



Observations

A Monthly Publication Of The
CHESTER COUNTY ASTRONOMICAL SOCIETY

Vol. 20, No. 5

Two-Time Winner of the Astronomical League's Mabel Sterns Award \approx 2006 & 2009

May 2012

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Venus and the Pleiades



Photo courtesy of CCAS Member Don Knabb (processed by Dave Hockenberry)

Membership Renewals Due

05/2012	Fletcher Long Znamensky
06/2012	Aylam Hebding Kovacs Mazziotta & Family Siskind
07/2012	Calobrisi & Family Hockenberry-Miller

Important May 2012 Dates

- 5th** • Full Moon, 11:35 p.m.
- 12th** • Last Quarter Moon, 5:47 p.m.
- 20th** • New Moon, 7:47 a.m.
- 22nd** • The Moon is near Venus.
- 28th** • First Quarter Moon, 4:16 p.m.
- 29th** • The Moon is near Mars.



CCAS Upcoming Nights Out

CCAS has several "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, May 18, 2012** - CCAS Monthly Observing Session, Myrick Conservancy Center, BVA (inclement weather date May 19th). The observing session starts at sunset.
- ✧ **Saturday, June 22, 2012** - CCAS Monthly Observing Session, Myrick Conservancy Center, BVA (inclement weather date June 23rd). The observing session starts at sunset.

Spring/Summer 2012 Society Events

May 2012

2nd • PA Outdoor Lighting Council monthly meeting, Bucktown Branch of National Penn Bank, 1111 Ridge Rd, (Rt. 23 just west of Rt. 100) in South Coventry Township, PA, starting at 7:30 p.m. Meetings are open to the public. For more information and directions, visit the [PA Outdoor Lighting Council](#) website.

8th • CCAS Monthly Meeting, Room 113, Merion Science Center (former Boucher Building), West Chester University. Meet & Greet over coffee and refreshments for members and non-members alike from 7:00 p. m. to 7:30 p.m. The meeting starts immediately after at 7:30 p.m. Speaker: TBA.

18th • CCAS Monthly Observing Session, Myrick Conservancy Center, BVA (inclement weather date May 19th). The observing session starts at sunset..

20th • Open call for articles and photographs for the June 2012 edition of *Observations*.

26th • Deadline for newsletter submissions for the May 2012 edition of *Observations*.

June 2012

6th • PA Outdoor Lighting Council monthly meeting, 1438 Shaner Drive, Pottstown, PA 19465, starting at 7:30 p.m. Meetings are open to the public. For more information and directions, visit the [PA Outdoor Lighting Council](#) website.

18th-20th • [The Great Andromeda Galaxy: A Workshop to Celebrate Martin Schwarzschild's Centennial](#), Princeton, New Jersey.

20th • Open call for articles and photographs for the July 2012 edition of *Observations*.

22nd • CCAS Monthly Observing Session, Myrick Conservancy Center, BVA (inclement weather date June 23rd). The observing session starts at sunset.

26th • Deadline for newsletter submissions for the July 2012 edition of *Observations*.

Minutes from the April 10, 2012 CCAS Monthly Meeting by Ann Miller, CCAS Secretary

- 18 people were in attendance.
- Introductions made by President Roger Taylor.
- Don Knabb announced that selected library books will be made available at the beginning of each regularly scheduled meeting night.
- Stellarium - Highlights for the month. Presented by Don Knabb.
- Featured Presentation - Dennis O'Leary presented NASA's Discovery Missions Part 2 - Mars and Beyond.
 - Spirit and Opportunity. Initial mission was looking for water now or in the past.
 - Phoenix lander - found evidence of ice below the surface.
 - Curiosity mission. Mission details, science experiments during flight and for the landing. The spacecraft is too big to use the airbag landing system of the prior rovers, so will descend with parachutes and then deploy retro rockets for final descent.
 - Juno Mission - Launched 8/11. Craft diameter is 66 ft. across. Many solar panels to run the instruments. Will be looking to Jupiter's origins. Icy planetesimals theory.
 - Cassini/Huygens - Highlights of the orbiter and lander detailed.
 - New Horizons - Is now on its way to Pluto. Arrives July 2015, flyby of 2 hours. Then goes on to the Kuiper belt.
 - Voyager series. Still communicating with these spacecraft. Voyager 1 is going North of the Solar ecliptic, Voyager 2 South.

