OBSERVATIONS

A MONTHLY PUBLICATION OF THE
CHESTER COUNTY ASTRONOMICAL SOCIETY

★President: Edwin Lurcott

★Vice President: Jim Sylvester

★Treasurer: Pete LaFrance

APRIL 1996

(VOLUME 4, NO. 4)

★Secretary: Nancy Armstrong

CCAS April Meeting

DATE: **Tuesday, April 9, 1996**
TIME: 7:30 PM **EDT**
PLACE: Department of Geology and Astronomy Lecture Room (Room 113 - Boucher Building) Schmucker Science Center West Chester University
LOCATION: South Church St. West Chester, PA (see maps)

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.

After a brief business meeting, our program for April will be presented by our Vice President Jim Sylvester. Jim will speak on the theory of how life got started on Earth and what factors were necessary for life to begin. In view of the ongoing SETI programs (Search for Extra-Terrestrial Intelligence), this subject is very appropriate for the astronomical community.

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April CCAS Observing Session

This month's observing session will be on Friday April 12, with a rain/cloud date of Saturday April 13, at the Brandywine Valley Association (BVA) property, approximately six miles west of West Chester on Route 842. As usual, there will be help available to set up and use your telescopes. All members are invited whether they have a telescope or not. Telescope owners are always glad to share the view through their 'scope. Dress warmly.

Mark next month's Observing Session on your calendar now, too. It will be on Friday May 17, with a cloud date of May 18. This session will also be at the BVA.

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National Astronomy Day

This year, National Astronomy Day is on Saturday April 20. Volunteers are needed to man the CCAS display table at the Exton Square Mall. The table will be set up by the Mall personnel, and we can start bringing in display items at 9:00 AM. The shoppers start coming in at about 10, and there is usually a good flow of people until around 8 PM. Volunteers can spend just an hour or so at the table to help answer questions about our Society, and about astronomy. Astronomical or space exploration photos and items are needed.

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Request for a Star Party

The Society has received a request to participate in an Astronomy Program for Brownies and Girl Scouts. The Program will be held on Friday April 26, with a rain date of Saturday April 27. The Scouts will be in Camp Tweedale, not far from Oxford, PA, with their parents and leaders. Janice Pagenkemper, the leader in charge of this event, has requested CCAS members to bring telescopes, and to help the Scouts meet the requirements for some of their badges. It is expected that 200 to 300 Scouts, leaders, and parents will be in attendance. Needless to say, we need all the members and telescopes we can get! Even if you don't have a telescope, but know the constellations, please come and help. Many of the requirements do not require telescopes, just a general knowledge of the sky and astronomy. Please plan to attend, and mark this event on your calendar now. You will have a chance to help the next generation appreciate the wonders of the cosmos a little better, and you never know where that might lead a young child: perhaps you may get the next Einstein or Hubble or Hawking started on the road to great discoveries.

Even if that never happens, you will have a lot of fun. So come on out to the Party!

As this newsletter goes to press, we don't have directions to Camp Tweedale. We will have directions and a map available soon. If you're going to attend, please call Ed Lurcott (436-0387), and the map and directions will be sent to you as soon as they are available.

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Star Party at East Bradford Elementary

The Math & Science Committee of East Bradford Elementary School invited the CCAS to participate in the school's Student Interest Night on March 11. Several Society members showed up with telescopes, and some students and their families brought their own telescopes. We showed all who stopped by a variety of the brighter sights in the wintertime sky. We also helped several of the families with telescope and other problems, and answered a lot of questions. The students and their parents seemed quite enthusiastic, and thankful for our presence. Everyone, including the Society members present, had a good time.

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March Society Meeting

The March CCAS field trip to Mount Cuba Astronomical Society was a success thanks to the efforts of Emil Volcheck. Emil gave an illustrated outline of the history of Mt. Cuba and the work done there. Staff members showed us the historic 4-inch Clark refractor and the 24-inch Tinsley reflector. Members of the Delaware Astronomical Society (which meets at Mt. Cuba) were on hand to show us their own observatory, next to the main observatories. They had their 12.5-inch reflector all set up, and spent some time observing with us through the telescope. Even the skies cooperated; it was a beautiful night.

The CCAS wishes to thank Emil, Mount Cuba Observatory and its staff, and the Delaware Astronomical Society for their hospitality, which made this outing such an enjoyable experience.

