep cliff. The fault has a length of 110 km, a typical width of 2–3 km, and a height of 240–300 m. Although it appears to be a vertical cliff in the lunar surface, in actuality the grade of the slope is relatively shallow, as can be seen in the picture taken by the Apollo 16 crew.

Photo: Rupes Recta (and Rima Birt) - photo taken by Georgi Georgiev, Stara Zagora, Bulgaria. Since this is a telescopic view, this image is inverted. Creative Commons file.

To the west of this escarpment is the crater Birt, which is about 17 km in diameter. Also to the west is the Rima Birt rille. A *rille* (German for groove) is a groove, as opposed to a rupes which is a cliff. Rima Birt rille is visible in the photograph as a faint curving line to the right of the crater Birt. This rille is not the product of faulting but was cut by erosive forces of lava around 3 billion years ago,

At the southern end of Rupes Recta is a group of hills often called the "Stag's-Horn Mountains", although this name is not officially recognized by the IAU.

As the sun rises higher, the shadows are lost, but the feature will re-appear sixteen days later on moon day 24, as the sun strikes the face of the wall, this time transforming it into a

(Continued on page 7)

Eyepiece (Cont'd)

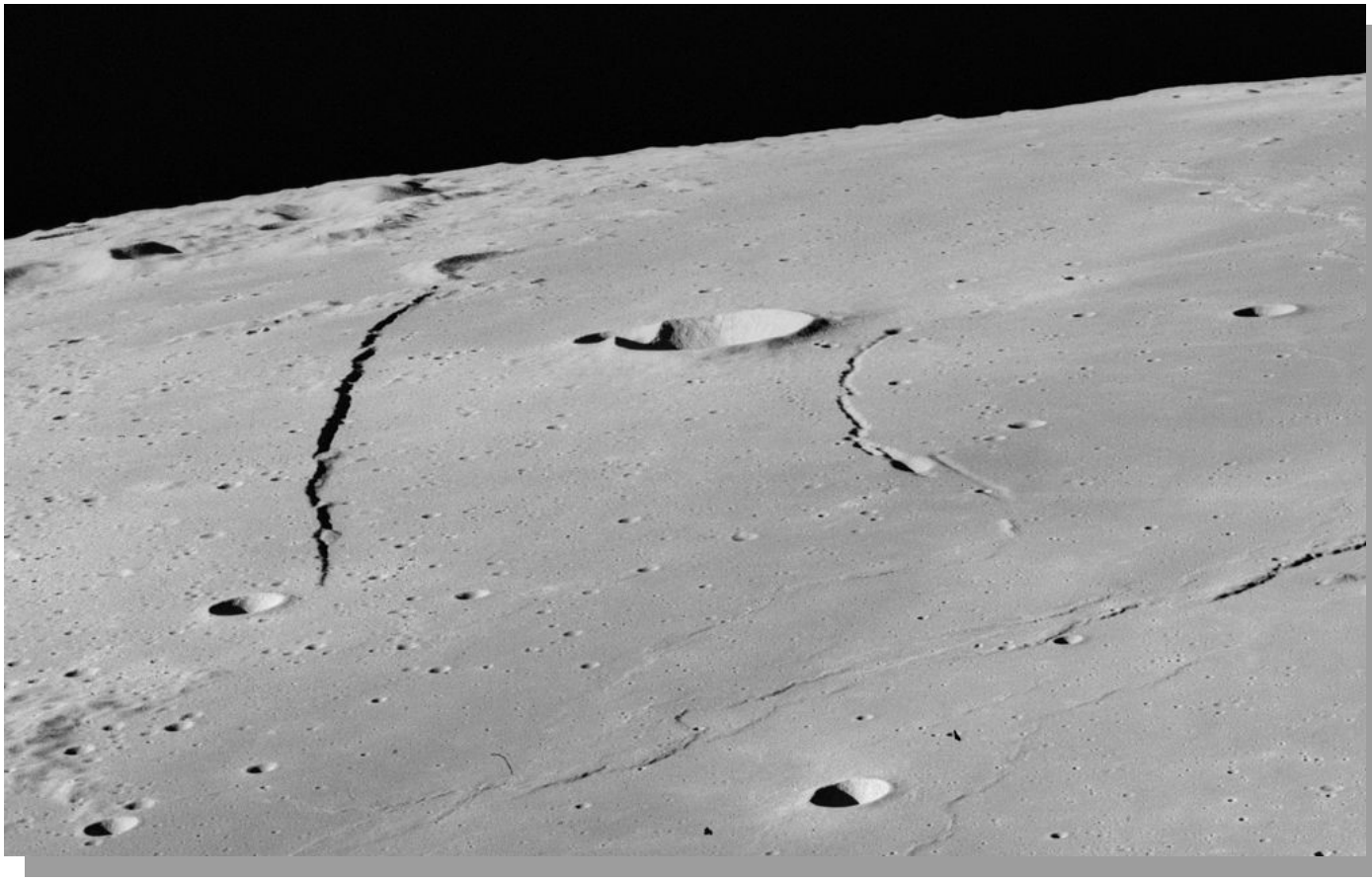

Photo: Oblique view of Rupes Recta (left), Birt (center), and Rima Birt (right), from Apollo 16. Public domain file.

(Continued from page 6)
gleaming white scarp.

Information credits:

- Grego, Peter. 2004. Moon Observer's Guide. Buffalo, NY. Firefly Books
- http://en.wikipedia.org/wiki/Rupes_Recta
- http://www.astro-nut.com/lunar-03feb09.html

Rescheduled Cherry Springs Camping & Observing Trip

by Don Knabb, CCAS Program Chair & Treasurer

Due to inclement weather, the planned camping trip at Cherry Springs State Park in May had to be cancelled. We have rescheduled the trip for next month, when hopefully the weather will be more cooperative. We will depart on Tuesday, July 10th and return on Friday, July 13th.