Nicholas's Humor Corner by Nicholas La Para



Photos from Northeast Astronomy Forum & Telescope Show

by Don Knabb, CCAS Treasurer & Observing Chair



The 21st annual [Northeast Astronomy Forum \(NEAF\) and Telescope Show](#) was held April 28-29, 2012, at Rockland Community College in Suffern, NY. CCAS members Don and Barb Knabb attended the show. Over 130 vendors participated in the exhibit hall (see above) and solar imaging and astronomy software workshops were scheduled. An all-day solar star party was held on both days of the convention. Dr. Mark Clampin presented "NASA's James Webb Space Telescope" and David Gaynes presented the film "Saving Hubble." Dr. Joseph Liske presented "the European Extremely Large Telescope." Of particular interest to members of astronomy clubs, Marni Berendsen of [The Astronomical Society of the Pacific](#) presented "Ten Common Challenges Astronomy Clubs Face and the Keys to Solving Them." On the lighter side, The Meteorite Men's [Steve Arnold and Geoff Notkin](#) were on hand on Sunday.

This Month's Meeting Agenda

by Dave Hockenberry, CCAS Program Chair

Our meeting this month is on May 8, 2012, starting at 7:30 p.m. The meeting will be held in Room 113, Merion Science Center (former Boucher Building), West Chester University. Theme for this month's meeting is "Member Social Night." Bring in what you're working on or are interested in and share ideas.

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.

We are looking for presenters for our meetings in September, October, and November of this year. If you are interested in presenting at either of these meetings, or even during our upcoming autumn sessions, please contact me at programs@ccas.us.

Judging for This Year's Mabel Sterns Award

by John Hepler

I have been asked to be a judge for this year's Astronomical League newsletter editor award, the [Mabel Sterns Award](#). As many of you know, we won the award in 2009.

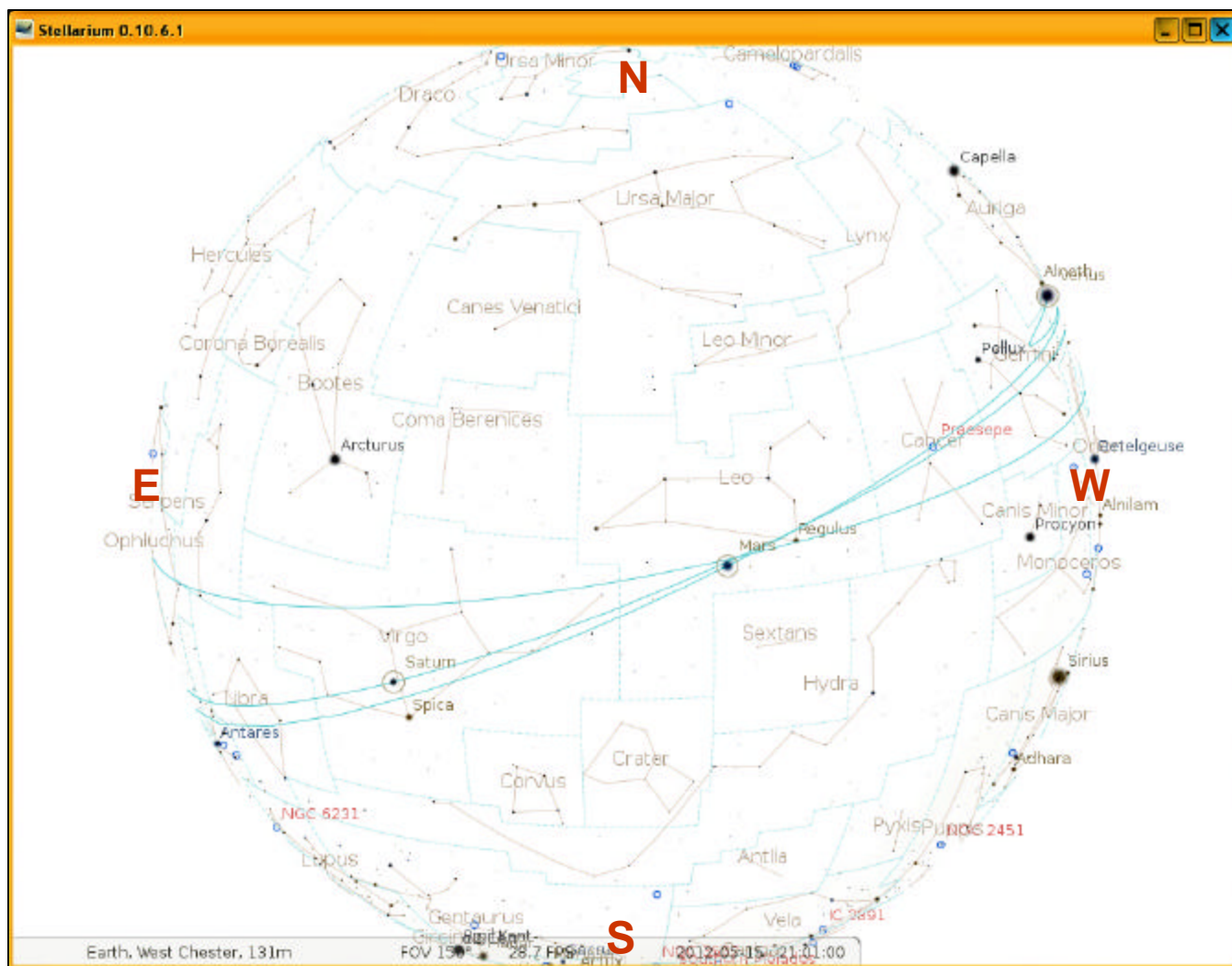
I obviously can't share a lot of details with you right now, but what I can tell you is that I am one of three judges (I don't know who the other two are), and I have until May 15th to review newsletters from seven astronomy clubs across the country.

