



Observations

A Monthly Publication Of The
CHESTER COUNTY ASTRONOMICAL SOCIETY

MAY 2008

(VOLUME 16, NO. 5)

Visit our website at www.ccas.us

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Important May 2008 Dates

- 6 Backyard Observing class** meets at West Chester University. Class starts at 7:00 p.m. EDT.
Topic: *Finding Faint Fuzzies, Part I*.
See page 4 for details.
- 10 Astronomy Day at Hoopes Park**
West Chester, PA
Setup starts at 7:00 p.m. EDT.
See page 4 for details.
- 13 CCAS Meeting**
Location: West Chester University
Room 113, Boucher Building
7:00 – “Feeding the Monster” (DVD).
7:30 – Regular Meeting Starts
Constellation of the Month: Hercules
Main Presentation: “Magnificent Desolation”
See page 3 for more details.
- 20 Backyard Observing class** meets at West Chester University. Class starts at 7:00 p.m. EDT.
Topic: *Finding Faint Fuzzies, Part II*
See page 4 for details.

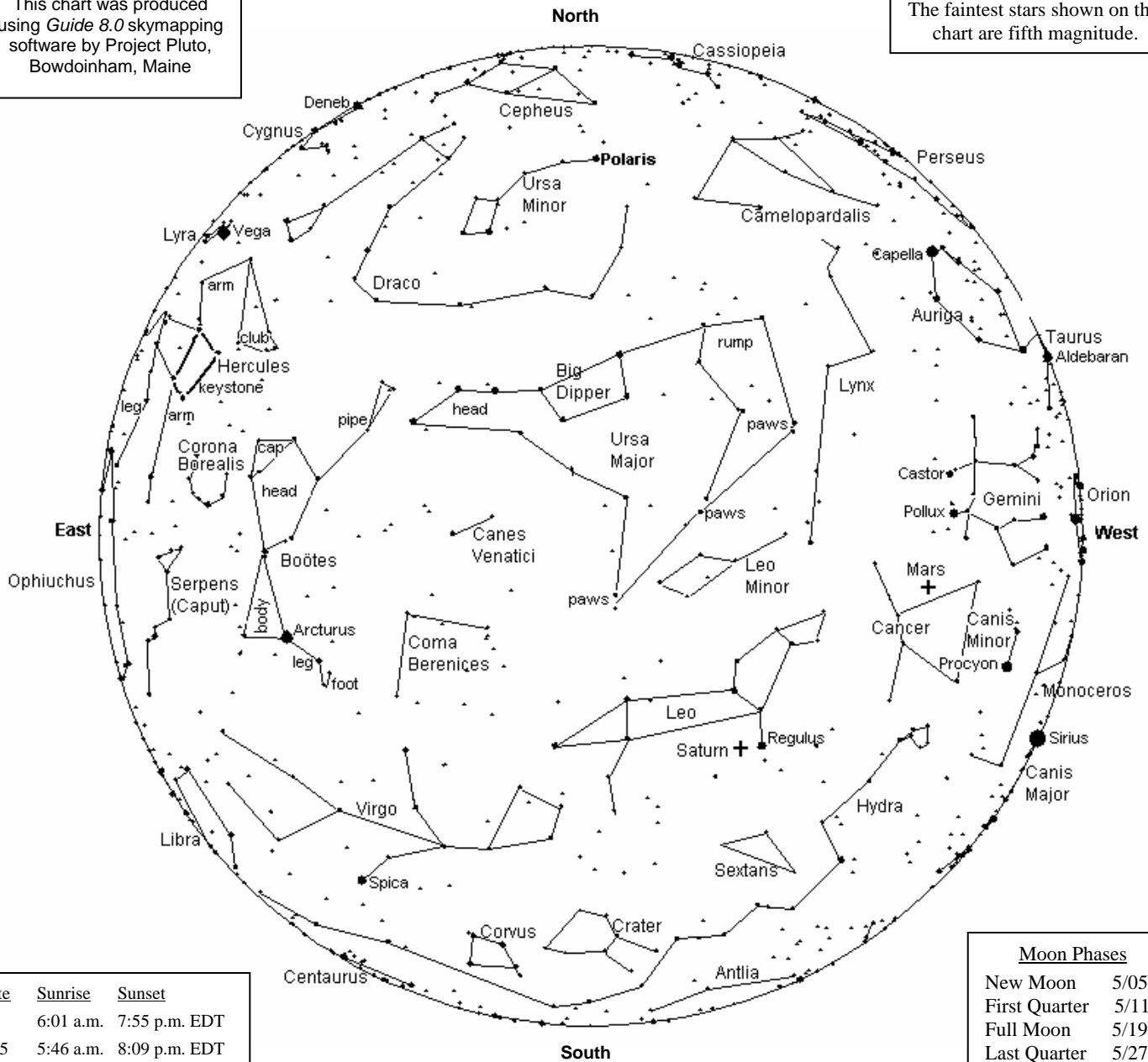
CCAS Summer Schedule

- June 6/7 — Observing Session at BVA
July 5 — Observing Session at BVA
August 1/2 — Observing Session at BVA



This chart was produced using *Guide 8.0* skymapping software by Project Pluto, Bowdoinham, Maine

The faintest stars shown on this chart are fifth magnitude.



The sky over Chester County May 15, 2008 at 9:00 p.m. EDT

The Planets, by Don Knabb

Mercury: May is your best chance to see Mercury during 2008, so make that extra effort and enjoy the beautiful spring twilight. Try to find Mercury on the 6th when it is below the 2 day old Moon, or around the 14th when it reaches its greatest elongation from the Sun.

Venus: We won't see Venus until August when it emerges from behind the Sun as "the evening star."

Mars: Although the red planet is now quite small in the eyepiece of a telescope, look for it on the 22nd and 23rd when it drifts across M44, the Beehive Cluster.

Jupiter: The king of the planets is rising too late for me to see (around 1:00 a.m.), but it will not be too long until we have a good view of the biggest planet and its herd of moons.

Saturn: Saturn is high in the sky during May evenings so enjoy it while you can – there is nothing else in the sky like the ringed beauty.

