Observations

A Monthly Publication Of The
CHESTER COUNTY ASTRONOMICAL SOCIETY

Vol. 21, No. 11 Two-Time Winner of the Astronomical League's Mabel Sterns Award ☼ 2006 & 2009 November 2013

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Comet ISON

Comet ISON on Nov. 6 shows a glowing greenish head or coma and pretty dust tail. Notice also two new very skinny tails just up from the head. These could be the start of the comet's gas or ion tail. Ion tails are made of gas excited by the sun's ultraviolet light. Credit: Damian Peach

Important November 2013 Dates

3rd • New Moon, 7:50 a.m.

3rd • Daylight Savings Time ends, 2:00 a.m.

10th • First Quarter Moon, 12:58 a.m.

17th • Full Moon, 10:16 a.m.

25th • Last Quarter Moon, 2:29 p.m.

28th • Comet ISON approaches the sun

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.

☼ **Friday, November 1, 2013.** CCAS monthly observing session at BVA. The observation session starts at dusk.

Autumn/Winter 2013 Society Events

November 2013

1st • CCAS Monthly Observing Session, Myrick Conservancy Center, BVA (inclement weather date November 2nd). The observing session starts at sunset.

3rd • Daylight Savings Time Ends - Turn clocks back one hour (2:00 AM EST)

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.

7th • The von Kármán Lecture Series: From IRAS to Spitzer and Beyond: 30 years of Space-Based Infrared Astronomy, Jet Propulsion Laboratory, Pasadena, California. Live stream of free lecture presented by NASA & Caltech.

12th • CCAS Monthly Meeting, Room 112, Merion Science Center (former Boucher Building), West Chester University. The meeting starts at 7:30 p.m. Guest Speaker: Dave Goldberg, PhD from Drexel University Physics and Astronomy.

15th • West Chester University Planetarium Show: "Comet ISON," in the Schmucker Science Building. For more information and reservations, visit the WCU Public Planetarium Shows webpage.

20th • Open call for articles and photographs for the November 2013 edition of Observations.

26th • Deadline for newsletter submissions for the November 2013 edition of Observations.

December 2013

2nd • Reservations start for the December 20th planetarium show at the WCU Planetarium.

4th • 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.

12th • The von Kármán Lecture Series: The Planck Space Telescope: Revealing the Ancient Universe,, Jet Propulsion Laboratory, Pasadena, California. Live stream of free lecture presented by NASA & Caltech.

14th • CCAS Annual Holiday Party. See the December 2013 edition of Observations for details and directions.

20th • West Chester University Planetarium Show: "So You Want to Buy a Star," in the Schmucker Science Building. For more information and reservations, visit the WCU Public Planetarium Shows webpage.

20th • Open call for articles and photographs for the January 2014 edition of Observations.

26th • Deadline for newsletter submissions for the January 2014 edition of Observations.

