



OBSERVATIONS



A MONTHLY PUBLICATION OF THE

Chester County Astronomical Society

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

JANUARY 2003

(VOLUME 11, NO. 1)

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

<http://www.ccasastro.org>

CCAS January Meeting

DATE: Tuesday January 14, 2003
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

Our program will be an audio-visual presentation on Jupiter and Saturn. The video is "visually rich," with excellent up to date (1998) educational material about Jupiter, Saturn, and their moons. Much of what we have learned about the two planets comes from the Voyager and Galileo probes, thus MANY of the images from these missions are included.

Saturn is the closest it has been to us in 29 years, and its rings are tilted at their greatest angle in the last 15 years. Jupiter also makes one of its closest approaches to us (opposition) on February 1. Also, since Jupiter's equator is edge on to us this year, we can observe mutual eclipses of its Galilean moons.



CCAS January Observing Session

The next CCAS Observing Session will be on Friday January 31, 2003 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 February 1, 2003. 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 telescope. CCAS Observing Sessions are always free of charge. Children are always welcome as long as an adult accompanies them.



Membership Renewals

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

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



CCAS Beginning Astronomy Class

The Education Committee of the CCAS is offering a class intended to introduce people to basic 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 4 Spaceship Earth
- February 18 The Moon
- March 4 The Other Kids on the Block
- March 18 Planispheres/Star Charts
- April 1 Stars by Design
- April 15 The Secret Life of Stars
- May 6 Planetarium Field Trip (WCU)
- May 20 Telescopes, Binoculars and Mounts

The classes will be held at the University of Pennsylvania's Flower and Cook Observatory in Willistown Township. The FCO is located just a few miles south of Malvern. It is located near the intersection of Warren Avenue and Providence Road, just west of Warren Avenue on Providence Road.

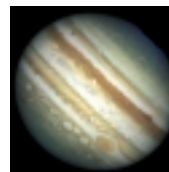
The cost for non-members is \$15.00 per person, and \$25.00 per family (with the same address). **For current CCAS members, the classes are free!** Space is limited to just 40 people, so call Kathy Buczynski to reserve your space now (610-436-0821).



Newsletter Deadlines

These are the deadlines for submitting material for publication in the newsletter, through the June 2003 issue.

<u>Issue</u>	<u>Deadline</u>
February 2003	01/24/2003
March 2003	02/21/2003
April 2003	03/28/2003
May 2003	04/25/2003
June 2003	05/23/2003



Have you seen your favorite planets lately?

Calendar Notes

February 4, 2003 (Tuesday)	Beginning Astronomy Class Location: Flower & Cook Observatory 7:00 p.m. EST
February 11, 2003 (Tuesday)	CCAS Meeting Location: West Chester University 7:30 p.m. EST
February 18, 2003 (Tuesday)	Beginning Astronomy Class Location: Flower & Cook Observatory 7:00 p.m. EST
Feb. 28/Mar. 1, 2003 (Friday/Saturday)	CCAS Observing Session Location: BVA sunset
March 4, 2003 (Tuesday)	Beginning Astronomy Class Location: Flower & Cook Observatory 7:00 p.m. EST
March 11, 2003 (Tuesday)	CCAS Meeting Location: West Chester University 7:30 p.m. EST
March 18, 2003 (Tuesday)	Beginning Astronomy Class Location: Flower & Cook Observatory 7:00 p.m. EST
March 28/29, 2003 (Friday/Saturday)	CCAS Observing Session Location: BVA sunset
April 1, 2003 (Tuesday)	Beginning Astronomy Class Location: Flower & Cook Observatory 7:00 p.m. EST
April 8, 2003 (Tuesday)	CCAS Meeting Location: West Chester University 7:30 p.m. EDT
April 15, 2003 (Tuesday)	Beginning Astronomy Class Location: Flower & Cook Observatory 7:00 p.m. EDT
April 25/26, 2003 (Friday/Saturday)	CCAS Observing Session Location: BVA sunset
May 6, 2003 (Tuesday)	Beginning Astronomy Class Location: Flower & Cook Observatory 7:00 p.m. EDT
May 10, 2003 (Saturday)	National Astronomy Day
May 13, 2003 (Tuesday)	CCAS Meeting Location: West Chester University 7:30 p.m. EDT
May 20, 2003 (Tuesday)	Beginning Astronomy Class Location: Flower & Cook Observatory 7:00 p.m. EDT
May 23/24, 2003 (Friday/Saturday)	CCAS Observing Session Location: BVA sunset

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January Skies

Moon Phases

New Moon	1/2
First Quarter	1/10
Full Moon	1/18
Last Quarter	1/25

The Planets

Mercury appears low in our evening sky briefly in early January. Then in the last week of January it will show up in the morning sky, but it will not be far above the horizon before sunrise and therefore tough to spot.

