



OBSERVATIONS



A MONTHLY PUBLICATION OF THE
Chester County Astronomical Society

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

JANUARY 2001

(VOLUME 9, NO. 1)

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

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

Society's 20" Telescope Named in Honor of Ed Lurcott



Photo by Jim Anderson

At the December meeting of the CCAS, President Mike Turco unveiled a brass dedication plaque for the Society's 20" telescope. He also announced that the Society had named the telescope "The Edwin T. Lurcott Telescope," in honor of CCAS co-founder Ed Lurcott. In the photo at left, a surprised Ed (we didn't tell him beforehand...) addresses a few words of thanks to the members present. Ed is holding the brass plaque in his hand. At right, Ed is at the eyepiece of the newly-named 20" telescope. The text of the plaque is reproduced here for those who were unable to attend the meeting.

THE EDWIN T. LURCOTT TELESCOPE
DEDICATED IN HIS HONOR BY
THE MEMBERS OF THE
CHESTER COUNTY ASTRONOMICAL SOCIETY
MADE WITH A 20-INCH MIRROR DONATED BY
THE UNIVERSITY OF PENNSYLVANIA
FIRST LIGHT: JUNE 30, 2000



Photo by Kathy Buczynski

Edwin T. Lurcott: A Profile

Because of Ed's well-known modesty, not many CCAS members know of his many contributions to the science of astronomy, especially his work on telescope design and building. Only a few people know that Ed assisted Galileo in the design of the world's first telescope. Later, he helped Sir Isaac Newton work out the problems in the first reflecting telescope design, now known as the Newtonian reflector. Ed was a team leader in the design of the Hooker 100" telescope on Mount Wilson in California. While training the staff on using this new telescope, Ed personally taught Edwin Hubble how to use the spectrograph. Hubble went on to fame by using that instrument to show that the universe is expanding. Meanwhile, Ed served his country in World War II. After defeating Hitler and Tojo in personal combat, Ed returned to the States where he resumed his beloved telescope work. There he worked on the design and building of the new Hale 200" telescope on Mount Palomar in California, which reigned as the world's largest telescope for several decades. During this time, Ed also moonlighted, designing and inspecting bridges for the Pennsylvania Railroad. Tragically, NASA snubbed Ed when assembling the design team for the Hubble Space Telescope, a mistake they came to greatly regret. The private sector, however, continued to recognize the value of Ed's talents. He was involved with the design and construction of the Keck twin 10-meter telescopes, now the world's largest telescopes. At about the same time, Ed made what was probably his greatest contribution to the science of astronomy by co-founding the Chester County Astronomical Society. Not to be outdone by those with money like the Keck Foundation, the CCAS impressed Ed into the design and building of the Society's new 20" telescope, using a mirror donated by the University of Pennsylvania. Ed is the holder of two observing awards from the Astronomical League, and a veteran eclipse chaser. He times occultations and measures double stars from his backyard observatory in West Chester, Pa., where he lives with his wife Evelyn. Ed is the father of 4 children, and the grandfather of Lord-only-knows how many grandchildren. Ed Lurcott is an inspiration to all who meet him, and richly deserves this rare honor of a telescope named after him. After all these years and telescopes, it's about time one of these marvelous instruments was named after him!

December Meeting of the Chester County Astronomical Society



John Imburgia Earns Messier Certificate!

John Imburgia has located and logged at least 70 of the 110 objects on the Messier List of astronomical objects. By doing so, he has earned the Basic Messier Certificate from the Astronomical League. At the December meeting, CCAS President Mike Turco had the pleasure of presenting the official certificate to John. Congratulations, John!

For observing and logging all 110 Messier objects, the Astronomical League has an Honorary Messier Award, which includes a pin with the new certificate. We expect to see John attain that award before toooo much longer!



Steve Limeburner Becomes A Certified Lunatic!

Steve Limeburner completed all the requirements for the Astronomical League's Lunar Award, having located 100 objects on the Moon's surface. Steve thereby became the third certified lunatic in the CCAS. At the December meeting, CCAS President Mike Turco had the pleasure of presenting the official certificate and lapel pin to Steve. Congratulations, Steve!