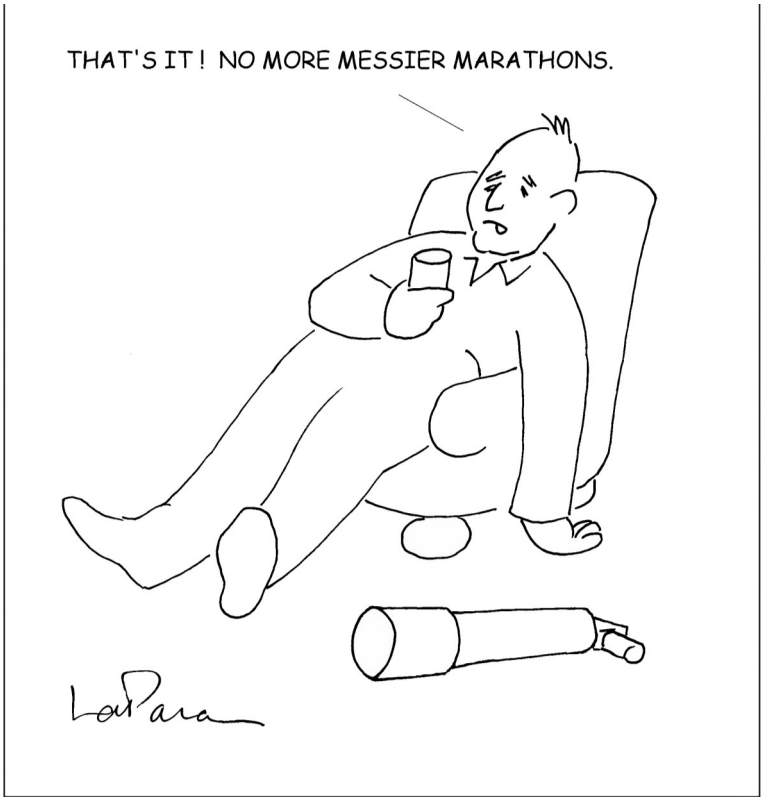
Minutes of the October 2013 Meeting

by Ann Miller, CCAS Secretary

- 19 members and guests were welcomed to the October 8 meeting of CCAS by our president, Roger Taylor.
- Roger reported on the dedication of West Chester University's new planetarium. 20% of the donated chairs in the new planetarium were related to members of CCAS. #1 chair is none other than our Steve Leiden.
- Our next star party is October 12 at Anson Nixon Park in Kennett Square.
- Don Knabb, observing chair, thanked everyone for helping with the star party at BVA for 15 homeschool students and parents last Friday, October 4.
- Don gave us a fall observing highlights tour on Stellarium. Comet Ison is coming but it is too soon to tell if it will hold together.
- Kathy Buczinski, our education chair, announced a photo display by CCAS at West Goshen Township Building in November and December 2013. All CCAS members are encouraged to submit any Astronomy related photos for this display. A reception will be held for the opening in November. Kathy will post the information when a date is set.
- David Hockenberry, program chair, introduced our speaker. Dr. Paul Evanson, professor of Astronomy at the University of Delaware presented "Construction and Operation of the Ice Cube Neutrino Observatory."

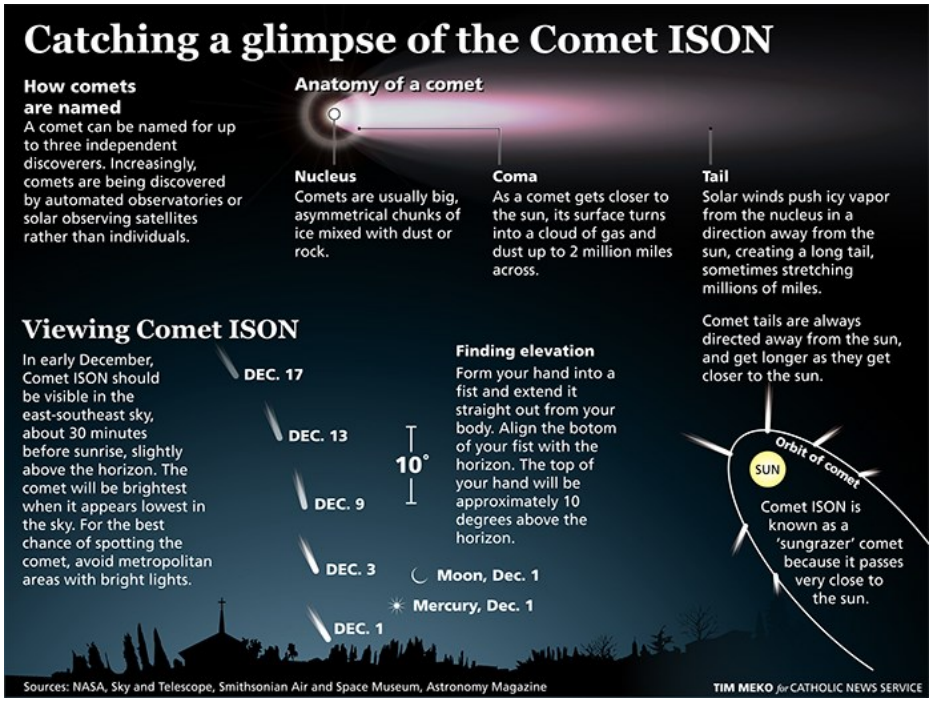
Nicholas's Humor Corner

by Nicholas La Para



Promising Comet ISON Now Brightening for Stargazers on Earth

by Joe Rao, SPACE.com



Comet ISON — a potentially dazzling, but so far disappointing, comet — finally appears to be brightening as seen from Earth.

During the last few days, observers worldwide have noticed a noticeable upturn in the overall brightness of Comet ISON as well as a lengthening of its tail. While Comet ISON has remained somewhat dark since coming back into view for skywatchers, the comet might now be on track for a brilliant show when it makes it close pass with the sun at the end of November.

From Asturias, Spain, J.J. Gonzales observed the comet on Wednesday (Nov. 6), and said: "The comet shows a clearly higher degree of condensation in comparison with my previous [observation on] Oct. 31."