Uranus & Neptune: Dim Neptune can be found an hour or two before sunrise in Capricornus. Uranus is difficult to find until the very end of the month when it moves out of the glow of the morning Sun in the constellation Pisces the Fish.

Pluto: The "ex-planet" Pluto is only one month from opposition so you will need to stay up quite late to search for this dim speck of light. You'll need a good sized telescope, clear skies and detailed sky charts.

Note: the constellation stick figures used on the chart above were adapted from the book *The Stars: A New Way to See Them*, by H. A. Rey. This excellent guide to learning the constellations can be purchased at many area book stores, or from online booksellers.

May Observing Highlights

by Don Knabb, CCAS Observing Chair

- May 5** Eta Aquarid meteor shower peaks
May 5 New Moon, 8:18 a.m.
May 6 A thin crescent Moon is close to Mercury.
May 10 The Moon skims the southern edge of M44, the Beehive Cluster.
May 11 First quarter Moon, 11:47 p.m.
May 13 Mercury is at its greatest elongation.
May 19 Full Moon, 10:11 p.m., the Full Flower Moon.
May 22-23 Mars passes through M44, the Beehive Cluster.
May 27 Last quarter Moon, 10:57 p.m.

Planets: Saturn is the main event for planetary viewing during May, but don't forget to catch Mars as the red planet falls further behind the Earth in our race around the Sun. And this is a great month to see elusive Mercury low in the evening twilight. Jupiter rises quite late, around 1:00 a.m. Venus is hiding behind the Sun during May so it is not visible.

Constellations: This is a great time of year to look high overhead at the Big Dipper and find all of Ursa Major, the Big Bear. Leo the Lion is still high in the sky as darkness falls, but he seems to be running away from Hercules as he is rising in the east. And bright Arcturus in Bootes shines like a beacon in the south east.

Messier/Deep sky: It is globular cluster time! M3 is high overhead during May. Take a look at the glow of 500,000 stars in your eyepiece! And stay up a bit later as M13, the Great Globular Cluster in Hercules rises in the east. M13 contains several hundred thousand stars, perhaps a million!

Comets: There are no bright comets in the sky during May.

Meteor shower: The Eta Aquarid meteor shower peaks on May 5th. Comet 1P/Halley is the source of these "shooting stars." You'll need to get up just before dawn for the best viewing of this shower.

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Welcome!

This month we welcome four new members to the Society: Carl Fletcher of West Chester, Charles Armore of West Chester, Bill Welch & Family of Cochranville, and William Devoe of Oxford. We're glad you decided to join us under the stars! Clear Skies to you all!

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CCAS May Meeting

DATE: Tuesday May 13, 2008
PLACE: Room 113 – Boucher Building
West Chester University
LOCATION: South Church Street
West Chester, PA
TIME: 7:00 p.m. EDT for Cosmology Class
7:30 p.m. EDT for regular meeting

A map of the campus is on page 15.

Cosmology Class: **Feeding the Monster**

This month's Constellation of the Month (COM) will be **Hercules**, presented by Kathy Buczynski.

This month we will watch the IMAX film *Magnificent Desolation*, about the Apollo moon landings. It is an excellent film, with interviews of the moon walkers. Don Knabb has previewed it and says it truly is fantastic. Don't miss it!

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Treasurer's Report

by Bob Popovich

March 2008 Financial Summary

Beginning Balance	\$1,266
Deposits	768
Disbursements	<u>208</u>
Ending Balance	\$1,826

Membership Renewals Due

05/2008: Aziz
Kutta
Long
06/2008: Churchman
Hebding
Siskind
07/2008: Hockenberry
Scarfo
Stevens
Tobery
08/2008: Fellwock
Fragale
Knabb

Membership Renewals

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

Bob Popovich
416 Fairfax Drive
Exton, PA 19341-1814

The current dues amounts are listed in the CCAS *Information Directory* on page 13 in this newsletter.

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Astronomy Day Plans for May 10

Our PR Chair Deb Goldader has been doing a great job advertising our Astronomy Day Plans. The following text is the press release.

Chester County Astronomical Society Plans Astronomy Day Event

The Chester County Astronomical Society (CCAS), in cooperation with the West Chester Department of Recreation, is excited to invite the public to a night out under the stars at Hoopes Park on May 10.

Starting at 8 PM, members of the club, a group of amateur astronomers formed in 1993, will be available as night sky tour guides. On the field, an assortment of telescopes will be focused on celestial delicacies ranging from planets to star-forming nebulae. In the park's pavilion, there will be information tables on getting started in astronomy, purchasing astronomical equipment and raising awareness of light pollution. A special Kid's Corner with an astronomically themed craft will also be in the pavilion, for guests aged 2-7.

"Bringing Astronomy to the People" is the theme of Astronomy Day, coordinated by the Astronomical League

(<http://www.astroleague.org/al/astroday/astrofacts.html>).

Astronomy clubs across the nation will be hosting similar events the weekend of May 10.

Hoopes Park is located off of Ashbridge Street in West Chester, just southwest of New Street. Ample parking is available in the lower parking lot along Ashbridge Street, and the observing field is a short walk up the hill from there. To enjoy the event fully, guests should bring sturdy shoes for walking in the field, a jacket, a blanket to sit or lie down on, a flashlight, and snacks if desired. Restrooms are available on site, but food and drink will not be sold at the park.

In the case of cloudy weather, CCAS will provide a slide show in the pavilion in lieu of telescopic viewing. However, if it rains, the event will be cancelled.

CCAS Members Info for Astronomy Day

Try to arrive before sunset, which on May 10 will be about 8:00 p.m. EDT. Ideally, please arrive by 7:00 p.m.; we have a troop of Girl Scouts arriving early for help with their Astronomy badge.

We will have a variety of handouts for the public. We really need as many members as possible to show up to help: with or without telescopes. There is some parking available near the pavilion.

Don Knabb is leading the planning for this event. If you can bring a telescope, let him know ASAP. Also let Don know if you can help with making handouts, or help with "crowd control" on the night of the event (basically just helping direct people to the right places).