Cherry Springs State Park is about a 4 ½ hour drive from West Chester. Pete Kellerman has been to Cherry Springs many times and he assures us that during the week we do not need to be concerned with finding room to set up our camping sites on the astronomy field, but the sites are first come, first served.

Note that on the astronomy field the only light allowed after dark is red light unless the sky is 100% cloudy. Light sources in vehicles or computer screens must be blocked or filtered. Green lasers are prohibited. Open fires are prohibited but gas camp stoves are allowed. Electrical power is available for charging up batteries.

You can download a park brochure and map and registration is

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What Is the Asteroid Belt?

by Linda Hermans-Killiam

*This article is provided by **NASA Space Place.** With articles, activities, crafts, games, and lesson plans, NASA Space Place encourages everyone to get excited about science and technology.*

Visit spaceplace.nasa.gov to explore space and Earth science!

There are millions of pieces of rocky material left over from the formation of our solar system. These rocky chunks are called asteroids, and they can be found orbiting our Sun. Most asteroids are found between the orbits of Mars and Jupiter. They orbit the Sun in a doughnut-shaped region of space called the asteroid belt.

Asteroids come in many different sizes—from tiny rocks to giant boulders. Some can even be hundreds of miles across! Asteroids are mostly rocky, but some also have metals inside, such as iron and nickel. Almost all asteroids have irregular shapes. However, very large asteroids can have a rounder shape.

The asteroid belt is about as wide as the distance between Earth and the Sun. It's a big space, so the objects in the asteroid belt aren't very close together. That means there is plenty of