British observer, **Denis Buczynski,** concurs. "I hope I am not crying wolf here, but I honestly believe that there has been some development of the tail structure of this comet today," **Buczynski** said. "It will be interesting if other images from telescopes in better locations and conditions show this feature to be real."

"While the activity was stable for about a month (we have started our Monitoring on October 12), the gas production rates have finally increased rapidly the last days! This surge maybe due to an outburst or maybe deeper layer of ices is finally now sublimating," Emmanuel Jehin said. He, C. Opitom, J. Manfroid, and M. Gillon, Liège University have been monitoring ISON since Oct. 12 with the robotic TRAPPIST 0.6-m telescope at ESO La Silla Observatory.

"I do not think the comet is disrupting now, as we do not see any special feature in the coma, shell or large dust production in the last nights," Jehin added. "The coming nights will tell us more about this surge of activity, and maybe the fate of the comet."

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November 2013 CCAS Meeting Speker

by Dave Hockenberry, CCAS Program Chair

Our next meeting will be held on November 12, 2013, starting at 7:30 p.m. The meeting will be held in **Room 112, Merion Science Center** (former Boucher Building), West Chester University. Guest Speaker: Dave Goldberg, PhD from Drexel University Physics and Astronomy. His topic is not settled yet, but will either be about his research in Gravitational Lensing or on his new book "Symmetry - the Universe in the Rear View Mirror."

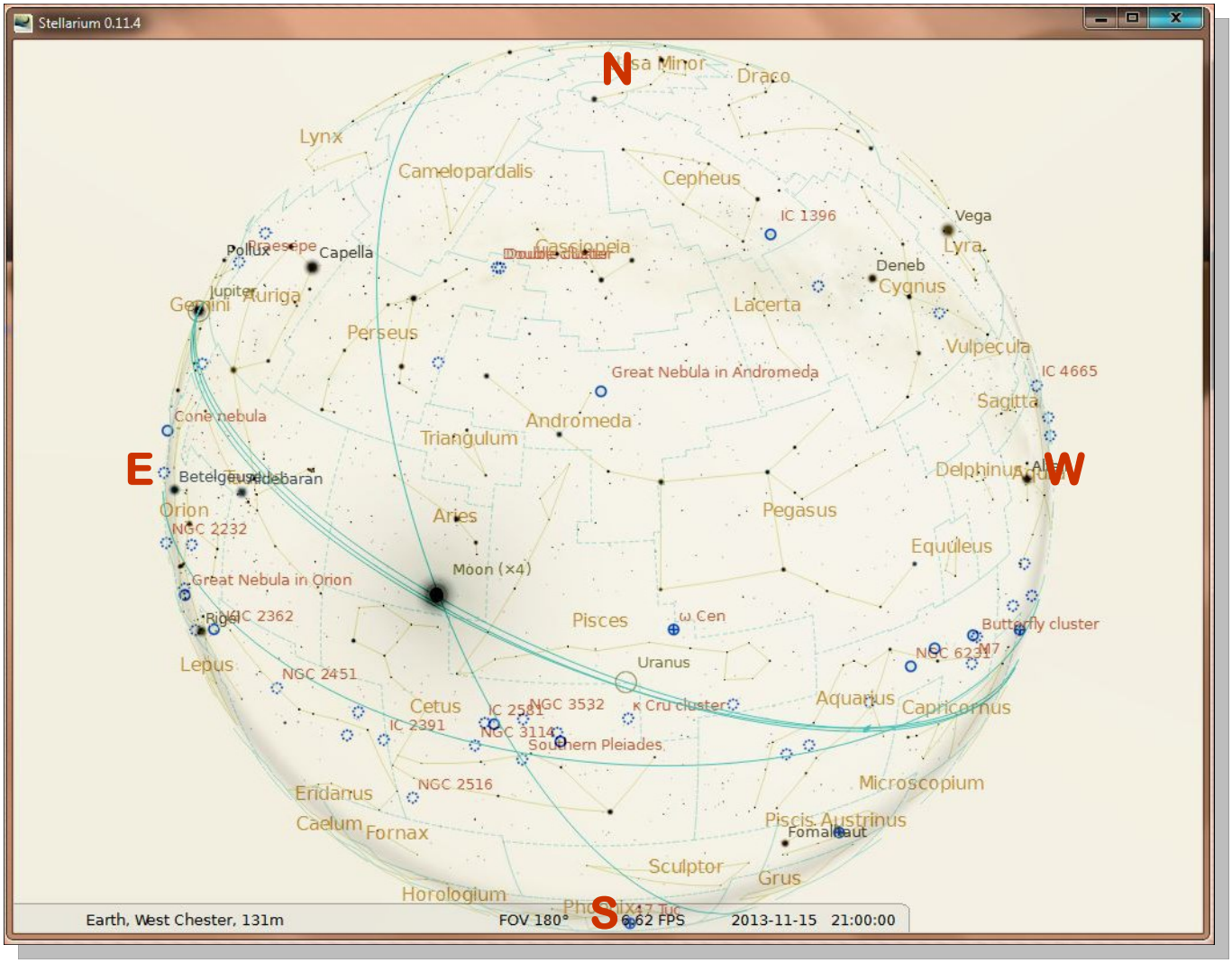
Please note that inclement weather or changes in speakers' schedules may affect the program. In the event there is a change, CCAS members will be notified via e-mail with as much advance notice as possible.