I'll be as curious as you to find out the results of this year's competition!

The Sky Over Chester County

May 15, 2012 at 9:00 p.m. ET

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



Date	Civil Twilight Begins	Sunrise	Sunset	Civil Twilight Ends	Length of Day
05/01/2012	5:31 a.m. EDT	6:00 a.m. EDT	7:56 p.m. EDT	8:25 p.m. EDT	13h 55m 31s
05/15/2012	5:14 a.m. EDT	5:45 a.m. EDT	8:09 p.m. EDT	8:40 p.m. EDT	14h 24m 19s
05/31/2012	5:02 a.m. EDT	5:34 a.m. EDT	8:23 p.m. EDT	8:55 p.m. EDT	14h 48m 39s

Moon Phases					
First Quarter	05/28/2012	4:16 p.m. EDT	Last Quarter	05/12/2012	5:47 p.m. EDT
Full Moon	05/05/2012	11:35 p.m. EDT	New Moon	05/20/2012	7:47 a.m. EDT

May 2012 Observing Highlights

by Don Knabb, CCAS Treasurer & Observing Chair

May 5	The Eta Aquarid meteor shower peaks
May 5	Full Moon, 11:35 p.m.
May 12	Last Quarter Moon, 5:47 p.m.
May 20	New Moon, 7:47 p.m.
May 22	The Moon is near Venus
May 28	First-quarter Moon, 4:16 p.m.
May 29	The Moon is near Mars

The best sights this month: “The fall of Venus” will be entertaining to watch as we march through May. At the start of the month Venus is 36 degrees high and shining brightly at magnitude -4.7. By the end of the month the “evening star” is down to 6 degrees high and magnitude -4.1. Venus also grows in size and during the last week of May you will see a beautiful slender crescent if you look at Venus through a telescope or binoculars.

All month Mars and Saturn continue to shine high and bright in the sky, so if you have a telescope out to see Venus let it set for an hour then turn it to Mars, then wait another hour or so and look at Saturn for a full evening of solar system fun.

Mercury: Mercury is not in good position for viewing during May.

Venus: As mentioned above this is a fun month for Venus watching. One might ask what is happening to cause such a dramatic show in the sky. It is because Venus is passing us in our orbit around the Sun as if we were two race cars on a circular race-track, with Venus driving a smaller circle than the Earth. In early June Venus will have passed us and will reappear in the dawn sky.

Mars: The Red Planet is in excellent position for telescopic viewing during May, but look just after darkness falls to have the best view through the least amount of atmosphere.

Jupiter: Jupiter passes behind the Sun on May 13th, so it is in poor position for viewing all month.

Saturn: The ringed beauty was at opposition on April 15th so it is still in excellent viewing position and is visible all night. Wait until near midnight for the best view when you will be looking through the least amount of atmosphere.