Venus continues to dominate the morning sky this month. Around January 20, Venus will make a nice little triangle with Mars and Antares (the first magnitude star that is the heart of Scorpius).

Mars is also in the morning sky, not far from its "rival" Antares. It is so far away now that it is a tiny featureless dot in a telescope. Wait until August, when Mars will be at its closest to us in a lifetime!

Jupiter is now rising during the evening hours. It is well placed for telescopic observations by late evening. Jupiter reaches opposition on February 1, when it will be at its closest to us for this year.

Saturn is well placed for telescopic observations as soon as night falls. Furthermore, Saturn is at perihelion in July 2003, meaning that it is the closest it has been to the Sun (and therefore us) in 29 years. Plus, its rings are tilted at their greatest angle in the last 15 years. So 2002 and 2003 are great "Saturn years"!

Uranus is lost in the evening twilight in January.

Neptune is also lost in the evening twilight this month.

Pluto is lost in the morning twilight this month. You'll have to wait until next summer to look for Pluto.

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Members report on Leonid Meteor Shower

From Nicholas La Para:

The Leonids were splendid, better than last year IMHO. I don't do counts, just "ooh" and "ah." Got up about 3:30, out before 4 AM, peak between 5:30 and 6 AM, a short but exciting peak it was. Cynthia and I used reclining sand chairs, long underwear, and crawled inside sleeping bags. It was comfortable although the temp was about 25 deg F, with no wind. The sleeping bag under as well as over you is important. Jupiter in Leo confused me at first; Leo just didn't look quite right! The sky was clear, then hazy, then clear again. Heard two (maybe three) Great Horned Owls calling back and forth, a screech owl, and a fox (who stirred up the neighborhood dogs). Saw Venus rise, heard the world wake up and get noisy, drat. Went inside in time for a good breakfast. Try again in 30 years.

From Mike Turco:

My Leonid experience was a really good one. I went out about three a.m. I counted over 100 by 5 a.m. Then about 5:30 a.m.

they started coming fast. Many meteors, two and three at a time for about 10 minutes. Then the skies brightened and it was over. Spectacular ending. Venus was also very bright.

From Emil Volcheck:

My wife and I set up so as to view as much of the sky as possible on reclined lounge chairs (with blankets!). She faced north, while I faced south; so we could (hopefully) keep most of the sky in view (except during blinks, etc.). We kept track of meteor counts and noted the times for each increment of 15 meteors spotted. We started really looking at around 05:10 EST (10:10 UT) and watched until about 06:00 EST (11:00 UT). By the latter time, the sky had got quite light from morning twilight. During the 50 minutes we watched, we had some moving cloud bands and high haze, as well as sky brightening from the full moon (now low on the western horizon, but not yet set).

Note: we only looked for the morning peak on the 19th, not the peak on the evening of the 18th (haze, clouds and BRIGHT full moon being the discouraging factors).

Given all the above factors, our count is certainly seriously low and not very uniform (the moving cloud bands being the major non-uniformity maker). However, we did count 141 Leonids (I do not think there was more than a couple of sporadic meteors, as the trails all pointed nicely back to the sickle and typical sporadics are dim enough to not show through the haze and clouds). Since our data are sparse, it was hard to decide when the peak occurred, but a guesstimate would be around 05:40-45 EST (10:40-45 UT). We did not note more than 1-2 sort-of fireballs. Generally, the trails were short bright and FAST!

What we saw translates to a ZHR of only about 170—way, way BELOW a “storm”, but a very good rate for a shower. It is too bad that we had the lousy sky, as it likely was a shower of more than ZHR = 300, if the sky had been clear. Since the pundits predict that it will be about 2098 or 2131 before the next Leonid Storm possibility, we missed a real lifetime event.

In closing, I might add that I missed the real storm in 1966 because of completely overcast skies (in Tennessee where I was living at the time).

Oh well, you can't win them all ... ☺



Astronomy Equipment for Sale

by Nicholas La Para

If you are interested in buying any of the listed items, contact Nicholas at 610-388-7640.