We are looking for presenters for future meetings in 2014. If you are interested in presenting, or know someone who would like to participate, please contact me at programs@ccas.us.

The Sky Over Chester County

November 15, 2013 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
11/01/2013	7:02 a.m. EDT	7:30 a.m. EDT	5:58 p.m. EDT	6:26 p.m. EST	10h 28m 06s
11/15/2013	6:17 a.m. EST	6:46 a.m. EDT	4:44 p.m. EDT	5:13 p.m. EST	09h 58m 16s
11/30/2013	6:32 a.m. EST	7:02 a.m. EDT	4:36 p.m. EDT	5:06 p.m. EST	09h 33m 53s

Moon Phases					
New Moon	11/03/2013	7:50 a.m. EDT	Full Moon	11/17/2013	10:16 a.m. EDT
First Quarter	11/10/2013	12:58 a.m. EDT	Last Quarter	11/25/2013	2:29 p.m. EDT

November 2013 Observing Highlights

by Don Knabb, CCAS Treasurer & Observing Chair

1	**Venus is at greatest eastern elongation**
3	**Daylight Savings time ends**
3	**New Moon**
3	**A solar eclipse occurs, but the end of the event will be just beyond our sight**
10	**First-quarter Moon**
11	**The Lunar Straight Wall is visible**
13	**The Moon passes close to Uranus**
17	**Full Moon**
17	**Leonid meteor shower peaks**
17 – 26	**Comet ISON may be visible in the pre-dawn sky**
21	**The Moon is close to Jupiter**
25	**Last Quarter Moon**
28	**Comet ISON reaches perihelion, 1.2 million miles from the Sun**

The best sights this month: If Comet ISON holds together it may be a naked eye object in the pre-dawn sky late in the month. During the evening hours Venus and Jupiter rule the sky and we begin to enjoy the constellations of winter as Taurus and Auriga rise in the east.

Mercury: If you rise before the Sun the month of November is an excellent time to view Mercury, any morning from the 11th to the 28th of the month.

Venus: Venus brightens to an incredible -4.8 magnitude during November so it is easy to find in the glow of the setting Sun. A telescopic view will reveal a crescent shape.

Mars: The red planet will rise around 1 a.m. by month's end and is finally beginning to brighten and show a reasonable size disk in a telescope.

Jupiter: Jupiter will rise just after 7 p.m. at the end of the month and be at a good position for viewing by 10 p.m. It will shine at magnitude -2.5.

Saturn: Saturn slips behind the Sun on November 6th and enters the dawn sky later in the month.

Uranus and Neptune: Neptune is high in the south at nightfall and Uranus follows Neptune through the sky about 2 hours later. On the 13th the Moon is close to Uranus. You can find a sky map to help you locate these gas giants at skypub.com/urnep, the website of Sky and Telescope magazine.

The Moon: Full Moon occurs on November 17th. This is the Full Beaver Moon. For Native Americans, the time of this full moon was the time to set beaver traps before the swamps froze, to ensure a supply of warm winter furs. It is sometimes also referred to as the Frosty Moon, but I don't think they were referring to the snowman, even though the Moon kind of looks like the head of a snowman.

Constellations: If you go out for the paper just before dawn you will see our friend Orion the Hunter in the south. But I don't spend any more time than necessary outside in the morning on a work day, so instead I look to the sky in the evening, which is getting longer as we approach the "dark days" of November and December. There are many delightful objects in the sky for our viewing pleasure such as the setting Summer Triangle, the Great Square of Pegasus, Queen Cassiopeia overheard and the Pleiades rising in the east. So before the cold nights of winter arrive, spend some time outside during November when the air is clear and crisp.