If you have any questions write to observing@ccas.us or dknabb00@comcast.net or call Don at 484-888-1831.

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CCAS Backyard Observing Class

The Backyard Observing class is almost finished: just two classes left. Classes start at 7:00 p.m. and end at 8:00 p.m. These are the dates on which classes will be held:

May 6 Finding Faint Fuzzies, Part I
May 20 Finding Faint Fuzzies, Part II

The classes will be held in Room 113 in the Boucher Building at West Chester University. This is the room where we hold our monthly meetings.

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Anson Nixon Park Hosts Another Astronomy Event

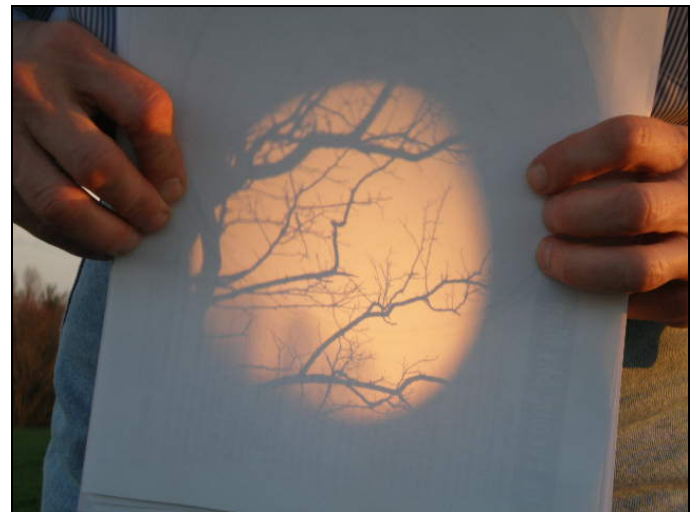
by Kathy Buczynski

We were called back for a repeat appearance for the Friends of Anson B. Nixon Park in Kennett Square. Last year's Spring event was postponed until September. But when we finally did have the event, the skies were clear and the attendance was numerous.

It was a tough call to make this time. The weather on Saturday, April 12th was iffy all day. The weather forecasts were for partly cloudy and a cold front was coming through that evening. Usually, a cold front means clear skies will follow. Usually!

Our host, Pete Kennedy, had advertised the event and had the local newspaper coming to cover it. At 5:00 PM we decided to go for it.

Don and Barb Knabb had returned from their getaway home in the Poconos to attend and Nicholas LaPara was definitely confirmed. We arrived at about 7:00 to set up. Bill O'Hara and Ed Lurcott also brought their scopes. As people arrived to view the stars at dusk, we caught a glimpse of the Moon, and Saturn and Mars.



Before the party started: The sun was close to the horizon so a projection through a 6" Dobsonian showed the trees at the edge of the Park.

I recognized many of the attendees; current members, people who have taken the classes and some folks from

the previous Anson Nixon event in the fall. I guess about 20 or so people showed up to view the night sky.



Gary Calibrisi takes a look at the Moon as Don Knabb looks on. Sorry about the flash, Don, but check out those clouds in the background. Not much stargazing will take place for the rest of the evening.

Off to the west was a HUGE dark cloud, but beyond was a strip of clear skies. We had hope. We quickly got a look at some targets. The Moon was a big hit, and of course, Saturn—but it was peeking in and out of the clouds so we got the eyes of our guests to the eyepiece quickly and often. Arcturus was bright on the eastern horizon, so I knew that the Big Dipper was pointing at it from somewhere above the clouds. As bits and pieces of it appeared, we tried to see the shape of it in our mind's eye, at least.

In about an hour, the effort was futile. The clouds had won—this time.

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Minutes of CCAS Meeting on April 8, 2008

Video presentation: *Cosmic Powerhouses of the Distant Past* was shown from our Cosmology series.

Constellation of the month – Jim Anderson presented Canis Major.

Website – no report

Finance – no report

Observing – A star party was held on April 12 at Anson B. Nixon Park in Kennett Square. The next event is Astronomy Day on May 10 when we will host a star party at Hoopes Park in West Chester. This event replaces our BVA observing session in May.

Library – The list of library items is posted on our website. Members are encouraged to use the library!

Secretary – The minutes from last month were published in the newsletter. No changes were suggested to the minutes.

Education – The Backyard Observing classes are continuing. Unfortunately there have been very limited observing opportunities. If the weather cooperates we will observe at the West Goshen Township building ball field on April 29.

Member's night presentations:

Steve Leiden discussed the book *The Urban Astronomer's Guide*, by Rod Mollise. He highly recommends the book.

Don Knabb presented a slide show of a visit to Griffith Observatory near Los Angeles, CA.

A question and answer session was held. There was discussion on finding a darker observing site for monthly observing. If anyone has a suggestion please send a note to Don Knabb at observing@ccas.us

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NEAF* is NEAT**

*(Northeast Astronomy Forum)

***(Need Every Astronomical Telescope that I can get my hands on)*

by Fred De Lucia

On Friday, April 25, Pat and I took a relatively leisurely 145-mile toll free drive to Suffern, NY for our first NEAF. Leaving home at 11:20 AM and stopping for a very fresh tasting lunch at the Hillsborough Star Diner in Hillsborough, NJ, we arrived at the Wellesley-Howard Johnson's hotel at 2:50 PM. After checking in at the hotel, where the accommodations were passable, we explored Suffern a bit and found a very appetizing bakery called Crumbs. That evening we had a surprisingly good meal at the Outback Steakhouse in the Indian Rock shopping plaza. Saturday, we were back to the Indian Rock plaza for a tasty lunch at Vito's and that evening for a truly standout dinner at Pasta Cuccina, and then Sunday morning for breakfast at the Airmont Diner. On the way home, it was the reliable Hillsborough Star Diner for dinner.

Oh, you want to know about NEAF. Well, in my book a 300-mile round trip is worthwhile only if the food, along the way and while at your destination, is good. So, the food kicked us off to a good start and kept me in a good mood the whole time. Now that that's out of the way... on to my impression of NEAF.

First, a tip for any first time goers. When you get your admission tickets be sure the booth attendant tears them off properly. The stubs go into a drawing for door prizes.

