



OBSERVATIONS



A MONTHLY PUBLICATION OF THE

Chester County Astronomical Society

★ *President:* Mike Turco
★ *Treasurer:* Pete LaFrance

OCTOBER 2001

(VOLUME 9, NO. 10)

★ *Vice President:* Steve Limeburner
★ *Secretary:* Doug Liberati

http://members.tripod.com/~ccas_2/ccas.html

CCAS October Meeting

DATE: Tuesday October 9, 2001
TIME: 7:30 p.m. EDT
PLACE: Department of Geology and Astronomy Lecture Room (Room 113 – Boucher Building) West Chester University
LOCATION: South Church Street West Chester, PA (see map)

Parking is available behind Sykes Student Center on the south side of Rosedale Avenue, and behind the Bull Center at the corner of Rosedale Avenue and South High Street. If you arrive early enough, you may be able to get an on-street parking space. A map is included on a later page.

Our guest speaker will be Dr. David Koerner, University of Pennsylvania astronomer and author of the book *Here Be Dragons*. David works in the field of circumstellar disks (disks of dust surrounding stars, from which theory says planets form). This area is a main focus of NASA's "Origins" program. David will be talking about the serious possibility of life existing on planets other than Earth. This is sure to be a fascinating presentation!



Public Open House: F & C Observatory

There will be a **FREE** public open house program at the University of Pennsylvania's Flower & Cook Observatory in Malvern, PA on Friday October 26, 2001 at 7:30 p.m. EDT. After the lecture, there will be observing with the Observatory's telescopes. The Observatory is located on Providence Road, just west of the intersection with Warren Avenue. A map is included on a later page.



Newsletter Deadlines

These are the deadlines for submitting material for publication in the newsletter, through the December 2001 issue.

<u>Issue</u>	<u>Deadline</u>
November 2001	10/27/01
December 2001	11/26/01



CCAS October Observing Session

The next CCAS Observing Session will be on Friday October 12, 2001 starting at sunset; or earlier, if you can get there earlier. If it's too cloudy on Friday, then the Observing Session will be on Saturday October 13, 2001. At the observing sessions, there will be help available to set up and use your telescopes. If you're having trouble using your telescope, or finding your way around the sky, come on out and get some assistance. All members are invited whether they have a telescope or not. Telescope owners are always glad to share the view through their scope. CCAS Observing Sessions are always free of charge. Children are always welcome as long as an adult accompanies them.

To get to the observing site at the BVA, turn 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 up the farm lane to the left; it's about 800 feet or so to the top of the hill. If you arrive after dark, please turn off your headlights and just use parking lights as you come up the hill. A map showing the location of the BVA is included on a later page.



WHYY 91 FM SkyTour: October 8, 2001

On Monday October 8, 2001, from 8:00-9:00 p.m. the WHYY SkyTour program will be broadcast live from the Mallon Planetarium at Arcola Intermediate School, where a large star party will be taking place at the same time. The program is hosted by Derrick Pitts, Chief Astronomer of the Franklin Institute of Science in Philadelphia. The CCAS has been invited to attend the star party and bring along our telescopes to help give attendees a look at the October skies. We encourage as many members as possible to attend this event. The CCAS will be mentioned in the advertising for the SkyTour, which will be mailed out to the 5500+ members of WHYY.

Directions: Take US 202 North to US 422. Take US 422 West to the Oaks exit. At the end of the exit ramp, turn right onto Egypt Road. Continue on Egypt Road for 1/10 mile or less, going straight at the next traffic light, until you come to Pinetown Road. Turn left on Pinetown Road. At the second stop sign, turn left on Eagleville Road. Follow this road to the top of the hill. Arcola Intermediate School is on the right side of Eagleville Road.



Welcome New Members!

The Society would like to extend a warm welcome to Jeff Gatters of Unionville, Andrew Marshall of Malvern, Bill Rahling of Downingtown and Robert Taran of Atglen. Hello, and Clear Skies!