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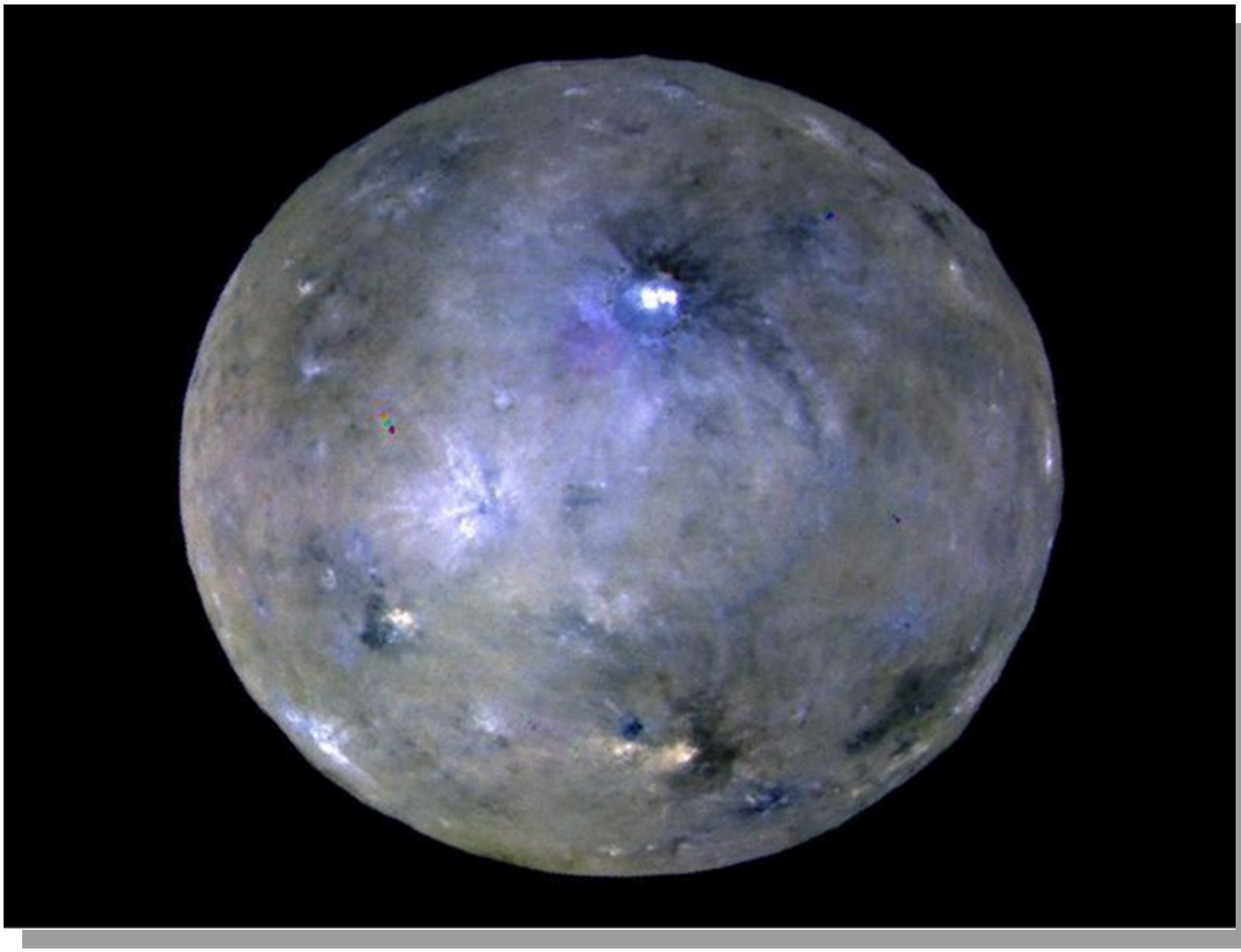


Caption: This image captured by the Dawn spacecraft is an enhanced color view of Ceres, the largest object in the asteroid belt. Credit: NASA/JPL-Caltech/UCLA/MPS/DLR/IDA

Space Place (Cont'd)

(Continued from page 8)

room for spacecraft to safely pass through the belt. In fact, NASA has already sent several spacecraft through the asteroid belt!

The total mass of objects in the asteroid belt is only about 4 percent the mass of our Moon. Half of this mass is from the four largest objects in the belt. These objects are named Ceres, Vesta, Pallas and Hygiea.

The dwarf planet Ceres is the largest object in the asteroid belt. However, Ceres is still pretty small. It is only about 587 miles across—only a quarter the diameter of Earth's moon. In 2015, NASA's Dawn mission mapped the surface of Ceres. From Dawn, we learned that the outermost layer of Ceres—called the crust—is made up of a mixture of rock and ice.

The Dawn spacecraft also visited the asteroid Vesta. Vesta is the second largest object in the asteroid belt. It is 329 miles across, and it is the brightest asteroid in the sky. Vesta is covered with light and dark patches, and lava once flowed on its surface.

The asteroid belt is filled with objects from the dawn of our solar system. Asteroids represent the building blocks of planets and moons, and studying them helps us learn about the early solar system.

