



Observations

A Monthly Publication Of The
CHESTER COUNTY ASTRONOMICAL SOCIETY

FEBRUARY 2008

(VOLUME 16, NO. 2)

Visit our website at www.ccas.us

In This Issue

| | |
|---|-------|
| The Sky Over Chester County: Feb. 2008..... | 2 |
| February Observing Highlights | 3 |
| CCAS February Meeting..... | 3 |
| CCAS February Observing Session | 3 |
| CCAS Observing Sessions in 2008 | 3 |
| CCAS March Meeting | 4 |
| Treasurer's Report & Membership Renewals..... | 4 |
| Welcome!..... | 4 |
| CCAS Backyard Observing Class | 4 |
| Astronomy Day Plans Underway | 4 |
| For Sale Items | 5 |
| Through the Eyepiece: Lunar Eclipse..... | 5 |
| NASA Space Place..... | 7 |
| Cartoon by Nicholas La Para..... | 8 |
| Advertising Poster for Class | 9 |
| CCAS Information Directory | 10/11 |
| Map and Directions for BVA | 12 |
| Map for West Chester University | 13 |
| "Globe at Night" Star Hunt Program | 14 |

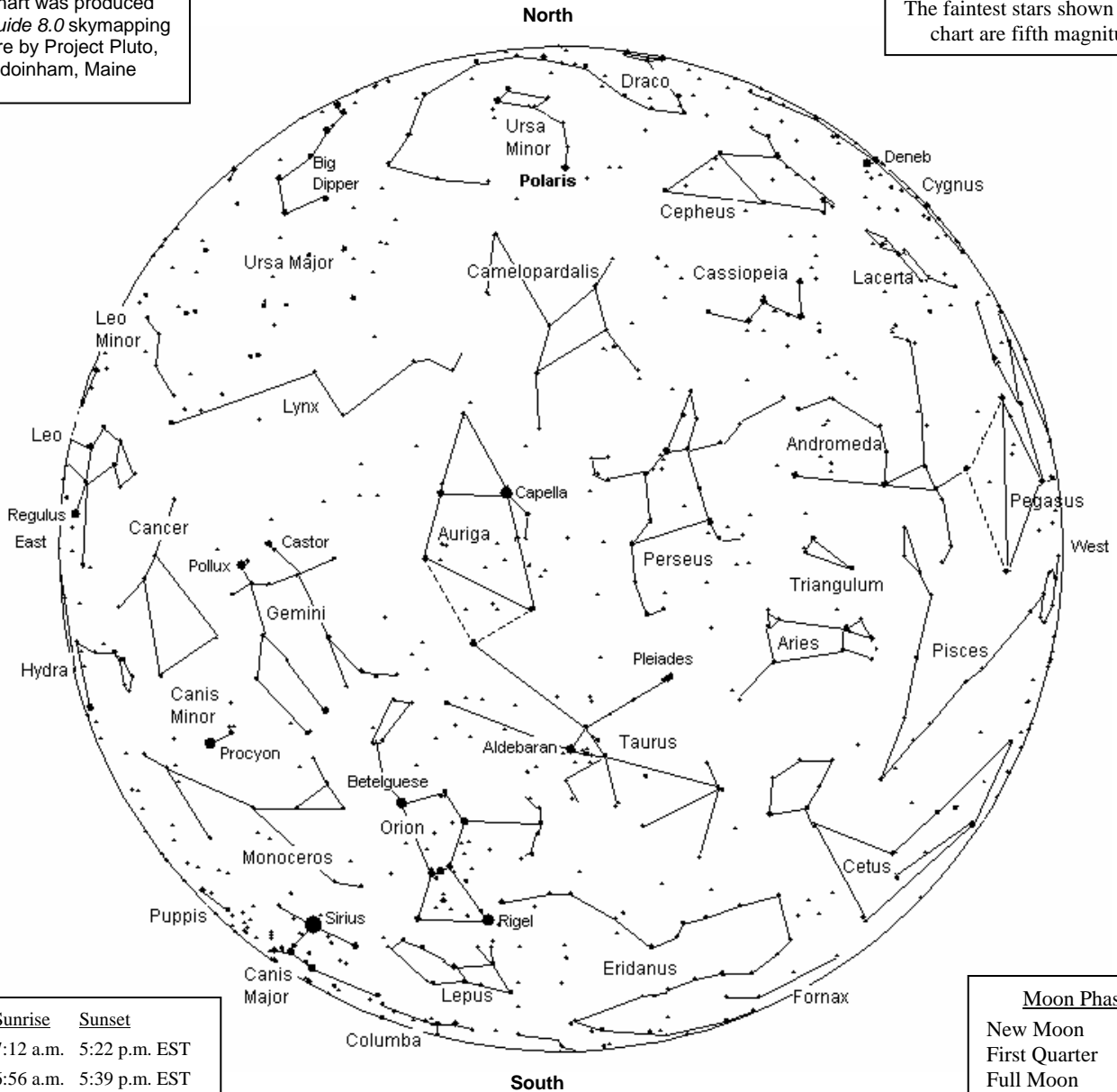
Important February 2008 Dates

- 5 Backyard Observing class** meets at West Chester University. Class starts at 7:00 p.m. EST.
Topic: *How to Prepare for Observing.*
See page 4 for details.
- 6** New Moon, 10:44 p.m. EST.
- 8/9 CCAS Observing Session**
Location: **Brandywine Valley Association**
Time: sunset, or earlier (see page 3 for more details.)
- 12 CCAS Meeting**
Location: West Chester University
Room 113, Boucher Building
7:00 – "Active Galaxies and Quasars" (DVD).
7:30 – Regular Meeting Starts
Constellation of the Month: Orion
Main Presentation: "Aurora Expedition in Alaska"
See page 3 for more details.
- 13** First Quarter Moon, 10:33 p.m. EST.
Lunar X opportunity.
- 19 Backyard Observing class** meets at West Chester University. Class starts at 7:00 p.m. EST.
Topic: *Telescope Demo.*
See page 4 for details.
- 20 Total Lunar Eclipse** and Full Moon
- 20** Saturn is at opposition.
- 28** Last Quarter Moon, 9:18 p.m. EDT.