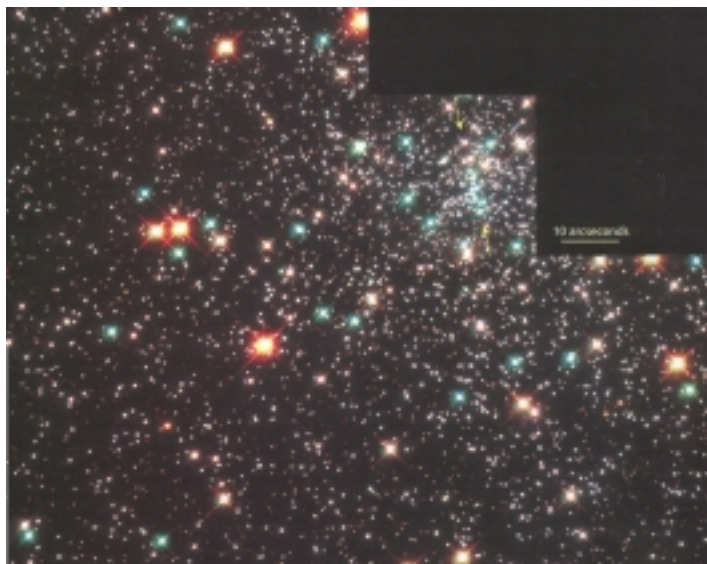
Messier Coordinator Frank Angelini reported that Steve has also completed the Honorary Messier Award, and the request for the award has been forwarded to the AL. We therefore anticipate another award presentation to Steve sometime soon.



Rex Returns!

Rex Saffer, Ph.D., of Villanova University, returned to update us on his last two years' work on the frontiers of astronomical research. In December 1998, Rex told the Society about finding "Blue Straggler Stars" (BSS) in the hearts of globular star clusters. He and his team continued their research into these unusual stars. What they have uncovered is the first direct evidence for the collisions of stars inside star clusters, forming these Blue Straggler Stars! At our December 2000 meeting, Rex was back to explain their findings to us. The team has applied for more time on the Hubble, to look more closely at some of the characteristics of these BSS, especially the rotation rates, in order to rule out some other explanations of the making of BSS. We hope to hear from Rex again in the future about this exciting work. The photo on the left shows Dr. Saffer speaking to the Society at the meeting. On the right is one of the images from the Hubble Space Telescope, showing a vertical line of BSS in the heart of cluster NGC 6397, located in the constellation Ara.

Dr. Saffer started in astronomy as an amateur, building his own 6" f/8 reflector when in his teens. He still has that telescope, and uses it for recreational observing in his driveway: outings that frequently become impromptu star parties for the neighborhood children!



Observations Editorial Staff

Editor in Chief: James J. Anderson
Copy Editors: Donna G. Anderson
Edwin T. Lurcott

Contributing Members:

Frank Angelini, Kathy Buczynski, Deborah Goldader, Ed Lurcott, Steve Limeburner

Welcome New Members!

The Society would like to extend a warm welcome to Daniel Politica, of Exton. Hello Daniel, and Clear Skies!



January Skies

Moon Phases

First Quarter	1/02
Full Moon	1/09
Last Quarter	1/16
New Moon	1/24

The Planets

Mercury will emerge from the Sun's glare in the latter half of January, in our evening sky. The best night to see it will be January 28, when it will be the furthest from the Sun. Look for Mercury about 45 minutes after sunset.

Venus is in the evening sky this month, setting almost 4 hours after the Sun. It will be the first bright star you see after sunset.

Mars is a faint flicker in the southeast in our morning sky in January.

Jupiter and Saturn continue their glorious display in the east in our evening skies this month. They make quite a sight, especially with the Hyades and Pleiades star clusters close by. This month is a great time to observe both planets.

Uranus and Neptune are pretty much lost in the Sun's glare this month.

Pluto is too low in the morning sky for viewing in January.



Newsletter Deadlines

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

<u>Issue</u>	<u>Deadline</u>
February 2001	01/29/2001
March 2001	02/26/2001
April 2001	03/27/2001
May 2001	04/26/2001
June 2001	05/28/2001



CCAS January Meeting

DATE: Tuesday January 9, 2001
TIME: 7:30 p.m. EST
PLACE: Department of Geology and
Astronomy Lecture Room
Room 113, Boucher Building
West Chester University

LOCATION: South Church Street
West Chester, PA
(see map on a later page)

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. CCAS meetings are always open to the public, and free of charge. Children are welcome as long as an adult accompanies them.

At the January meeting, the Society's 20-inch telescope will be on display. We will demonstrate how the telescope is assembled and disassembled, and how it is used. If you haven't had a chance yet to see our telescope, this will be a great opportunity to see it up close and personal. The display and demonstration will take place inside, so don't worry about the cold weather! Time permitting we will also have a "member's question and answer" session, where you can ask any question about astronomy, and the other members present attempt to answer it. If the weather turns too nasty to bring the 20", then our program will be just the Q&A session.



CCAS January Observing Session

The next CCAS Observing Session will be on Friday January 19, 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 January 20, 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. Make sure to dress warmly, as it gets cold rather quickly at this time of year. 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.



Quotable Quote

"We shall not cease from exploration, and the end of all our exploring will be to arrive where we started and know the place for the first time."

T. S. Eliot (1888-1965)



Request for Telescopes and Members at FCO

Deb Goldader is requesting the assistance of CCAS members with two upcoming events at the Flower and Cook Observatory in Malvern. The Observatory is located near the intersection of Warren Avenue and Providence Road in Willistown Township. A map showing the location is included on a later page.