Uranus and Neptune: These faint green and blue dots in the sky can be observed just before dawn using the charts at skypub.com, the website of Sky and Telescope magazine. I'll be waiting until the late summer and fall to see these planets when they can be observed at a reasonable hour. I need my beauty sleep!

The Moon: Full Moon is on May 5th. Native Americans called this the Full Flower Moon. In most areas, flowers are abundant everywhere during this time, thus, the name of this Moon. Other names include the Full Corn Planting Moon, or the Milk Moon.

Constellations: This is a great time of year to look high overhead at the Big Dipper and find all of Ursa Major, the Big Bear. Leo the Lion is still high in the sky as darkness falls, but he seems to be running away from Hercules as he is rising in the east. And bright Arcturus in Boötes shines like a beacon in the southeast.

Messier/deep sky: Oh joy, its globular cluster time again! M3 is high overhead during May. Take a look at the glow of 500,000 stars in your eyepiece! And stay up a bit later as M13, the Great Globular Cluster in Hercules rises in the east. M13 contains several hundred thousand stars, perhaps a million! If you have not seen this incredible cluster before you had best be sitting down in case you pass out from the amazing sight in the eyepiece!

Comets: Comet C/2009 P1 (Garradd) is fading in brightness and in May should be shining (if that's the right word) at magnitude 9 or 10 as it travels through the constellations Lynx and Cancer. There is a sky chart in the May issue of Astronomy magazine if you want to seek out this fuzz-ball from the outer solar system.

(Continued on page 9)

Looking Up: Corona Borealis, the Northern Crown

by Don Knabb, CCAS Treasurer & Observing Chair

We all have a list of our favorite constellations. High on my list is the constellation Corona Borealis. Its name is Latin for "northern crown", a name inspired by its shape; its main stars form a semicircular arc. It was one of the 48 constellations listed by the 2nd century astronomer Ptolemy and remains one of the 88 modern constellations.

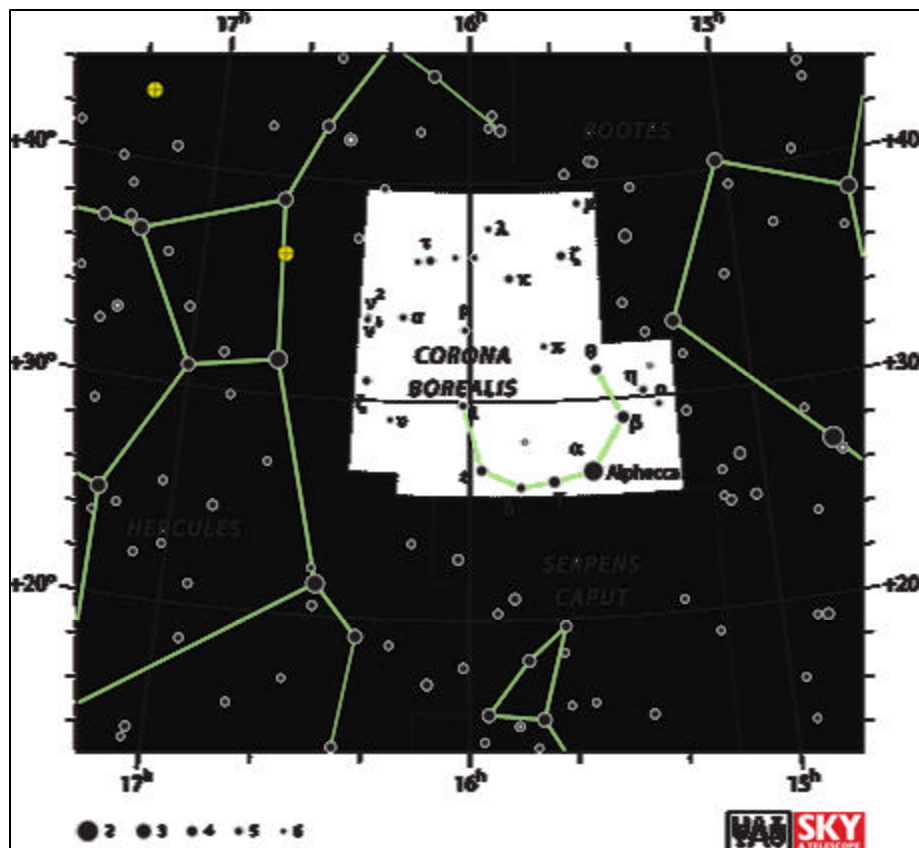
I like this constellation because it is a shape that is easily recognized by children at star parties. I also like it because it is a sign of spring and that means we have warmer star gazing nights on the way. And finally, it looks to me like the smile of a Cheshire cat with one bright fang shining brightly.