TeleVue TV 101: 101 mm (4”) Apochromatic refractor, f/5.4. Wide, flat field. Included: 2” TeleVue Everbrite enhanced coating diagonal, TeleVue “clamshell” mounting ring, large StellarVue 1x red-dot finder, foam-lined, fitted hardcase for all above. No eyepieces. Original cost \$2620; sell for \$2000.

TeleVue Gibraltar Alt-Az Mount with mounted SkyTour Digital Setting Circles: perfect match to above scope. 2-axis friction control, ash wood tripod, tripod tray, eyepiece caddy

on mount head, SkyTour caddy on mount head. Original cost \$1228, sell for \$900.

StellarVue 80 mm Achromat: f/6 short-tube, 1.25” mirror diagonal. Excellent color correction. Mounting rings, large StellarVue 1x red-dot finder, multi-use aluminum mounting plate. StellarVue 26 mm and 9 mm Plossl eyepieces, plus padded soft case for scope included. Original cost \$385, sell for \$300.

TeleVue Telepod Alt-Az Mount: Complete light-weight tripod/mount with guiding handle. Good match to the StellarVue listed above. 2-axis friction control. Original cost \$365, sell for \$300.

Canon 10x30 Image Stabilized Binoculars: 6° FOV. Uses 2 AA batteries. Original cost \$300, sell for \$200.

TeleVue 32 mm Plossl 1.25” eyepiece: Apparent FOV 50°. Retail @ \$110, sell for \$80.

TeleVue 24 mm to 8 mm Zoom 1.25” Eyepiece: Apparent FOV 40° @ 24mm, 55° @ 8mm. Original cost \$188, sell for \$125.

TeleVue 6 mm to 3 mm Nagler Zoom Eyepiece: Apparent FOV 50°. Original cost \$380, sell for \$300.

Losmandy GM-8 Mount and Tripod with Gemini Go-To: High quality German Equatorial mount with go-to & tracking. Runs on 12-18 volt source. Rated to carry 30 lbs. Includes tripod tray, head-mounting hand knobs, Universal dovetail mounting plate. Full documentation. Will include carry bags at no extra cost. Original cost \$2644, sell for \$2000.



Report from Kent Patterson

Hi Gang,

Hope everything is going well in Chester County. Tucson has been great thus far. The weather has been generally great...70 during the day and upper 40's and 50's at night.

The sky is fantastic!

I wanted to share a bit of my experience at Kitt Peak. On Dec. 4 (new moon) I had an all night imaging session on their 16 inch RC w/SBIG ST-10ME with Adam Block. I managed to get three images during the all night session. It was a great experience. Adam is a master imager...and a great teacher. I got lots of hands-on advice with the camera, and with the processing. We processed the images with several programs. *MaxIm DL* drove the camera and was used to combine and do basic processing of the images. *MIRA* was used to stack and register the images (Adam feels it does the best job of registration), *CCDSOFT* was used for its deconvolution routines... and *Photoshop* for basic clean-up and tuning.

We crammed about as much into one night as is possible. I crashed in one of their dorms at 6:30 a.m. then drove back to Tucson.

The experience was great...and it disproved my Pappy's old adage that “the problem with experience is that it generally comes after you need it.” By having Adam guide me and let me drive, but grabbing the wheel when I was about to drive off the mountain, I think I am well up the learning curve.

I have attached jpeg copies of the images for you to view.



NGC 3338, spiral galaxy in Leo



M78, reflection nebula in Orion



NGC 2280, spiral galaxy in Canis Major

The seeing was poor during the period when the last image (NGC 2280) was made. It was actually the second image made during the night and it was pretty low in the sky.

Merry Christmas to you all and happy viewing!



Frisbees in Space

By Dr. Tony Phillips

When Pete Rossoni was a kid he loved to throw Frisbees. Most kids do—it's pure fun. But in Pete's case it was serious business. He didn't know it, but he was practicing for his future career in space exploration.