1) On the first clear night of January 8, 9, or 10, a Boy Scout troop will visit FCO from 6 p.m. to ? Extra scopes are most welcome!

2) On Sunday, January 14 the Philadelphia Science and Space Club will make a 3rd attempt to observe from FCO. The last two were cloudy, but the group came anyway and was treated to an assortment of indoor slide goodies from CCAS members. Any help (indoor or outdoor type) would be appreciated! This could be a fairly large group, so extra scopes are always appreciated.



Calendar Notes

January 9, 2001 (Tuesday)	CCAS Meeting Location & Topic: TBA 7:30 p.m. EST
February 13, 2001 (Tuesday)	CCAS Meeting Location: WCU, Boucher Bldg.Rm.113 Topic: Lunar Interferometry by Steve Davis of Univ. Pennsylvania 7:30 p.m. EST
February 23/24, 2001 (Friday/Saturday)	CCAS Observing Session Location: Brandywine Valley Association (BVA) sunset
March 13, 2001 (Tuesday)	CCAS Meeting Eastern College Observatory Field Trip 7:30 p.m. EST
March 23/24, 2001 (Friday/Saturday)	CCAS Observing Session Location: BVA sunset
April 10, 2001 (Tuesday)	CCAS Meeting Location: WCU, Boucher Bldg.Rm.113 Topic: TBA 7:30 p.m. EDT
April 20/21, 2001 (Friday/Saturday)	CCAS Observing Session Location: BVA sunset
April 28, 2001 (Saturday)	National Astronomy Day
May 8, 2001 (Tuesday)	CCAS Meeting & Officer Elections Location: WCU, Boucher Bldg.Rm.113 Topic: TBA 7:30 p.m. EDT
May 18/19, 2001 (Friday/Saturday)	CCAS Observing Session Location: BVA sunset
June 15/16, 2001 (Friday/Saturday)	CCAS Meeting & Observing Session Location: BVA sunset



CCAS Beginning Astronomy Class

The Education Committee of the CCAS has been working very hard preparing for the upcoming classes intended to introduce people to basic observational astronomy. This series of eight classes will be held on the first and third Tuesdays of each month, starting at 7:00 p.m. and ending at 8:00 p.m. These are the dates on which classes will be held:

February 6	Introduction and Orientation
February 20	Spaceship Earth
March 6	Lunar Observing
March 20	Solar System
April 3	Planetarium Field Trip (WCU)
April 17	Constellations
May 1	Stars
May 15	Telescopes and Binoculars

The classes will be held in Meeting Room A, on the second floor of the West Goshen Township Building, which is located just outside West Chester. It is located at the intersection of Paoli Pike and Five Points Road, which is very close to the Paoli Pike exit of the Route 202 bypass around West Chester.

The cost is \$15.00 per person, and \$25.00 per family, for non-members. **For current CCAS members, the classes are free!** Space is limited to just 30 people, so call Kathy Buczynski to reserve your space now (610-436-0821).

A copy of the advertising poster is included with this newsletter. You can make as many copies of it as you want, to distribute to friends and neighbors. If you can also take it to local stores, churches, YMCAs, schools, and other such public places and get permission to have it posted there, that would be a great help in getting the word out!



Moon Rocks Night at Caln Elementary School

On Thursday January 11, 2001, there will be a "Moon Rocks Night" from 6:00 – 8:00 p.m. at Caln Elementary School in Thorndale. Two of the teachers in the Coatesville Area School District became NASA certified lunar sample handlers last year. They will be bringing a set of lunar sample "disks" and a "large sample" from the Apollo 16 mission back from Goddard Space Center for this special event. They will also have a Starlab Planetarium set up, and will have different "hands-on space activities." They hope to have the author Jerry Spinelli and his new book *Stargirl*, as well as a display of telescopes from The Discovery Channel Store in the Exton Mall. They are also inviting the local news "agencies." The organizers see it as a community event, and not as just an extracurricular event for the school.

They have also invited the CCAS, and would love to have us participate by bringing our telescopes, to conduct an outdoor segment of the program if it is clear. If it isn't clear, they would still like to have us there with our telescopes on display inside, to talk with people about telescopes and amateur astronomy. Needless to say, this will be a BIG event and is a great opportunity for the Society to get some publicity. And you will get to see, and very possibly handle, real Moon rocks. If you're interested in attending, please let our Observing Chair Ed Lurcott know ASAP so we can tell the School if we will have enough scopes to do some observing that night (610-436-0387).

Bob Popovich has volunteered to help by delivering a shortened version of his class on Lunar Observing that he will later teach at our “Beginning Astronomy Class.” Thanks, Bob!