This small constellation is located between Boötes and Hercules. The constellation's brightest star, Alphecca, is set like a jewel in the midst of the crown. This constellation is best seen in July around 9:00, but you will see it rising in the east during February around 11:00 p.m.

My two favorite mythologies associated with this constellation are the classical one from Greece and one from the Shawnee Indians.

The Greek mythology is that the constellation represents the crown that Ariadne wore when she married the god Dionysus.

Ariadne was the daughter of Minos, king of Crete, and she is



Sky map credit: http://en.wikipedia.org/wiki/Corona_Borealis

famous because she helped Theseus to kill the Minotaur, the monster with a human body and a bull head. The Minotaur had an extremely complex labyrinth. When Theseus entered the labyrinth to face the Minotaur, Ariadne gave him a ball of thread, so that he tied it to the entrance and unwound it while advancing inside the building. So, after having killed the monster, Theseus was able to find the exit by simply rewinding the thread.

But Theseus was ungrateful towards Ariadne: after having set sail together with her, he abandoned her on the Nasso Island, in the middle of the Aegean Sea. While the young girl was sitting

sadly on the beach, Dionysus saw her and fell in love with her. After their wedding, the god launched the crown worn by Ariadne in the sky, where the jewels that adorned it were transformed into stars forever.

The Shawnee Indians called this ring of stars the Heavenly Sisters who came down from the sky at night to dance in the fields of Earth. They were seen by a hunter who fell in love with the youngest and prettiest sister. Using magical powers the hunter disguised himself as a field mouse and slipped into their circle. When his loved one approached he returned to his true form and held her tightly as the

(Continued on page 7)

Looking Up (cont'd)

(Continued from page 6)

other sisters returned to the sky. The young girl saw her captor and immediately fell in love with him. They married and had a son. But the captured sister could not remain forever with the mortals so one night she returned to her people in the sky. When the sky people saw her husband's grief at her loss they took pity and brought him and their son to the sky. The couple resumed their happy lives and visited back and forth between Earth and heaven.

Other than the bright star Alphecca, and seeing the shape of the constellation itself, there are no other naked eye objects in this constellation. In fact, other than several double stars there



Photo credit: Jim Misti, Misti Mountain Observatory, Arizona
http://www.mistisoftware.com/astronomy/Galaxies_Abell2065.htm

are no other objects that can be easily observed with a telescope. If you have dark skies, a large reflecting telescope and like a

challenge, you can seek out the Corona Borealis Galaxy Cluster, Abell 2065, the only deep sky

(Continued on page 10)

CCAS Original Astrophotography

by Dave Hockenberry, CCAS Program Chair



The Cave Nebula

Shot 9/3/11 with QSI 583 wsg camera through AstroTech AT8RC telescope, AP 1200 GEM. Autoguided off-axis with SX Lodestar camera and Maxim DL. 140 minutes Luminance (14 X 10 minute exposures), 30 minutes (6 X 5 minute exposures) Red, Green and Blue Astrodon filters. Calibrated, hot pixel removal, stacked, RGB creation and Deconvolution in CCDStack. L- RGB merge and further adjustments in Photoshop CS3. The Cave Nebula or Sharpless 2-155 is a faint emission nebula embedded in a much larger surrounding nebula in Cepheus, at an estimated 2,400 light years distance from Earth.

NASA Helps Europe Study a Comet – Up Close and Personal

by Dr. Tony Phillips

Europe's Rosetta spacecraft is on its way to intercept comet 67P/Churyumov-Gerasimenko. Comets have been intercepted before, but this mission is different. Rosetta aims to make history by landing a probe on the comet's surface while the mother ship orbits overhead.

"Rosetta is the European equivalent of a NASA flagship mission," explains Claudia Alexander, project scientist for the U.S. Rosetta Project at NASA's Jet Propulsion Laboratory. "It will conduct the most comprehensive study of a comet ever performed."