It seems what happened with us was that the ticket booth attendant didn't tear off the tickets deep enough into the roll, so the duplicate numbers on the successive tickets were sold to the next attendees. Consequently, our ticket stubs did not get in the door prize drawings because we had to surrender our tickets at the entrance, which left us with no stubs for door prizes.

Upon our 8:45 AM entry to the Forum, we emerged from an upper level overlooking the vendors who were neatly arranged in aisles along the floor. Manufacturers' banners spread high along the backs of exhibitors' booths for easy targeting. Dobsonians pointed up at various angles, refractors spread throughout, some arrayed according to size and others much more haphazardly. Some scopes were raised high, others raised barely above waist-height while at various spots someone might rotate a Newtonian on an equatorial mount, someone else would check an eyepiece looking up at the lights, while others were already hard at work bartering for a deal. There was a rather low and somewhat calming bustle of people moving about and an occasional voice bellowed from the floor, like a stern parental directive for a child to stop hopping among the tripod legs. Everywhere you looked, there was what seemed like acres of astronomical gear. I love the smell of telescopes in the morning.



Overview of Vendor Room

We made our way down to the floor, where a group of very eager youngsters greeted us with plastic *Sky & Telescope* bags for placing our soon to be collected brochures and free astro goodies.

While a scope buddy and I began ogling at all the gear, my wife dutifully began entering her name in every vendor prize drawing she came across. OPT had at least two drawings a day offering items like finderscopes or Radian eyepieces. Meade and Orion had drawings for various accessories including software planetarium programs. There were discounted merchandise galore, such as \$5000 off of the Coronado Solar Max 90 <math><0.5</math> Angstrom H-Alpha scope. Freebies were for the asking and if you didn't ask things were practically pushed into your hands like *Astronomy Technology Today*

magazines, eyepiece caps and plugs, shoulder bags or red flashlights.



At the Meade booth.



The Wood Eye

Skies Unlimited, our local scope shop, had the best Televue eyepiece prices of all the vendors. Lunt Solar Scopes had a nice display. The scopes looked like classic short refractors with what seemed, for this newbie, to have very nice introductory prices. Much more affordable than the Coronados, just not as pretty.

Speaking of solar scopes, I spent some time at the solar star party, checking out every open eyepiece I could, such as two separate PSTs, a Coronado 90mm and others but an Astrophysics refractor rig (it looked like a 6") with a Daystar filter blew away everything else for detail, magnification and color. Its attendant complained about the lack of focus. Well, excuse my aging eyes. And all this was under a cloud cover!!!



Solar Star Party

Back inside Pat was winning an Astrophysics Polo Shirt and an Orion Laser Collimator.

Another highlight was the introduction of the Televue 8mm Ethos. We checked them out in a Televue binoviewer focused on a kaleidoscope pattern. An exhibitor ahead of me in line shouted, "Wow, I like that!!" which prompted Al Nagler to say, "I'm going to use that line."

Speaking of binoviewers, EarthWin, a new company by Victoria and Bill Dankmeyer has some gorgeous looking bins. (No, I don't know if there's a connection to THE Denkmeier.) Introductory prices are \$800 and \$900 with Power/Filter slides for Newtonians and SCTs/Refractors, respectively.

Meanwhile, Pat won two iOptron soft case telescope bags in two separate drawings.

I had to get some quality time staring at a 12" Obsession. After getting used to the idea that I might be able to handle something that size in my Honda some day, I later stumbled upon an 18" Obsession, which brought new meaning to my ideas for creative and affordable means of transportation.



Obsession for astronomers

I can't begin to describe the \$90,000+ set-up of a Takahashi triple refractor display (below).



The PlaneWave telescopes are just awesome in person (below). Later, on Sunday, I saw four people dismantling one of the PlaneWaves. Since I can't own anything that takes more than one person to handle, I struck that off my list (LOL).



We spent some time with the New Mexico Skies rep who was hawking "An Amateur Astronomers Residential Community." Nice place from the pictures I saw. No problem for an 18" Obsession there.

I found the bargain of the weekend at the Southern Cameras and Telescopes booth: a used perfect condition Pelican hard case, model #1550 with soft customizable Velcro dividers. List price was about \$350. I carried it all over the forum and home for only \$45.

Meanwhile, Pat was at the Stellarvue booth's prize drawing and I got there in time to see her win a Stellarvue BV3 Binoviewer with a pair of 23mm eyepieces. I love my wife.

Next year, we may not do two full days at NEAF. Going up the night before was definitely worthwhile but we'll be staying at the Holiday Inn, instead of the HoJo. Hope to see some of you there, as well as, more of Pat's luck.

Cherry Springs Star Party: May 29-June 1, 2008

This star party is held at Cherry Springs State Park in Potter County, Pennsylvania. Cherry Springs State Park is one of the darkest sites in the state of Pennsylvania and has been designated as Pennsylvania's first Dark Sky Park by the PA Department of Conservation and Natural Resources (DCNR). CCAS members who have attended past Star Parties at Cherry Springs have attested to the excellent observing conditions at the Park.

The featured speaker at the Cherry Springs Star Party is Al Nagler, world-famous designer of excellent eyepieces and telescopes, and founder of Tele-Vue Optics. Registration for the Cherry Springs Star Party is now open. For more information and on-line registration see:

<http://www.cherrysprings.org/>



Through the Eyepiece: M64, the Black-Eye Galaxy

by Don Knabb, CCAS Observing Chair

Hopefully you will be able to join us on Saturday May 10th at Hoopes Park in West Chester for our Astronomy Day star party with West Chester Recreation. On our list of objects we will be seeing that evening is M64, the Black-Eye Galaxy.