For more information about asteroids, visit: https://spaceplace.nasa.gov/asteroid

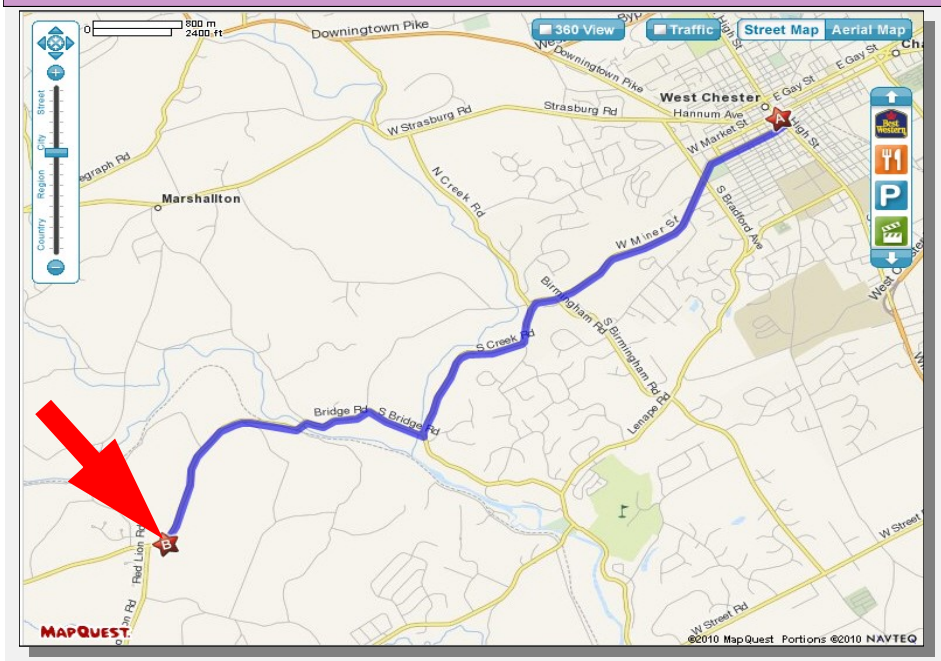
Cherry Springs (Cont'd)

(Continued from page 7)

required for camping. This is done at the registration kiosk near the entrance to the astronomy field. Fee envelopes must be filled out and the fee placed into the envelope and deposited in the fee tube.

If you would like to join us in our second attempt, please send an email to Don Knabb. Of course, the trip is again weather dependent. If rain is forecast again, we will have to cancel the trip.

CCAS Directions



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

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

Brandywine Red Clay Alliance

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

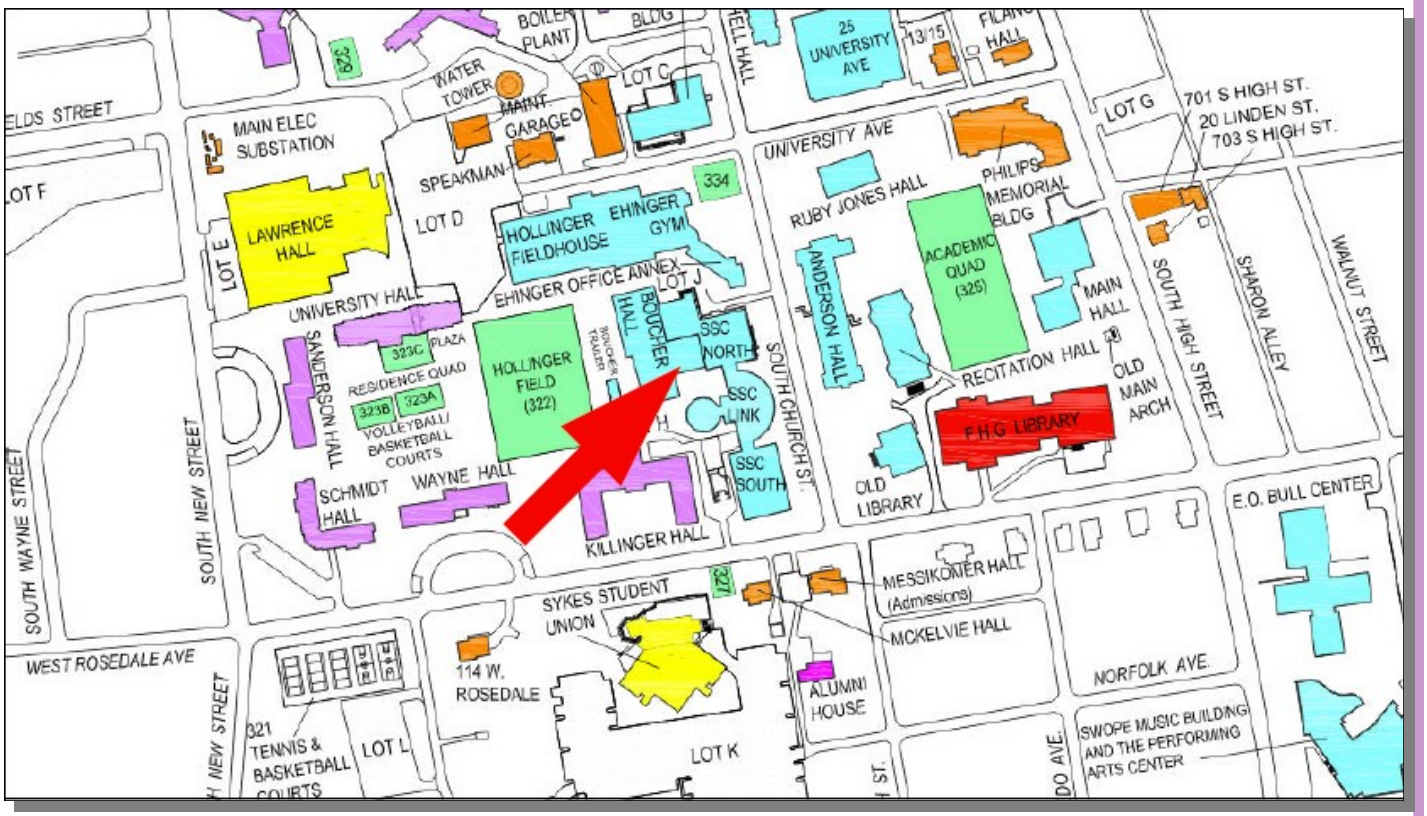
To get to the Myrick Conservation Center from West Chester, go south on High Street in West Chester past the Courthouse. At the next traffic light, turn right on Miner Street, which is also PA Rt. 842. Follow Rt. 842 for about 6 miles. To get to the observing site at the BRC property, turn left off Route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