Rosetta's payload contains 21 instruments (11 on the orbiter, 10 on the lander) designed to study almost every aspect of the comet's chemistry, structure, and dynamics. Three of the sensors were contributed by the U.S.: Alice (an ultraviolet spectrometer), IES (an ion and electron sensor), and MIRO (a microwave sounder).

The main event of the mission will likely be the landing. The 100-kg lander, which looks a bit like a cross between NASA's old Viking Mars landers and a modern microsatellite, will spend two weeks fastened to the comet's icy surface. The European-built probe will collect samples for analysis by onboard microscopes and take stunning panoramic images from ground level.



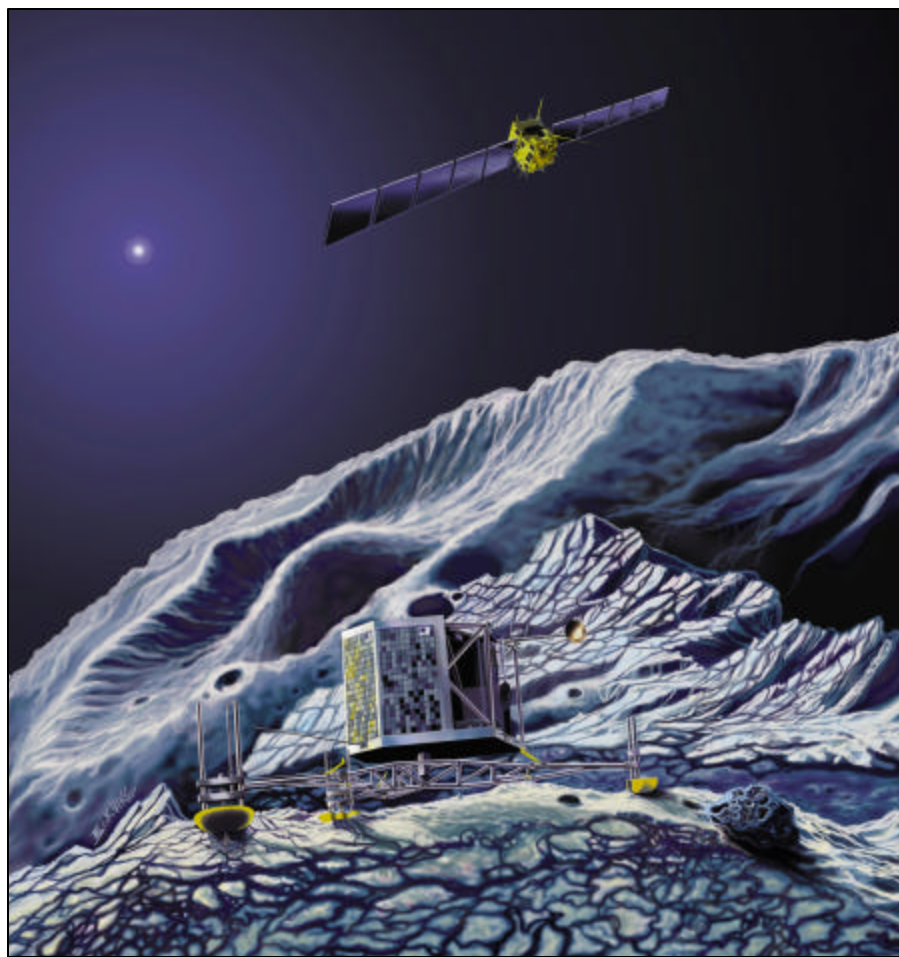
"First the lander will study the surface from close range to establish a baseline before the comet becomes active," explains Alexander. "Then the orbiter will investigate the flow of gas and dust around the comet's active, venting nucleus."

Rosetta's sensors will perform the experiments that reveal how

the chemicals present interact with one another and with the solar wind. Alice and MIRO detect uncharged atoms and molecules, while IES detects the ions and electrons as the solar wind buffets the nucleus.

One problem that often vexes astronomers when they try to

(Continued on page 9)



Rosetta's lander Philae will eject from the spacecraft, touch down on the comet's nucleus, and immediately fire a harpoon into the surface to anchor itself so it won't drift off in the weak gravity.

Space Place (Cont'd)

(Continued from page 8)

study comets is visibility. It's hard to see through the dusty veil of gas billowing away from the heated nucleus. The micro-waves MIRO detects can penetrate the dust, so MIRO can see and measure its target molecules even when other instruments can't.