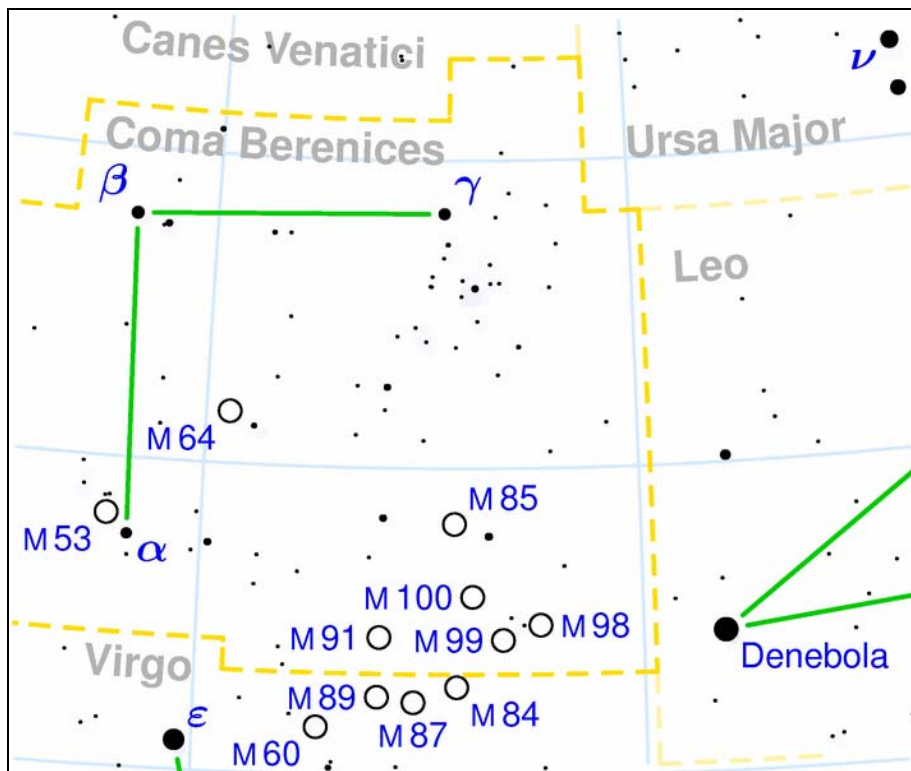
The Black-Eye galaxy is a spiral galaxy that gets its name from a dark dust lane across the center of the galaxy. This is a relatively bright galaxy at magnitude 8 and under good conditions can be seen with binoculars.



Image credit: <http://en.wikipedia.org/wiki/Image:Blackeyegalaxy.jpg>

M64 is in the constellation Coma Berenices. This region of the sky is near the north galactic pole, which means we are looking away from the Milky Way. At this area of the night sky there is minimal interference from gas and dust in our galaxy and many galaxies can be seen.

Other galaxies in the sky chart below are M100, M91 and M85.



Sky map credit: http://en.wikipedia.org/wiki/Image:Coma_Berenices_constellation_map.png

M64 is relatively nearby, at around 17 to 25 million light years away from Earth. Recent studies have revealed that the interstellar gas in the outer regions of the galaxy rotates in the opposite direction from that in the inner regions, leading astronomers to believe that at least one satellite galaxy had collided with it less than a billion years ago.

So please join us at Hoopes Park in West Chester on Saturday May 10th and see the Black-Eye Galaxy live and in-person in a real telescope!

Information credits:

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

Dickinson, Terence. *Nightwatch: a practical guide to viewing the universe*. Buffalo, NY. Firefly Books, 2006.

http://en.wikipedia.org/wiki/Coma_Berenices



Stellar Compass for Space Explorers

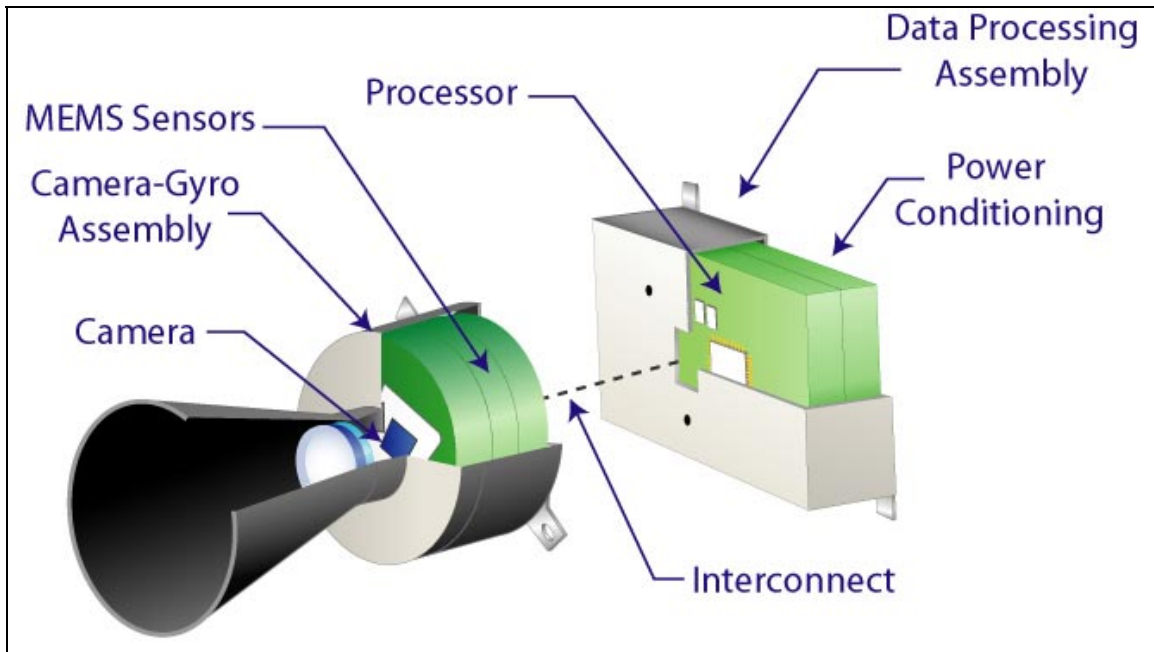
By Patrick L. Barry

In space, there's no up or down, north or south, east or west. So how can robotic spacecraft know which way they're facing when they fire their thrusters, or when they try to beam scientific data back to Earth?