Calendar Notes

November 6, 2001 (Tuesday)	Backyard Observing Class Location: Flower & Cook Observatory 7:00 p.m. EST
November 13, 2001 (Tuesday)	CCAS Meeting Location: West Chester University 7:30 p.m. EST
November 17/18, 2001 (Friday/Saturday)	CCAS Observing Session Location: BVA sunset
November 20, 2001 (Tuesday)	Backyard Observing Class Location: Flower & Cook Observatory 7:00 p.m. EST
November 20, 2001 (Tuesday)	Backyard Observing Class Location: Flower & Cook Observatory 7:00 p.m. EST
November 30, 2001 (Friday)	Public Lecture and Observing Location: Flower & Cook Observatory 7:30 p.m. EST
December 11, 2001 (Tuesday)	CCAS Meeting Location: West Chester University 7:30 p.m. EST
December 14/15, 2001 (Friday/Saturday)	CCAS Observing Session Location: BVA sunset

CCAS Backyard Observing Class

This class, centered on observing what is in the sky “tonight”, got off to an excellent start on the evening of Tuesday Sept. 18. About 40 people showed up at the Flower and Cook Observatory, and even the weather cooperated, giving us clear skies to start these eager stargazers on their way! The course consists of 6 one-hour sessions, on the first and third Tuesdays of the month. This is the remaining schedule:

Oct. 2	Pegasus & Andromeda
Oct. 16	Cassiopeia & Cepheus
Nov. 6	Lunar & Solar Observing
Nov. 20	Perseus
Dec. 4	Taurus & Saturn

All classes are held at the University of Pennsylvania’s Flower & Cook Observatory, located in Willistown Township on Providence Road, just west of the intersection with Warren Avenue. Classes begin at 7:00 p.m. (ET). If you would like to assist with this effort, please contact CCAS Education Chair Kathy Buczynski at 610-436-0821, or via e-mail at kbuczynski@aol.com



Help Needed With Society’s 20” Telescope

The Society’s 20” telescope belongs to the whole Society; it is intended to be available for use by members at Observing Sessions, and even for short-term borrowing by Society members. The problem we have with implementing this policy is, simply put, lack of mobility. We need a member with a big enough truck or minivan, and preferably with the storage space at home for the telescope, to volunteer to be the telescope’s “custodian” and “chauffeur.” The custodian would of course be able to use the telescope whenever it wasn’t out on loan. The biggest part of the telescope is the bottom part; it weighs a couple hundred pounds. We have wheels and handles that convert that piece into a large “wheelbarrow” for moving it, though, and ramps so it can be wheeled right into a vehicle. Ed Lurcott is willing to keep storing the telescope in his garage, if someone can volunteer to be the chauffeur, but not the custodian. If you can help, please call Ed Lurcott. Thanks.



October Skies

End of Daylight Saving Time

Daylight Saving Time ends on Sunday October 28. Remember to set your clocks **back** 1 hour before retiring on Saturday night. Also remember that this means you now have to add 5 hours to our local time to get Universal Time (also called Greenwich Mean Time), as used in astronomy. When we’re on Daylight Saving Time, we only have to add 4 hours to Eastern Time to get UT.

Moon Phases

Full Moon	10/02
Last Quarter	10/10
New Moon	10/16
First Quarter	10/23

The Planets

Mercury moves to our morning sky this month, and is big news in planetary observing at the end of October. Starting on the morning of Saturday October 27, Mercury and Venus will be less than 1° apart for a total of 11 days. What makes this big news is that they are close enough to get them both into one field-of-view in a low-power telescope eyepiece! You get to see the two inner planets at the same time!

Venus is in the morning sky this month, rising about 4:30 a.m.

Mars remains the only bright planet in our evening sky. It is not too hard to find, as it is a bright reddish-orange “star” visible in the southern part of the sky soon after sundown. We are getting farther away from Mars now, too far for good telescopic observations. 2003 will be the next opposition of Mars, and it will be even closer than the one this year.

Jupiter is in Gemini this month, rising very late in the evening, but the best views are just before dawn when Jupiter is higher in the sky (and the Earth’s atmosphere is often more tranquil as well at that time.)

Saturn is now rising in the east not too long after nightfall, about 2 hours after sunset on October 1. By month’s end it

will be rising just shortly after sunset. The best viewing this month, though, will be in the morning before sunrise when Saturn will be higher in the sky. Look for it at the end of the month, when you're waiting for Venus and Mercury to rise.

Uranus is in Capricornus this month. This is a good month to find Uranus, as it is in our evening sky.

Neptune is also in Capricornus, and therefore also in our evening sky this month. Being dimmer than Uranus, it will be harder to find.

Pluto is in Ophiuchus, and in our evening sky. Pluto is very faint, though, and getting low in the evening sky. Best wait until next year to tackle finding Pluto.

Meteor Shower: The Orionids

This annual meteor shower is expected to peak on the morning of Sunday October 21. The Moon will not be a hindrance to viewing this shower this year, so you could see up to 10 or 15 fast-moving meteors per hour. These meteors are pieces of Halley's Comet. The best time for viewing is in the early morning hours, when our part of Earth is facing head-on into the stream of meteors.