MIRO is one of several experiments focused on the comet's structural properties. It will determine the comet's dielectric constant, emissivity, and thermal conductivity to determine whether it is made of a powdery loose material, has a detectable layer of loose material, or is hard as rock.

"We want to find out whether comets have retained material from when the solar system formed," says Alexander. "If the ancient materials are still there, we can get an idea of what conditions were like at the dawn of the solar system."

Rosetta enters orbit in 2014. Stay tuned for updates!

Check out "Comet Quest," the new, free iPhone/iPad game that has you operating the Rosetta spacecraft yourself. Get the link at spaceplace.nasa.gov/comet-quest.

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

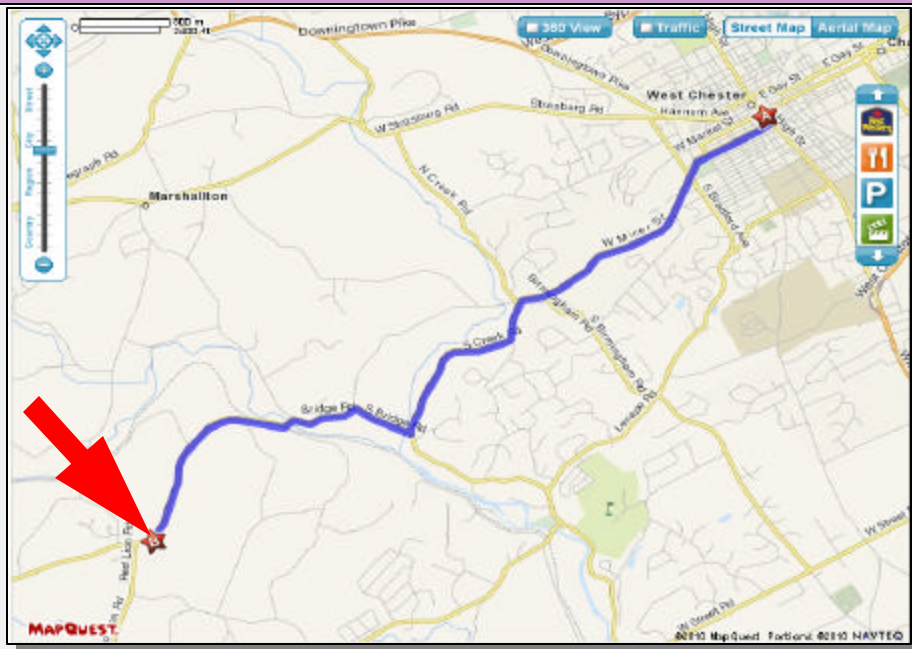
Observing (Cont'd)

(Continued from page 5)

Astrophotographers take note: there is a photo opportunity on May 10 and 11 when the comet is less than 1 degree from NGC 2683, a nearly edge-on spiral galaxy.

Meteor showers: The Eta Aquarid meteor shower peaks on May 5th. Comet 1P/Halley is the source of these "shooting stars". You'll need to get up just before dawn for the best viewing of this shower. Unfortunately this is a poor year to view this shower due to the Full Moon occurring the same night.

CCAS Directions



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.