Without the familiar compass points of Earth's magnetic poles, spacecraft use stars and gyros to know their orientation. Thanks to a recently completed test flight, future spacecraft will be able to do so using only an ultra-low-power camera and three silicon wafers as small as your pinky fingernail.

"The wafers are actually very tiny gyros," explains Artur Chmielewski, project manager at JPL for Space Technology 6 (ST6), a part of NASA's New Millennium Program.

Traditional gyros use spinning wheels to detect changes in pitch, yaw, and roll—the three axes of rotation. For ST6's Inertial Stellar Compass, the three gyros instead consist of silicon wafers that resemble microchips. Rotating the wafers distorts microscopic structures on the surfaces of these wafers in a way that generates electric signals. The compass uses these signals—along with images of star positions taken by the camera—to measure rotation.



Compass is built as two separate assemblies, the camera-gyro assembly and the data processor assembly, connected by a wiring harness. The technology uses an active pixel sensor in a wide-field-of-view miniature star camera and micro-electromechanical system (MEMS) gyros. Together, they provide extremely accurate information for navigation and control.

Because the Inertial Stellar Compass (ISC) is based on this new, radically different technology, NASA needed to flight-test it before using it in important missions. That test flight reached completion in December 2007 after about a year in orbit aboard the Air Force's TacSat-2 satellite.

"It just performed beautifully," Chmielewski says. "The data checked out really well." The engineers had hoped that ISC would measure the spacecraft's rotation with an accuracy of 0.1 degrees. In the flight tests, ISC surpassed this goal, measuring rotation to within about 0.05 degrees.

That success paves the way for using ISC to reduce the cost of future science missions. When launching probes into space, weight equals money. "If you're paying a million dollars per kilogram to send your spacecraft to Mars, you care a lot about weight," Chmielewski says. At less than 3 kilograms, ISC weighs about one-fifth as much as traditional stellar compasses. It also uses about one-tenth as much power, so a spacecraft would be able to use smaller, lighter solar panels.

Engineers at Draper Laboratory, the Cambridge, Massachusetts, company that built the ISC, are already at work on a next-generation design that will improve the compass's accuracy ten-fold, Chmielewski says. So ISC and its successors could soon help costs—and spacecraft—stay on target.

Find out more about the ISC at nmp.nasa.gov/st6.

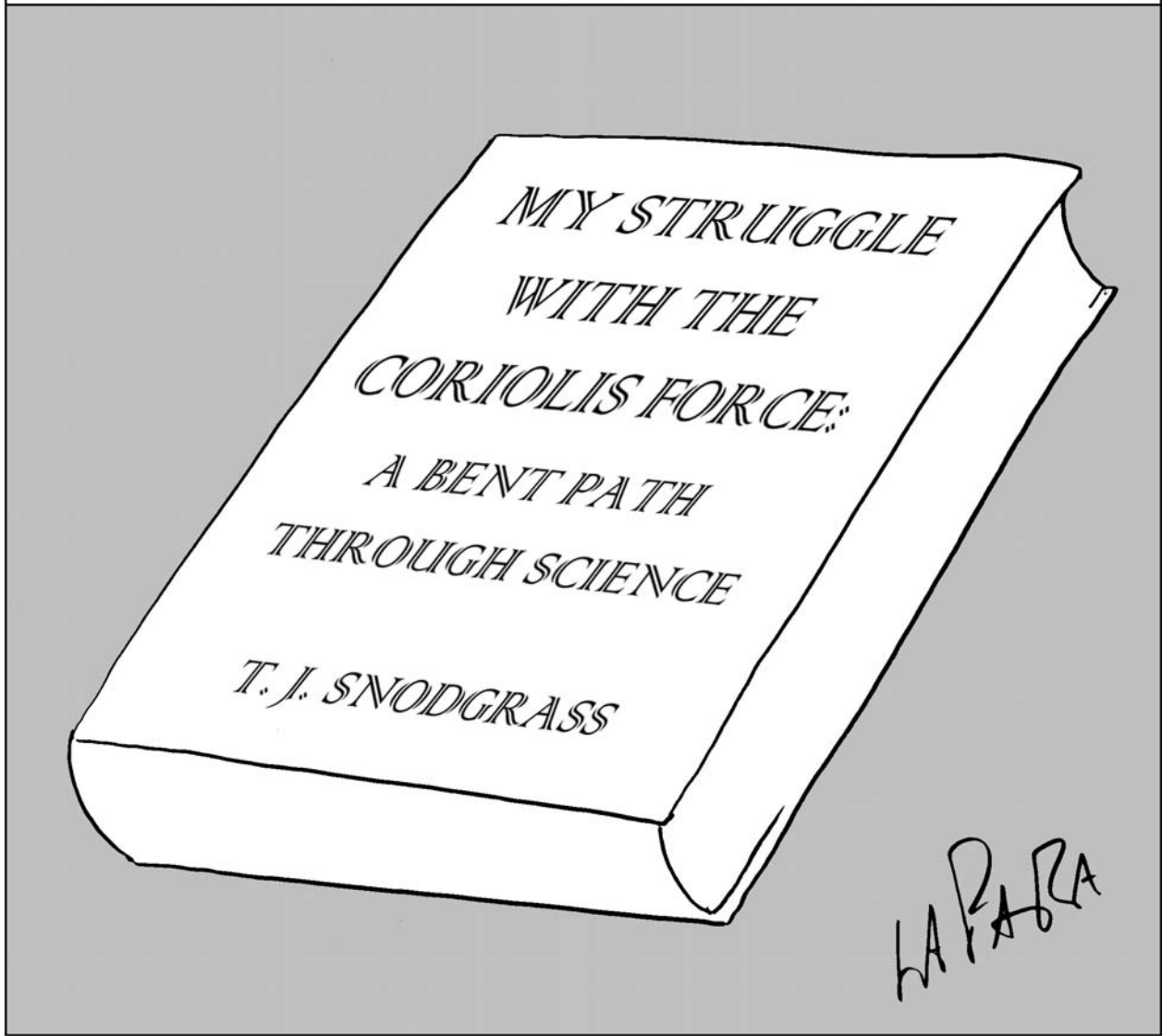
Kids can do a fun project and get an introduction to navigating by the stars at:

spaceplace.nasa.gov/en/kids/st6starfinder/st6starfinder.shtml.