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Comet Madness! by Jim Anderson
a.k.a. March Observing Session(s)

On Friday March 22, Ed Lurcott kept a lonely vigil out at the BVA, waiting for the clouds to disappear and his fellow Society members to appear. Sadly, neither happened and Ed returned home. Later that evening, he walked outside at home to find that it had finally cleared off! And there was Comet Hyakutake, plainly visible to the naked eye in Bootes! Off went the roof of the W.N. Lurcott Observatory, and in minutes a 35mm camera was riding piggyback on the 10" telescope taking pictures of the comet.

On Saturday night at the BVA, it was clear, cold, and windy. Ed showed up late due to a dinner engagement, to find three other Society members already present with their telescopes "up and running." In swapping stories of the night before, Ed found that Pete La France and Jim Anderson had had similar experiences with the weather and the comet. Friday's early evening clouds had brought gloom, followed by elation around 9:30-10:30 as they went outside and saw clear skies and a bright comet. Jim had brought along the sketches he had made, and both Pete and Ed had the photos they had taken on Friday. We enjoyed good views of the comet on Saturday night with naked eye, binoculars, and telescopes, sharing the view with several visitors who showed up. Jim had his new homebuilt 10" f/6 reflector out for its first night of decent dark sky viewing, and had a lot of fun bopping to various objects of interest. Coffee, mini-doughnuts, and a bag of Oreos were available, so we had a great time munching, observing, swapping stories, comparing observations of the comet using different instruments, etc. Finally, around 11:15 Ed and Jim were the last to succumb to the cold and pack it in.

Sunday night was clear, a bit warmer, with no wind. Again, several Society members showed up with telescopes and binoculars. Quite a few visitors also showed up, and once again a great time was had by all, viewing Comet Hyakutake and other interesting astronomical sights.

Epoch 2000.0 coordinates for Hyakutake(96B2)

Date	R.A.	Dec.
4/2	03h 11.3m	+51° 58'
4/7	03h 05.2m	+43° 27'
4/12	03h 00.6m	+39° 02'
4/17	02h 55.0m	+35° 47'
4/22	02h 47.4m	+32° 29'
4/27	02h 37.0m	+27° 59'

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CCAS Officer Election News

Mike Tucker and Chuck Shorten volunteered to serve on the Election Committee. A third volunteer would be very helpful. If interested, call Mike at 584-8236, or Chuck at 696-3655. The committee will be presenting the nominations at the April meeting. Elections will be in May.

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Membership List

It has been quite a while since we last published a list of CCAS members, and there have been a number of changes. It is planned to publish a new list of names, addresses, and telephone numbers. If for any reason you do **not** wish to have your address and phone number listed, call Ed Lurcott (436-0387); otherwise they will be listed.

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April's Skies

Moon Phases

Full Moon	4/03
Last Quarter	4/10
New Moon	4/17
First Quarter	4/25

The Planets

Venus continues to dominate the evening sky in April, but faces some competition this month from Mercury and Comet Hyakutake. This month Venus will still be the first "star" you can see after sunset, in the West.

Mercury will make its best appearance of the year during April. On April 22 you should find it easily, shining at magnitude -0.1, 45 minutes after sunset. After that Mercury will fade very quickly.

Saturn and Mars are still pretty much lost in the Sun's glare this month, although by month's end Saturn rises about 1.5 hours before the Sun.

Uranus and Neptune can be found in the morning sky this month. They are near the Capricornus-Sagittarius border.

Jupiter is also in the morning sky, in the constellation Sagittarius.

Pluto is in the morning skies, if you know where to look (in the constellation Ophiuchus).

Meteor Shower - April 21

One of the oldest known meteor showers (records go back 2,700 years) are the Lyrids, which usually peak on the night of April 21-22. This year, that's good news because New Moon is the same night, so the skies will be dark. Best viewing is from midnight to dawn, although you may see Lyrids before midnight too. Face the northeast horizon, where you will see the bright star Vega (in Lyra) rising. The meteors will seem to radiate upward from there. The Lyrids shower has 10-15 bright meteors per hour, but they also tend to have unpredictable spurts of higher activity. For example, in 1982 the rate was 100 bright meteors per hour.

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Space Exploration Notes

Historical Notes for April

In 1959, NASA picks the seven Mercury astronauts.

In 1960, NASA launches the world's first meteorological satellite, Tiros 1.

In 1961, Yuri Gagarin is the first human to fly in space.