Brandywine Valley Association

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

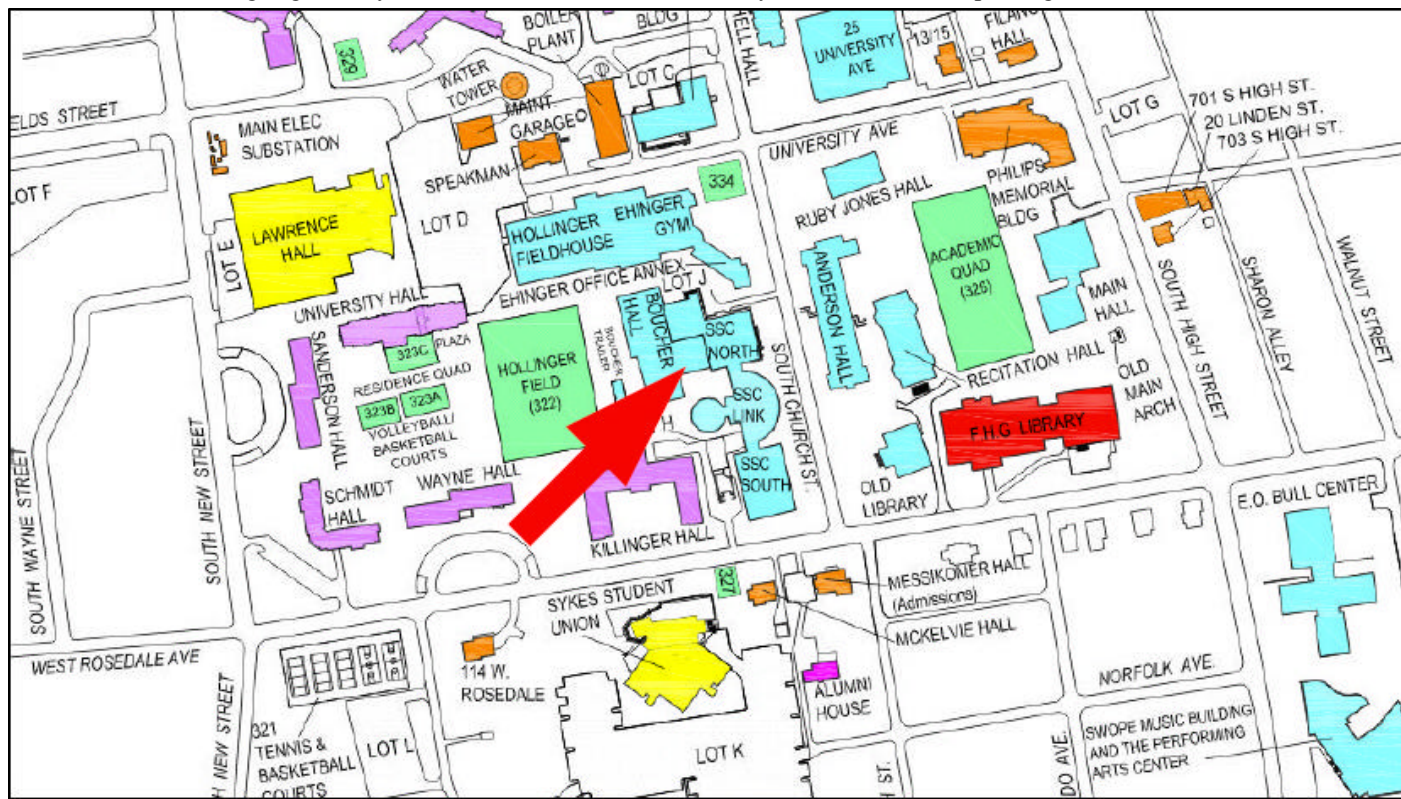
To get to the Myrick Conservation Center from West Chester, go south on High Street in West Chester past the Courthouse. At the next traffic light, turn right on Miner Street, which is also PA Rt. 842. Follow Rt. 842 for about 6 miles. To get to the observing site at the BVA property, turn left off Route 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).

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).



Looking Up (Cont'd)

(Continued from page 7)

object in this area of the sky. This group is very faint but quite spectacular for those with the proper equipment. The cluster is comprised of over four hundred galaxies in an area of about one degree (the width of your thumb). The galaxies are extremely distant, over a billion light years away, and consequently are very faint. The brightest of the group are 16.5 magnitude.

Credits:

http://www.seds.org/Maps/Stars_en/Fig/coronaborealis.html
http://www.astro.wisc.edu/~dolan/constellations/constellations/Corona_Borealis.html
<http://www.astro.uiuc.edu/~kaler/sow/crb-p.html>
http://www.dibonsmith.com/crb_con.htm
http://en.wikipedia.org/wiki/Corona_Borealis

CCAS Membership Information and Society Financials

Treasurer's Report

by Don Knabb

March 2012 Financial Summary

Beginning Balance	\$1,423
Deposits	\$90
Disbursements	\$0
Ending Balance	\$1,513

New Member Welcome!

Welcome new CCAS member Karen Cline & family from Rising Sun, MD; and Robert Weiss & family from Wilmington, DE.

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 \$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>

Note that our CCAS Webmaster John Hepler has a link to the IDA home page set up on our Society's home page at <http://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:

<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"!

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!



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>



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

<http://www.greeneearthlighting.com>

Local Astronomy-Related Stores

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



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>



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
2115 Lazor St.
Apt. 227
Indiana, PA 15701

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 (724) 801-8789 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
Webmaster and Newsletter:	John Hepler 724-349-5981
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

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