Messier/deep sky: My list of deep sky objects for November starts with M31, the Andromeda Galaxy. After gazing at those billions and billions of stars (no, Carl Sagan never did actually say that!) I look

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Through the Eyepiece: M52, an Open Cluster in Cassiopeia

by Don Knabb, CCAS Treasurer & Observing Chair

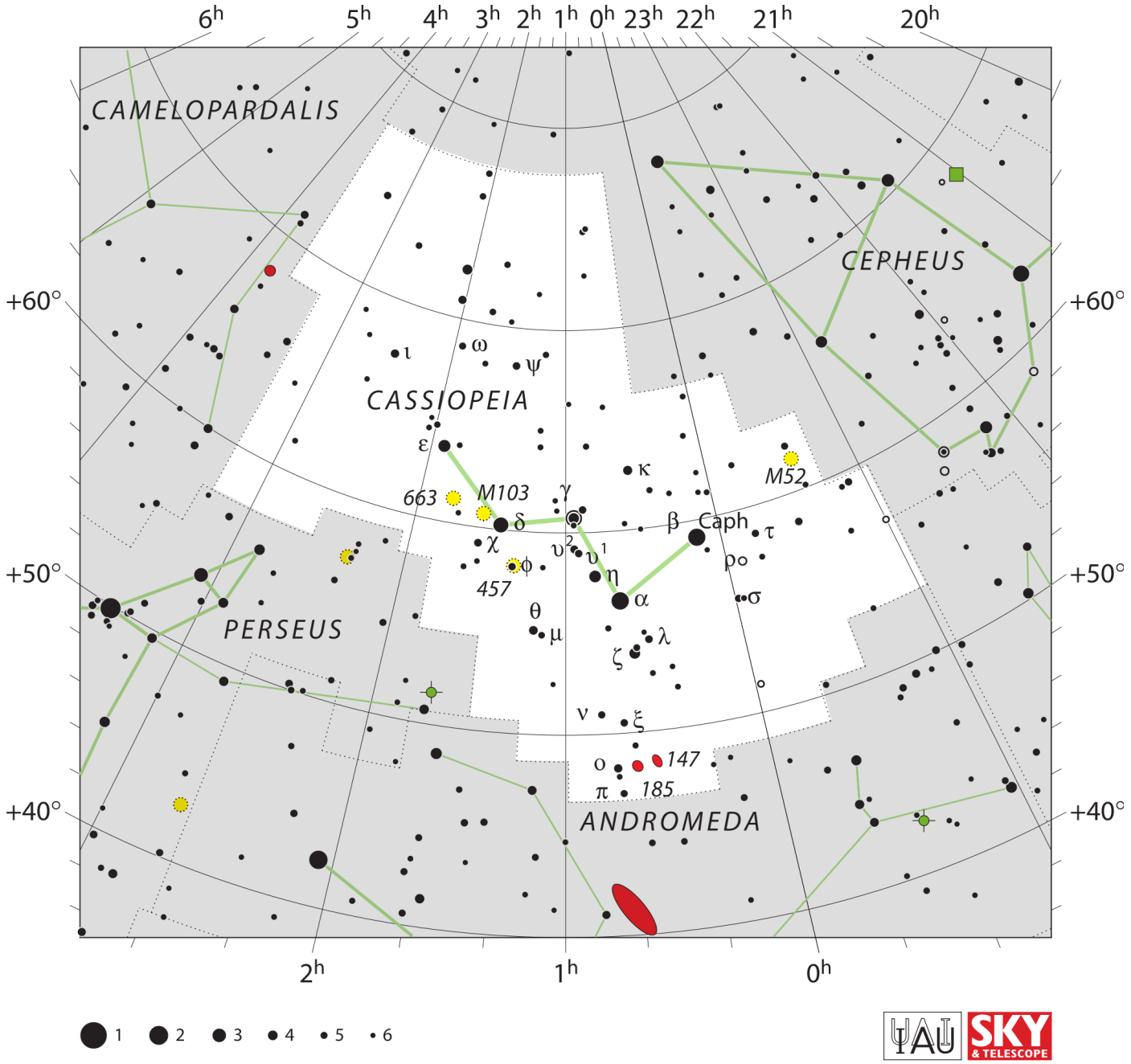

Image credit: http://en.wikipedia.org/wiki/File:M52atlas.jpg

I must admit that I am a sucker for open clusters! Yes, I love planets and double stars and deep space objects, but open clusters just fill the eyepiece with such a collection of stars that I never tire of seeking out these ornaments of the night sky. And they are always a crowd pleaser at a star party.