The preceding article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.



LITTLE-KNOWN SCIENTIFIC WORKS



Cartoon by Nicholas La Para



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

Telephone: 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:

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 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:

www.POLCouncil.org



Good Outdoor Lighting Website

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? Now there is a web site and business intended to address that very problem. At this site you can find information on all kinds of well-designed (that is, star-friendly) outdoor lighting fixtures. This company, Starry Night Lights, intends to make available all star-friendly fixtures they can find, and information on them, in one place. Check it out, and pass this information on to others. Help reclaim the stars! And save energy at the same time!

<http://www.starrynightlights.com/>



Local Astronomy Store: *Skies Unlimited*

There is an astronomy equipment store called *Skies Unlimited* in our area, in Pottstown to be specific, at:

Suburbia Shopping Center
52 Glocker Way
Pottstown, PA 19465

Telephone: 610-327-3500 or 888-947-2673

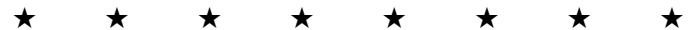
<http://www.skiesunlimited.net/>



Another Good Outdoor Lighting Website



<http://www.greeneearthlighting.com>



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:

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"!



New Astronomy Store Opens in Manayunk

Spectrum Scientifics

www.spectrum-scientifics.com

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, Linda Lurcott Fragale, 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. Linda's phone number is 610-269-1737.

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 stargazer1956@comcast.net

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 (**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 Jim Anderson, the newsletter editor, at:

stargazer1956@comcast.net

CCAS Website

John Hepler is the Society's Webmaster. You can check 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 copying copyrighted material! Give your contributions to John Hepler (484-266-0699) 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 "star nights" for school, scout, and other civic groups.

CCAS Executive Committee

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

- President:** Kathy Buczynski
610-436-0821
- Vice Pres:** Jim Anderson
610-857-4751
- ALCor and Treasurer:** Bob Popovich
610-363-8242
- Secretary:** Don Knabb
610-436-5702
- Newsletter:** Jim Anderson
610-857-4751
- Librarian:** Linda Lurcott Fragale
610-269-1737
- Observing:** Don Knabb
610-436-5702
- Education:** Kathy Buczynski
610-436-0821
- Webmaster:** John Hepler
484-266-0699
- Public Relations:** Deb Goldader
610-304-5303

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 Treasurer's Report in each issue of *Observations* to see if it is time to renew. If you need to renew, you can mail your check, made out to "Chester County Astronomical Society," to:

Bob Popovich
416 Fairfax Drive
Exton, PA 19341-1814

Phone: 610-363-8242
e-mail: B2N2@verizon.net

Sky & Telescope Magazine Group Rates

Subscriptions to this excellent periodical are available through the CCAS at a reduced price of **\$32.95**, much less than the newsstand price of \$66.00, and also cheaper than individual subscriptions (\$42.95)! Buying a subscription this way also gets you a 10% discount on other Sky Publishing merchandise.

To **start** a new subscription, make **sure** you make out the check to the **Chester County Astronomical Society**, note that it's for *Sky & Telescope*, and mail it to Bob Popovich.

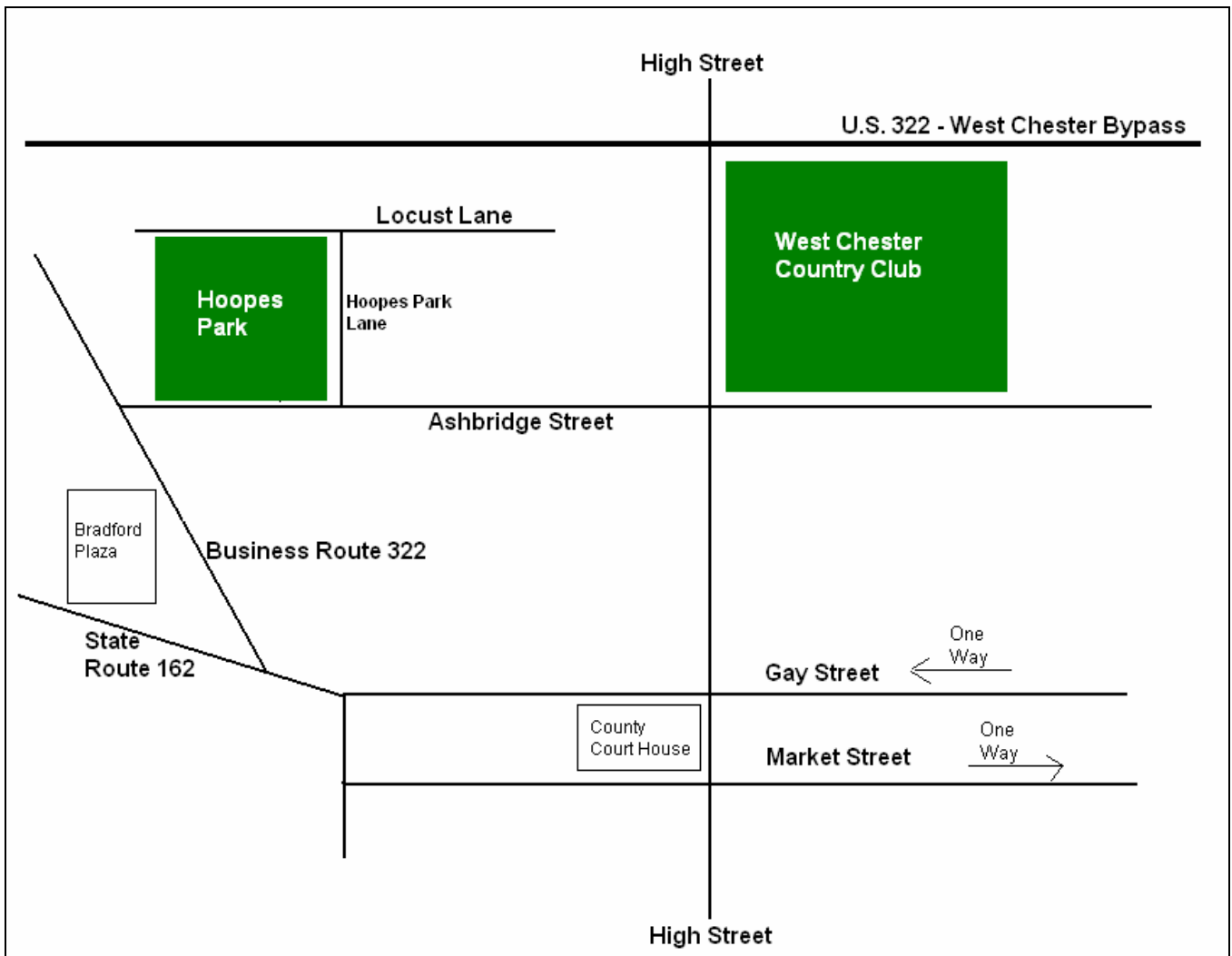
To **renew** your "club subscription" contact Sky Publishing directly. Their phone number and address are in the magazine and on their renewal reminders.