The Caln Elementary School is located along Business Route 30 in Thorndale. From the Exton area, take the Exton Bypass Route 30 West to the PA Route 340 Thorndale exit (there is only one Thorndale exit). Be careful approaching the exit because the exit ramp is VERY short! At the end of the ramp, turn left on Route 340. Go to the second traffic light and turn right (Business Route 30). The school is a short way down on the right side of the road, just past the entrance to the Thorndale Fire Department. If the event is as big as they hope, there may be Fire Police and/or Caln Township Police directing traffic on Business Route 30, which may help you figure out where to turn.

This event could be an excellent opportunity to gain some new members, and to promote our “Beginning Astronomy Class.” We hope to see everyone who can make it that night! Don’t miss this special night!



Additional Notes on Dr. Saffer’s Talk

These are a few notes I wasn’t able to squeeze into the short article on page two with the pictures.

The other members of Dr. Saffer’s research team, who deserve credit also for these amazing discoveries, are as follows:

Guido DeMarchi and Marcio Livio, of the Space Telescope Science Institute;

Francesco Paresce, of the European Southern Observatory; and David Zurek, of the American Museum of Natural History’s Hayden Planetarium.

Moving on to the content of the talk, the evidence seen so far indicates that some of the Blue Straggler Stars (BSS) are about twice the mass of the other older stars in the cluster. A small number are about three times the mass of the older stars. It seems likely that these apparently “young” BSS were formed more recently than the other stars in the cluster, based on their temperature, masses, and spectra. Since there is no “gas and dust” in the cluster to make new stars (as there is in the Orion Nebula), the only way new stars could be made in the cluster is by somehow merging the older stars.

One possible scenario that may explain the existence of the BSS is the merger of binary stars. This occurs when one star is orbiting another star very closely, and their gravity pulls them together into one star. The theoretical models for this scenario indicate that the newly-formed star would have a very rapid rate of rotation.

The other possible scenario that could explain things is a stellar collision. The theoretical model for this scenario indicates that the newly-formed star would be rotating much more slowly.

The spectra of the stars can reveal their rate of rotation. So far, it looks like the BSS are the result of direct stellar collisions: they are rotating at a slower rate. The sample size, however, is not large enough yet to draw definitive conclusions. So the team has applied for more Hubble time to get spectra on about 100 more Blue Straggler Stars, in the globular clusters M3, 47 Tucanae, and GGC 6752.



A.L. Observing Awards Updates

Anyone else working on an A.L. observing award? Let *Observations* know how you’re doing. It would be nice to recognize members who are working on the awards.

CCAS Messier Certificates:

Jim Anderson, Basic (now has 87 of 110 objects)
Frank Angelini, Honorary
John Imburgia, Basic
Ed Lurcott, Honorary

CCAS Lunar Certificates:

Jim Anderson
Elise Furman
Steve Limeburner

CCAS Double Star Certificates:

Jim Anderson
Steve Limeburner
Ed Lurcott
Mike Turco



News from Neighboring Societies

[Editor's Note: All that is required to have notices published here is to include Jim Anderson on the mailing list of your society's newsletter. See below for Jim's address.]

From Focus, the newsletter of the Delaware Astronomical Society:

Upcoming Meeting Topics and speakers:

January 16, 2001 (Tuesday) 8:00 p.m. EST	“The Moon” by Sarah Baird, Junior member
February 20, 2001 (Tuesday) 8:00 p.m. EST	“Star Lore” by Sally O’Byrne, Delaware Nature Society
March 20, 2001 (Tuesday) 8:00 p.m. EST	“Evening at the McCullough Planetarium” by Hank Bouchelle
April 17, 2001 (Tuesday) 8:00 p.m. EDT	“Creation of the Universe” by Billie Westergard
May 15, 2001 (Tuesday)	Annual Dinner Meeting speaker TBA
June 17, 2001 (Sunday)	Annual picnic and star party

DAS meetings are held at the Mount Cuba Observatory in Greenville, Delaware. For more info contact President Warren Jacobs (610-566-0510). Or check their Website at:
<http://www.physics.udel.edu/>



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

jim.anderson@itb.mckhboc.com

Or mail the contribution, typed or handwritten, to:

Jim Anderson
19 Bluff Road
Thorndale, PA 19372-1104

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:

jim.anderson@itb.mckhboc.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
 (610-380-4512)

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

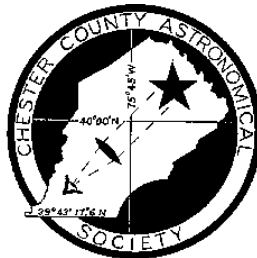
Treasurer: Pete LaFrance
 (610) 268-2616

Secretary: Doug Liberati
 (610) 827-2149

ALCor and Newsletter: Jim Anderson
 (610) 380-4512

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

Observing: Ed Lurcott
 (610) 436-0387



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