Close to the zenith during November we find the constellation Cassiopeia, the large "W" shape high overhead. Within the boundaries of Cassiopeia is the open cluster Messier 52. You can find M52 using this star chart.

Messier 52, also designated NGC 7654, is located in a rich Milky Way field. Nearly 200

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Eyepiece (Cont'd)

Image credit: CCAS member Pete LaFrance

(Continued from page 6)

stars have been identified as part of this cluster which is roughly 5000 light years away and 35 million years old.

Terence Dickinson, in his classic book *Nightwatch, a Practical Guide to Viewing the Universe*, compares M52 to the Pleiades, but M52 is much smaller because it is 10 times more distant.

M52 was an original discovery of Charles Messier, captured on the night of September 7, 1774. In his notes he writes: "Cluster of very small stars, mingled with nebulosity, which can be seen only with an achromatic telescope."

Sir William Herschel would also observe M52. He writes on August 29, 1873: "All resolved into innumerable small stars without any suspicion of nebulosity." Herschel's son John would also add it to the General Catalog a few years later with less descriptive narrative, but it was Admiral Smyth who described M52′s beauty best when he said: "An irregular cluster of stars between the head of Cepheus and his daughter's throne; it lies north-west-by-west of Beta Cassiopeiae, and one third of the way towards Alpha Cephei. This object assumes somewhat of a triangular form, with an orange-tinted

(Continued on page 9)

Comet (Cont'd)

(Continued from page 3)

Until now, the comet's brightening trend has, for the most part, maintained a frustratingly slow pace. Arizona amateur astronomer Bruce Gary, the first to photograph ISON after it emerged from out of the glare of the sun on Aug. 12, summarized the situation:

"Wow! I think I speak for many by expressing my frustration with this comet's indifference to the millions of humans who are rooting for it to 'come alive' and put on an impressive show; it's disappointing us all!"

As of Nov. 1, a consensus of observers worldwide indicated that ISON's had brightened to magnitude 9.0 — the lower the figure of magnitude, the brighter the object in question.

Generally speaking, the faintest magnitude that the eye can perceive in a clear, dark sky free of any haze or bright lights is 6.5, therefore, ISON was still 2.5 magnitudes (about 10 times too dim) to be seen visually without binoculars or a small telescope.

Compared to the "official" brightness forecast by the Smithsonian Observatory in Cambridge, Massachusetts, ISON was running at least a full magnitude fainter than forecast.

Noted comet watcher, John Bortle of Stormville, NY, caught ISON through 15x70 binoculars on the morning of Nov. 4 and estimated it at magnitude 8.8. But in his 16.1-inch reflecting telescope at 70-power, Bortle was struck by how unusual the tail appeared.

"Rather than the typical either vague 'fan,' or narrowing 'apple-on-a-stick' aspect that fades rapidly with increasing distance from the comet's head, ISON presented a long, straight tail — not quite a half degree long — with parallel sides that was as wide as the comer's head. What really stood out to me was that, although faint over its entire length, it was of almost even surface brightness over its length, except toward its very end. I don't think I've ever seen such an appearance in a telescopic comet; truly odd looking," Bortle said.

Bortle has analyzed the comet's light curve from 24 observations running from Oct. 1 to Nov. 2. His assessment?

"The comet [is] not even performing close to what might be expected for a simple reflecting body," Bortle said of the earlier assessment. "I must admit that the outlook for the comet's future looks rather grim."

Some observers have suggested that ISON will break up into several pieces or even disintegrate. However, this might not be such a bad thing if it happens around the time the comet is making its closest approach to the sun. At that time, the comet's 2 to 3-mile -wide (3.2 to 4.8 kilometers) nucleus will be subjected to maximum solar heating and tidal forces.

Comets such Ikeya-Seki in 1965 and West in 1976 put on spectacular shows due in part to the breakups of their nuclei around the time of perihelion. The end result was a tremendous outpouring of dust into space; both comets unfurled stupendously bright tails that persisted for weeks.

Comet Lovejoy in December 2011 ultimately disintegrated — but not until after it had passed closest to the sun. It too produced a spectacularly bright tail. On the other hand, if the breakup or disintegration occurs before reaching perihelion, the comet fragments and associated trail of dust could whip around the sun and move back out into space mostly unseen.

Stay tuned to SPACE.com for Comet ISON updates as it continues to race toward the sun.

Joe Rao serves as an instructor and guest lecturer at New York's Hayden Planetarium. He writes about astronomy for Natural History magazine, the Farmer's Almanac and other publications, and he is also an on-camera meteorologist for News 12 Westchester, N.Y.