Astronomus: 6

A Journal for Young Astronomers

By Bob Popovich

"Queen for a Day"

Do you play chess? Did you ever notice that often in a chess game, the piece to watch is the queen? And so it is with our observing target for this month- Cassiopeia, mythological Queen of Ethiopia and wife of Cepheus the King.

Let's begin by finding Cepheus. I hope that the king has become a familiar old friend by now. This time of year Cepheus is standing upside down and just to the left of Cassiopeia. The 5 stars that make up this royal lady are all rather bright and resemble the letter "M" (or "W", if you prefer). In October we see the constellation standing on-end. Cassiopeia lies completely within the Milky Way and is just brimming with jewels for our enjoyment. So let's begin!

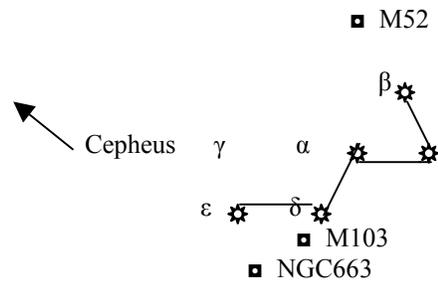
The two brightest stars are at the "top" of the constellation as you face north. They carry both Arabic and Greek names: Shedir (α Cassiopeiae), a distinctly yellow star and Caph (β Cassiopeiae). The Greek letter designations - alpha (α) and beta (β) have been combined into a common English word. If you can figure it out send me a note at b2n2@aol.com.

With an arm outstretched, hold up your index, middle and ring finger. Position these fingers so they fill in part of the space between Caph (β Cassiopeiae) and Cepheus (see diagram below). This measuring device should cover about half the distance separating the happy couple and will put you just shy of an open star cluster known as M52. The "M" in M52 stands for Messier. Charles Messier was a comet-hunter who catalogued objects that could be mistaken for comets so that he, and other comet hunters, wouldn't be confused by them.

With binoculars, object #52 in Messier's catalogue show a handful of stars with just enough background light to hint at

more. With a telescope and a clear, still night, nearly 100 stars are visible. Sadly, it would be difficult to see that many stars around here, but even if we can only see half that number, it's still a beautiful sight and well worth some viewing time. And I think that it's even merits a bit of thought. Consider the fact that this cluster is 5,200 light years away. Look at a history timeline and see what was going on here on Earth when light from that cluster began its journey to our eyes. It was 3,200 BC. Think of all that has happened on this pale blue dot right up until the very moment when you looked up and the photons entered your pupils.

Find the δ (delta star) in the diagram. Just beyond it are two star clusters- M103 (another of Mr. Messier's objects) and NCG 663 (New General Catalogue). M103 is just at the limit of a pair of binoculars and lies very close to the delta star. But even more splendid is NGC 663. This open cluster is a bit beyond M103 and definitely requires a telescope to bring out its beauty. But it's a wonderful open cluster of about dozen stars surrounded by a soft background glow.



At this point let's engage binocular cruise control. Go to the last of the 5 principal stars (ϵ [epsilon] Cassiopeiae) and follow an imaginary line from epsilon back to beta. Then trace out the shape of the letter slowly. Look at the number of doubles and triples you see! Like precious stones set in a crown.

Greek mythology tells us that Cassiopeia boasted of her daughter Andromeda's unsurpassed beauty. But of all the constellations of autumn, few can compare to this queen.

Next Time: "A Trip to the Hardware Store"



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 N. First Avenue
Tucson, AZ 85719-2103

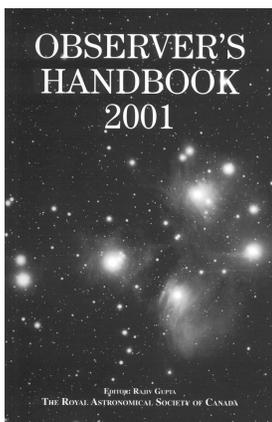
Dark-Sky Website for PA

The Pennsylvania Outdoor Lighting Council has lots of good information on safe, efficient outdoor security lights at their Website:

<http://home.epix.net/~ghonis/index.htm>



Observer's Handbook 2002: Save Money!



The cover of last year's issue

The *Observer's Handbook* is a very valuable reference tool published each year by the Royal Astronomical Society of Canada. As the information and data presented really covers just about all of North America, it is just as valuable here in Chester County PA as it is in Toronto. This book contains many sections of information. One section is a two-page calendar-type synopsis of the astronomical events visible that month. Full articles, complete with path & totality maps, are published for every solar and lunar eclipse that occurs in the covered year (regardless of where it is visible!) There are sections on each planet, with planetary satellite tracking data, an asteroid section, and an occultation section that covers all occultations visible that year from North America. And that's not all, but I'm not going to list everything.