In 1964, the first test flight of the Gemini spacecraft (unmanned) is successful.

In 1966, the Soviets' Luna 10 is the first spacecraft to orbit the Moon.

In 1967, the first in-flight space fatality occurs. Vladimir Kamarov dies when the parachute on his Soyuz 1 spacecraft does not open.

In 1970, the Apollo 13 mission makes an unplanned trip to the brink of disaster and back. Also in 1970, China launches its first satellite.

In 1971, the first space station is launched, Salyut 1.

In 1972, Apollo 16 makes a flight to the Moon and back.

In 1981, the first reusable spacecraft is flown, as the space shuttle Columbia takes its maiden flight. See how far we came in 20 years!

In 1990, the Hubble Space Telescope is placed into orbit.

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First Light by Jim Anderson

What's a meteor, and how is it different from a comet?

I hope you all have had a chance to see Comet Hyakutake in the last several weeks. If you have, you know that comets look like large fuzzy stars, or patches of light, that may (or may not) have a tail. They can be seen to move across the starry background from one day to the next (and sometimes from one hour to the next). Comets are, in a manner of speaking, similar to planets in that they orbit the Sun, although they are much smaller than planets.

Meteors, on the other hand, move very swiftly. They appear as a streak of light across part of the sky, flashing brightly and disappearing again in the wink of an eye. They are often called shooting stars. Meteors are small bits of material, often not much bigger than a pea, although they can be much bigger. These meteors are falling into the Earth's atmosphere and burning up; that's what creates the light show. Meteorites are meteors that don't burn up before reaching the ground, so there is a remnant that can be found and studied. In recent years scientists have discovered that some meteorites match Moon rocks (the ones brought back by the Apollo missions) in mineral composition. Others seem to match the mineral compositions detected in rocks on Mars by the Viking landers. Scientists speculate that these rocks were blasted off the Moon or Mars by large meteorite or asteroid impacts, and floated through space until eventually they were captured by Earth's gravity.

Many meteor "falls" are random in nature, as stray bits of rock in space pass too close to Earth. Others are not, and are actually the remnants of comets. These meteors fall in large batches, or showers, peaking on specific dates each year. As a comet warms up, small rocks ("dust," in astronomical lingo) are freed up and float in space. Pushed back (slowed down, really) by the Solar Wind, these particles trail behind the comet's head, forming the tail. This material gradually gets stretched out along the comet's orbit, becoming like a "tube" of rocks in space. If the comet's orbit crosses the Earth's orbit, then once a year the Earth cuts through that "tube" of rocks, and the rocks become meteors, flashing down through our atmosphere. So remember that the next time you take in a meteor shower: you could also say you're observing a comet's tail!

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Also Available

A free brief overview called *Getting Started In Astronomy* is available from the CCAS. It can be picked up at a CCAS function, or you can call the newsletter editor to get a copy mailed to you. Suggestions for improving this introduction to our hobby are always welcome. Articles for the *First Light* column, intended for beginners, are also needed.

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Contributing to the Newsletter

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 the editor at **skywalkr56@aol.com**. Or mail to:

Jim Anderson
1086 King Road IVY-312
Malvern, PA 19355

Membership Renewals

Check the date printed on the address label of this issue of *Observations*. 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

Sky & Telescope Magazine Group Rates!

Subscriptions to this excellent periodical are available through the CCAS at $24 per year, less than half the newsstand price, and even cheaper than individual subscriptions! Make out a check to the Chester County Astronomical Society, note that it's for *Sky & Telescope*, and mail to Pete LaFrance.

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CCAS Membership Information

The present membership rates are as follows:

REGULAR MEMBER
(18 years or older) $20/year
SENIOR MEMBER
(65 years or older) $10/year
STUDENT MEMBER
(full-time college student) .... $ 5/year
JUNIOR MEMBER
(under 18 years old) .....$ 5/year
FAMILY MEMBER
(husband, wife & children) ....$ 30/year

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

President:	Edwin Lurcott	(610) 436-0387
Vice Pres:	Jim Sylvester	(610) 696-1102
Treasurer:	Pete LaFrance	(610) 268-2616
Secretary:	Nancy Armstrong	(610) 873-7531
Public Rel:	Kathy Cseke	(610) 644-9543
Obs Chm:	Mike Tucker	(610) 584-8236
Newsletter:	Jim Anderson	(610) 993-0261