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Original article on SPACE.com.

Eyepiece (cont'd)

(Continued from page 7)

8th-mag star at its vertex, giving it the resemblance of a bird with outspread wings."

I have not seen the "bird with outstretched wings" when I have observed M52, but I'll look for it the next time I point a telescope high into the sky to seek out this beautiful collection of stars.

In binoculars M52 will show clearly as a star cloud and will appear as a hazy patch in a telescope finder scope. Even the smallest of telescopes can expect resolution from this multi-magnitude beauty and the more aperture you apply the more stars you will see. M52 is well suited to urban or light polluted skies and stands up well to fairly moonlit conditions and hazy skies.

As you can see in CCAS member Pete LaFrance's photo, M52 will fill your eyepiece with stars!

Information credits:

Pasachoff, Jay M. 2000. A Field Guide to the Stars and Planets. New York, NY. Houghton Mifflin.

Dickinson, Terence. 2006. Nightwatch, a Practical Guide to Viewing the Universe. Buffalo, NY. Firefly Books

http://www.universetoday.com/36015/messier-52/

Observing (Cont'd)

(Continued from page 5)

high in the sky toward the Double Cluster in Perseus. Then I gaze upon the jewels of the sky, the Pleiades cluster and after that head east to the open clusters of Auriga, M36, M37 and M38. It doesn't get much better than this until Orion is high in the sky this winter.

Comets: If Comet ISON is going to give us a show, now is the time! It should be brightening to the point that it will be easily visible in a telescope and possibly with the naked eye in the pre-dawn sky. It will be close to Spica from the 16th to the 19th, and then passes closest to the Sun on November 28th.

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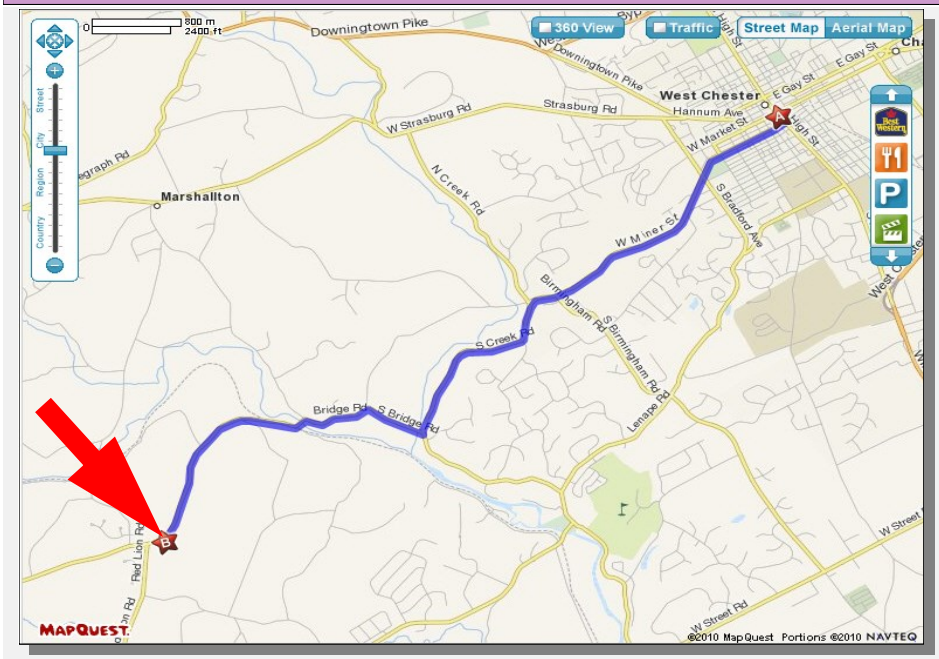
CCAS Directions



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 February through November) are held at the Myrick Conservation Center of the Brandywine Valley Association.