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

CCAS Directions

West Chester University Campus

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



Observing (Cont'd)

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the evening you can spend in the southern sky enjoying open clusters M6, the Butterfly Cluster, and M7, Ptolemy's Cluster. To see nebulas, nearby are M8 the Lagoon Nebula and M20 the Trifid Nebula.

Comets: There are no bright comets in the sky during June.

Meteor showers: There are no major meteor showers during June. If you do happen to see a very slow meteor late in the month it could be a Boötid meteor, but this shower is so sparse and unpredictable it cannot be called a meteor shower.

CCAS Membership Information and Society Financials

Treasurer's Report
by Don Knabb

May 2018 Financial Summary

Beginning Balance	$1,464
Deposits	$140
Disbursements	-$0
Ending Balance	$1,604

New Member Welcome!

Welcome new CCAS members Tracee Sigler-Quick, West Chester, PA, Abel Alonso, also from West Chester, Jeff Poley, Chester Springs, PA, Brent Crabb, Fountain Valley, CA, and Nancy Thomas, Lansdale, PA. We're glad you decided to join us under the stars! Clear skies to you!

Membership Renewals

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

Don Knabb
988 Meadowview Lane
West Chester PA 19382

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

CCAS Information Directory

Join the Fight for Dark Skies!

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

http://www.darksky.org

Dark-Sky Website for PA

PENNSYLVANIA OUTDOOR LIGHTING COUNCIL

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.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"!

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**

http://www.starrynightlights.com

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LIGHTHOUSE OUTDOOR LIGHTING

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

Phone: **484-291-1084**

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.

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**

http://www.skiesunlimited.net

★ ★ ★ ★ ★

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

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.

CCAS Lending Library

Contact our Librarian, Barb Knabb, 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. Barb's phone number is 610-436-5702.

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
21103 Striper Run
Rock Hall, MD 21661

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 out our Website at:
http://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 at (410) 639-4329 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:	Roger Taylor 610-430-7768
Vice President:	Liz Smith 610-842-1719
ALCor, Observing, and Treasurer:	Don Knabb 610-436-5702
Secretary:	Ann Miller 610-558-4248
Librarian:	Barb Knabb 610-436-5702
Program:	Dave Hockenberry 610-558-4248
Education:	Kathy Buczynski 610-436-0821
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