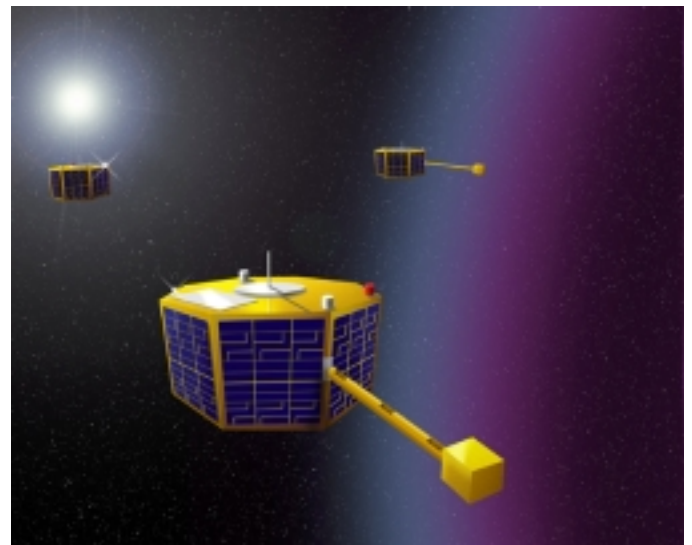
Grown-up Pete Rossoni is now an engineer at NASA's Goddard Space Flight Center. His main project there is figuring out how to hurl spacecraft into orbit Frisbee-style.

The spacecraft are small—about the size of birthday cakes. "This wouldn't work with big satellites or heavy space ships like the shuttle," notes Rossoni. But a cake-sized "nanosatellite" is just right.

Nanosatellites (nanosats for short) are an exciting new idea in space exploration. Ordinary satellites tend to be heavy and expensive to launch. The cost alone is a deterrent to space research. Nanosats, on the other hand, can travel on a budget. For example, a Delta 4 rocket delivering a communications satellite to orbit could also carry a few nanosats piggyback-style with little extra effort or expense.

"Once the nanosats reach space, however, they have to separate from their ride," says Rossoni. And that's where Frisbee tossing comes in.

Rossoni has designed a device that can fling a nanosat off the back of its host rocket. "It's a lot like throwing a Frisbee," he explains. "The basic mechanics are the same. You need to impart the spin and release it cleanly—all in about a tenth of a second." (The spinning motion is important because it allows the science magnetometer to measure the surrounding field and lets sunlight to play across all of the nanosat's solar panels.)



CCAS Information Directory

CCAS Lending Telescopes

Contact Kathy Buczynski 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. 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 e-mail message and send it to jim.anderson@mckesson.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:

jim.anderson@mckesson.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

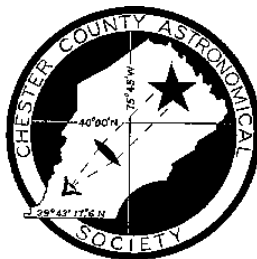
**ALCor and
Newsletter:** Jim Anderson
(610) 857-4751

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

Observing: Ed Lurcott
(610) 436-0387

Education: Kathy Buczynski
(610) 436-0821

Public Relations: Vic Carlucci
(610) 458-7457



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

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://www.ccasastro.org/>

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@kennett.net

The Chester County Astronomical Society

PRESENTS

THE UNIVERSE

Introductory Astronomy Classes

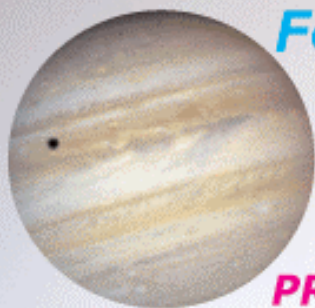
AT

FLOWER and COOK OBSERVATORY

753 Providence Road (near Warren Avenue) Malvern, PA

1st and 3rd Tuesdays - 7:00 PM to 8:00 PM

February 4, thru May 20, 2003



Admission Fee

\$15.00 person

\$25.00 family

PRICE INCLUDES:

- ◆ Eight one hour classes
- ◆ Hands on Observing Sessions
 - ◆ Use of CCAS and Flower and Cook telescopes
- ◆ Four month CCAS membership
 - ◆ CCAS Monthly Newsletter
 - ◆ Your very own Planisphere (Star Locator)
 - ◆ Drawing prize for a beginner's guide book "NIGHTWATCH" by Terence Dickinson
 - ◆ Several handouts
 - ◆ FREE PARKING



LECTURES AND OBSERVING SESSIONS COVER:

- ◆ What's in the sky this month
- ◆ How to find stars and constellations
- ◆ How to find Planets
- ◆ How to buy binoculars and telescopes
- ◆ How to use star charts
- ◆ What's on the Moon
- ◆ Differences of stars and their life cycles
- ◆ Understanding different types of telescopes
- ◆ Why we have the seasons
- ◆ The solar system
- ◆ Light pollution

Enrollment limited to 40 people call and reserve your space today!

Kathy Buczynski
610 436-0821



Note: Content of class subject to change without notice

Visit us online at:
www.CCASASTRO.org