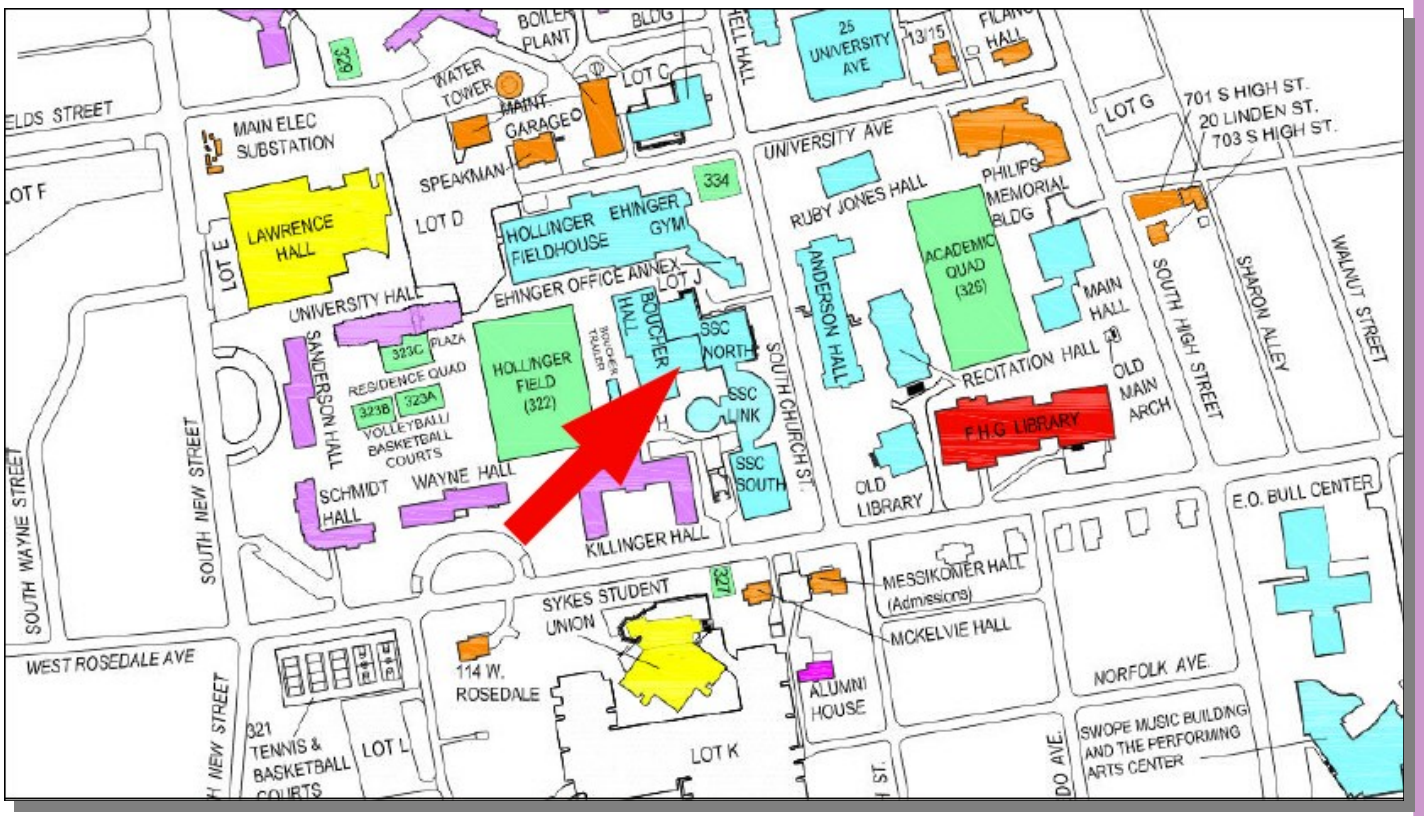
To get to the Myrick Conservation Center from West Chester, go south on High Street in West Chester past the Courthouse. At the next traffic light, turn right on Miner Street, which is also PA Rt. 842. Follow Rt. 842 for about 6 miles. To get to the observing site at the BVA property, turn left off Route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



Observing (Cont'd)

(Continued from page 9)

Meteor showers: The Leonid meteor shower peaks in the early morning hours of November 17th. But, this shower will most likely be totally washed out by the Full Moon that occurs the same night.

CCAS Holiday Party

Barb and Don Knabb have graciously offered once again to host our end-of-year holiday party. Members and their families are invited to attend on December 14, 2013. See the December 2013 edition of Observation for details and directions.

CCAS Membership Information and Society Financials

Treasurer's Report
by Don Knabb

Oct. 2013 Financial Summary

Beginning Balance	$1,429
Deposits	$255
Disbursements	$33
Ending Balance	$1,651

New Member Welcome!

Welcome new CCAS members Amy Cavanaugh of Garnet Valley, PA; and Tracee Sigler of Downingtown, PA. We're glad you decided to join us under the stars! Clear skies to you!

Membership Renewals

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

Don Knabb
988 Meadowview Lane
West Chester PA 19382

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

CCAS Information Directory

Join the Fight for Dark Skies!

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

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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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**

http://www.greenearthlighting.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

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
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
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