If you have **any** questions call Bob first (**610-363-8242**).

Astronomy Magazine Group Rates

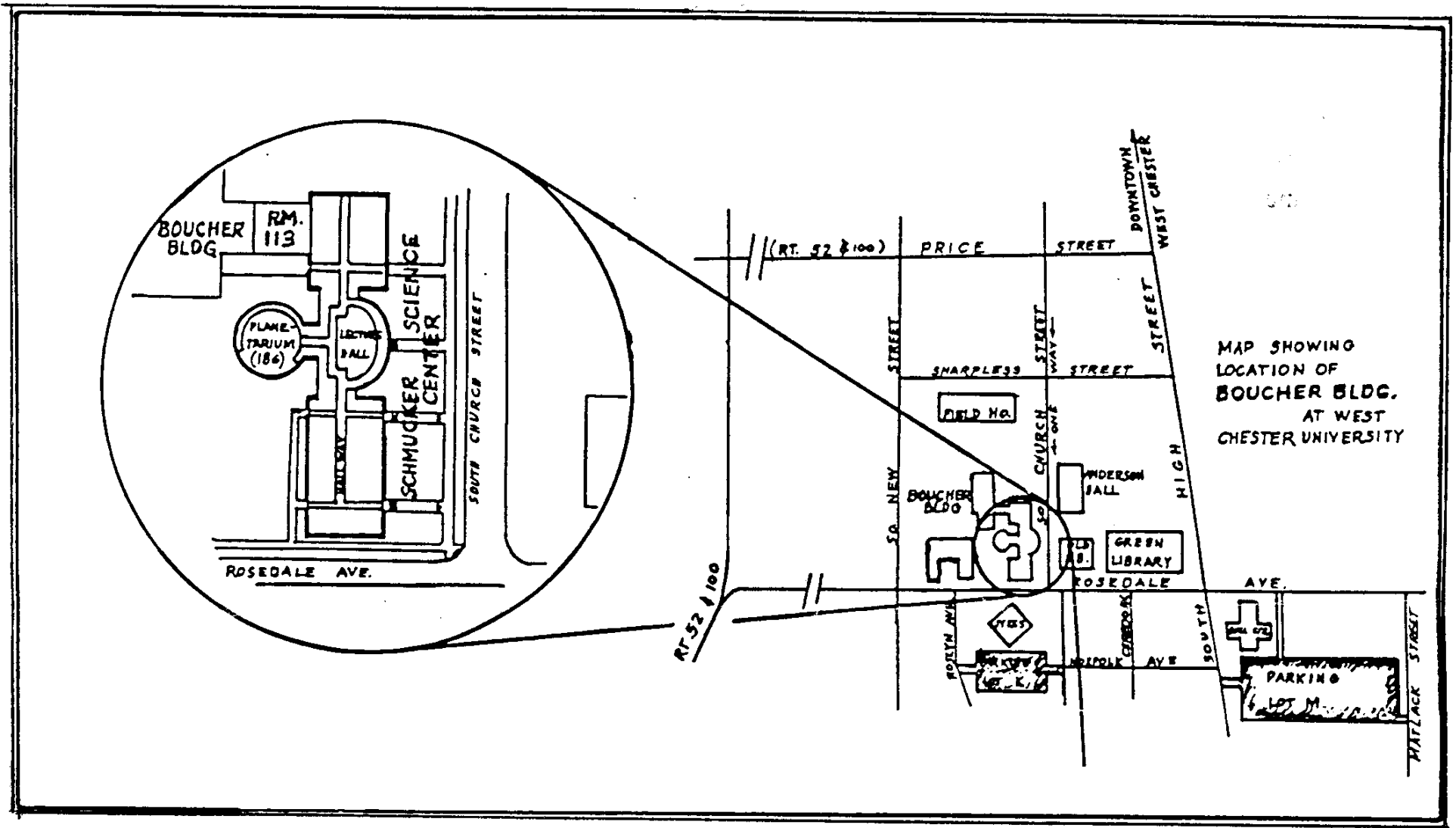
Subscriptions to this excellent periodical are available through the CCAS at a reduced price of **\$34.00** which is much less than the individual subscription price of \$42.95 (or \$60.00 for two years). If you want to participate in this special Society discount offer, **contact our Treasurer Bob Popovich**.





Schematic Map of north West Chester, showing location of Hoopes Park, location of Astronomy Day Star Party.

Map is not to scale.



Parking is available behind Sykes Student Center on the south side of Rosedale Avenue (Parking Lot K), and behind the Bull Center at the corner of Rosedale Avenue and South High Street (Parking Lot M). If you arrive early enough, you may be able to get an on-street parking space along South Church Street, or along Rosedale Avenue. You can take the Matlack Street exit from Rt. 202 South; Matlack Street is shown on the map at the lower right corner with Rt. 202 off the map. If approaching West Chester from the south, using Rt. 202 North, you would continue straight on South High Street where Rt. 202 branches off to the right. This would bring you onto the map on South High Street near Parking Lot M, also in the lower right corner.