Best of all, there is a substantial price reduction available for bulk orders. If you buy 1-4 copies, the price is \$22.95 (all prices are in US dollars.) 5-19 copies are only \$14.00 each, a savings of \$8.95 each. An order of 20-99 copies costs \$13.50 each, and 100+ copies are \$13.00 each. It seems we should be able to get at least 5 people in the CCAS who want a copy, so we should be able to secure the \$14.00 price without any trouble. If you'd like a copy, contact Jim Anderson by jimanderson1956@aol.com or call 610-857-4751, and tell me how many copies you want. The books will start rolling off the press in November; I'll place the order and collect the payments when the books arrive.



CCAS Newsletters Available via E-mail

You can choose to receive the monthly newsletter by e-mail. When the newsletter is finished, I convert it to a special type of file (a .pdf, for Portable Document Format) using a utility called Adobe Acrobat. Then all you need on your PC, besides an Internet connection with e-mail, is the Adobe Acrobat Reader program for your PC or Mac. This program is available free of charge from Adobe. Just connect to their Website at www.adobe.com and follow the links and directions for downloading and installing the correct Reader program for your PC or Mac. On the main screen (home page) of Adobe, at the top look for a "button" labeled "Products" and click it. On the next screen, scroll down to where it says "Adobe Acrobat Reader", and click that. Then click on

"Download Now". Make sure the version number of the Reader you get is at least 4.0 because I'm using Adobe Acrobat version 4.0 to make the .pdf files. If you have an earlier version of the Reader, like 3.0, you'll have problems reading the files I make with Acrobat 4.0. The 4.0 Reader can read 3.0 files without a problem, so if you're currently using a 3.0 Reader you will still be able to read older files produced by Acrobat 3.0 if you upgrade your Reader to 4.0.

Once you've done that, then just send me an e-mail to let me know you want to switch to e-mail delivery of the newsletter. The biggest advantage of getting your newsletter this way is you get it two to three days earlier. Another of the advantages of getting the newsletter this way is that the photos and/or drawings that are color in the original will be in color in your copy of the newsletter. When we make the paper copies for mailing, they get copied in black & white, and sometimes the copy quality of pictures is not good. Another advantage is that getting your newsletter by e-mail will save the Society money in copying and mailing expenses. In the past year some issues have cost the Society \$75.00 and more in copying and mailing costs. So if you want your newsletter by e-mail, send me an e-mail at jimanderson1956@aol.com and I'll get you set up on the e-mail distribution list.



A.L. Observing Awards Updates

One of the benefits of joining the CCAS is that you also become a member of the Astronomical League, a national federation of astronomy clubs. The AL has a series of Observing Awards, and four observing clubs based on these awards have been started in the CCAS. These are the Messier Club, the Binocular Messier Club, the Lunar Club, and the Double Star Club. Working on these awards also gives you a plan of observing: "What will I look at tonight?" becomes "Which Messier objects are visible tonight that I haven't seen yet?" Each club has a volunteer coordinator:

Messier Clubs (both): Frank Angelini (610-873-7929)

Lunar Club: Ed Lurcott (610-436-0387)

Double Star Club: Jim Anderson (610-857-4751)

Below is a list of awards already awarded to CCAS members. Is anyone else working on an A.L. observing award? Let *Observations* know how you're doing.

CCAS Messier Certificates:

Jim Anderson, Basic (now has 88 of 110 objects)

Frank Angelini, Honorary

John Imburgia, Basic (now has 84 of 110 objects)

Ed Lurcott, Honorary

CCAS Lunar Certificates:

Jim Anderson

Elise Furman

Steve Limeburner

CCAS Double Star Certificates:

Jim Anderson

Steve Limeburner

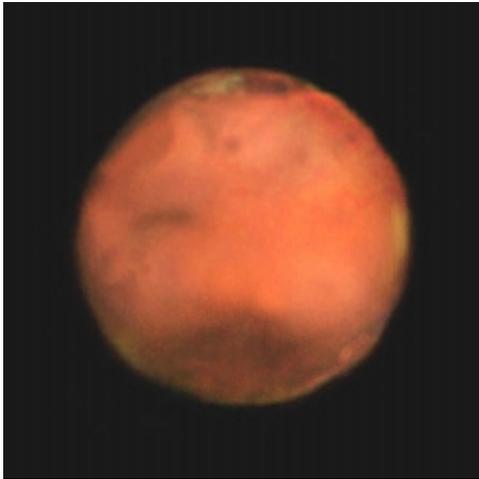
Ed Lurcott

Mike Turco





Kevin J. Cooper
Coonabarabran, NSW, Australia
C-11 SCT

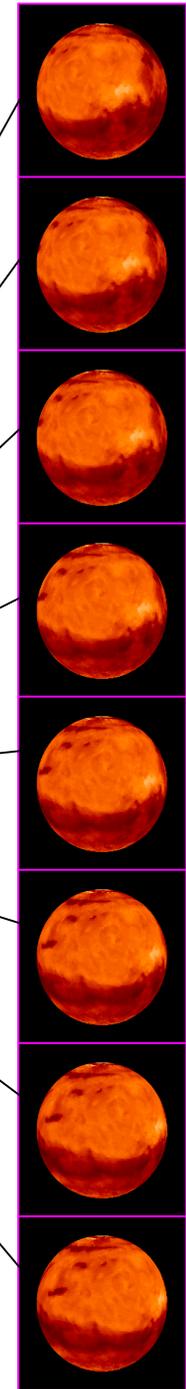


FJ Angelini – Downingtown, PA USA
180mm f/9 TMB ED Refractor

UTC	EDT	
21/06/2001	20/06/2001	
00:00:01	20:00:01	
00:30:00	20:30:00	
01:00:00	21:00:00	
01:30:00	21:30:00	
02:00:00	22:00:00	
02:30:00	22:30:00	
03:00:00	23:00:00	
03:20:00	23:20:00	

Images at the right were created by the image generator on the A.L.P.O. Website.

See: <http://clamcake.tn.cornell.edu/marsview.cgi>



CCAS Information Directory

CCAS Lending Telescope

Contact Kathy Buczynski to make arrangements to borrow the Society's lending telescope. CCAS members can borrow the 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, Bill O'Hara, to make arrangements to borrow one of the books in the CCAS lending library. Copies of the catalog are available at CCAS meetings. Bill's phone number is 610-696-1422.

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 email message and send it to

Jimanderson1956@aol.com

Or mail the contribution, typed or handwritten, to:

Jim Anderson
1249 West Kings Highway
Coatesville, PA 19320-1133

Get CCAS Newsletters via E-mail

You can receive the monthly newsletter by 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 Jim Anderson, the newsletter editor, at:

Jimanderson1956@aol.com

CCAS A.L. Award Coordinators

These are the members to contact when you have completed your observing log for the Messier, Binocular Messier, Lunar, or Double Star Awards:

Messier (both): Frank Angelini
(610-873-7929)

Lunar: Ed Lurcott
(610-436-0387)

Double Star: Jim Anderson
(610-857-4751)

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 Officers

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

President: Mike Turco
(610) 399-3423

Vice Pres: Steve Limeburner
(610) 353-3986

Treasurer: Pete LaFrance
(610) 268-2616

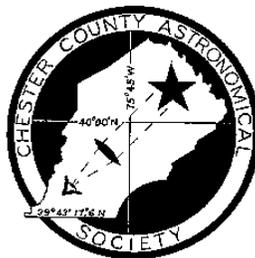
Secretary: Doug Liberati
(610) 827-2149

**ALCor and
Newsletter:** Jim Anderson
(610) 857-4751

Librarian: William O'Hara
(610) 696-1422

Observing: Ed Lurcott
(610) 436-0387

Education: Kathy Buczynski
(610) 436-0821



CCAS Membership Information

The present membership rates are as follows:

REGULAR MEMBER.....\$20/year
SENIOR MEMBER.....\$10/year
STUDENT MEMBER.....\$ 5/year
JUNIOR MEMBER.....\$ 5/year
FAMILY MEMBER.....\$ 30/year

Membership Renewals

Check the date printed on the address label of this issue of *Observations*; "exp." appears in front of it, just after your name. If you are due to renew, you may send your renewal check made out to our Treasurer, Pete LaFrance. Mail to:

Pete LaFrance
413 Church Rd.
Avondale, PA 19311-9785

Sky & Telescope Magazine Group Rates

Subscriptions to this excellent periodical are available through the CCAS at a reduced price of **\$29.95** which is much less than the newsstand price of \$54.00, and also cheaper than individual subscriptions (\$39.95)! Make out a check to the Chester County Astronomical Society, note that it's for *Sky & Telescope*, and mail to Pete LaFrance. Or you can bring it to the next Society meeting and give it to Pete there. Buying a subscription this way also gets you a 10% discount on other Sky Publishing merchandise.

CCAS Website

Pete LaFrance is the Society's Webmaster. You can check our Website at:
http://members.tripod.com/~ccas_2/ccas.html

Pete 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 copying copyrighted material! Give your contributions to Pete LaFrance (610-268-2616) or e-mail to lafrance@chesco.com