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.



| Date | Sunrise | Sunset |
|------|-----------|---------------|
| 2/1 | 7:12 a.m. | 5:22 p.m. EST |
| 2/15 | 6:56 a.m. | 5:39 p.m. EST |
| 2/28 | 6:38 a.m. | 5:54 p.m. EST |

| Moon Phases | |
|---------------|------|
| New Moon | 2/06 |
| First Quarter | 2/13 |
| Full Moon | 2/20 |
| Last Quarter | 2/28 |

The sky over Chester County
February 15, 2008 at 7:00 p.m. EST

The Planets, by Don Knabb

Mercury: Mercury passes between the Earth and the Sun (inferior conjunction) on February 6, so it is lost in the Sun's glare around that time. Later in the month it moves into the morning sky. On February 27 Mercury is just 1.1° above Venus in the dawn sky.

Venus: Venus is a bright "morning star" in the east before the Sun becomes too bright. On February 1 Venus and Jupiter are very close in the glow of the dawn.

Mars: The red planet is still quite bright and nearly overhead during evening observing hours. But, Mars is rapidly getting smaller so enjoy a telescopic view while the viewing is still reasonably good. By the end of February it will be only half as bright as at the beginning of the month!

Jupiter: We are catching up to Jupiter in our race around the Sun, so it is rising earlier before the morning Sun as February progresses. On February 1 Jupiter rises 2 hours before the Sun with Venus as a close companion. It's a Friday morning—get up early and see the beauty—you can sleep late on Saturday.

Saturn: The ringed beauty is becoming the highlight of the planets now that Mars is fading. On February 24 Saturn is at opposition, so it rises at sunset and sets at sunrise. On this date Saturn will be 771 million miles from Earth.

Uranus & Neptune: Both gas planets are lost in the glow of the sun during February.

Pluto: The "ex-planet" Pluto rises just before the Sun so it is not well placed for viewing during February.

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.

February Observing Highlights

by Don Knabb, CCAS Observing Chair

- Feb. 6** New Moon, 10:44 p.m.
- Feb. 13** First quarter Moon, 10:33 p.m. Lunar X alert! Look for the Lunar X a few hours before 1st quarter.
- Feb. 15** The Moon is near Mars.
- Feb. 20** Total lunar eclipse and Full Moon, 10:30 p.m., called the Full Snow Moon by native tribes because the heaviest snow usually falls during February. It was also called the Full Hunger Moon since hunting for food was very difficult during February.
- Feb. 24** Saturn is at opposition.
- Feb. 27** Mercury and Venus are close in the morning sky
- Feb. 28** Last quarter Moon, 9:18 p.m.

Lunar Eclipse: The highlight of the night sky during February is the full eclipse of the Moon on February 20th. We can watch this incredible event for several hours centered on totality, which begins at 10:01 p.m. Let's hope for good weather since the next total lunar eclipse for us will not occur until December 20th, 2010.

Lunar X opportunity: If you are still searching for the Lunar X, with first quarter at 10:33 pm on February 13th, this is a good opportunity to see this elusive lunar feature. Start looking at about 7:30 – 8:00 p.m.

Planets: Mars is still the planetary highlight during February. You can see it just after sunset as that bright orange object high in the sky. Not long after you can see beautiful Saturn rising in the east. Let it get well over the horizon and zoom in to those amazing rings. And the pre-dawn show is excellent this month with Venus and Jupiter very close on February 1st.

Constellations: During February look to the west early to see the Great Square of Pegasus setting. Behind Pegasus and Andromeda, the winter constellations take control of center stage for all of February. Stay up late and see bright Arcturus in Bootes rising in the east. And be sure to look for Leo the Lion on February 20th holding the full eclipsed Moon under his front paws!

Messier/Deep sky: The riches of the winter sky continue to fill our eyepieces during February. The Beehive Cluster in Cancer the Crab is in the southern sky and is worthy of time in the cold with your binoculars. If you have a clear southern horizon look for M46 and M47, two star clusters to the east of Canis Major and below Canis Minor.

Comets: During the first and last week of February—when the Moon will not wash out faint fuzzies—look for Comet 46P/Wirtanen. *Astronomy* magazine has a finder chart for this comet. You need dark skies and a telescope to see this comet, which has a faint tail.

Meteor shower: There are no significant meteor showers during February.

Solar opportunity: Look for the zodiacal light's glow after twilight ends during the last week of February.

★ ★ ★ ★ ★

CCAS February Meeting

DATE: **Tuesday February 12, 2008**

PLACE: Room 113 – Boucher Building
West Chester University

LOCATION: South Church Street
West Chester, PA

TIME: **7:00 p.m. EST for Cosmology Class**
7:30 p.m. EST for regular meeting

A map of the campus is on page 13.

Cosmology Class: **Active Galaxies and Quasars**

This month's Constellation of the Month (COM) will be **Orion**, presented by Jim Anderson.

This month's main presentation will be "**Aurora Expedition in Alaska**" by Deb Goldader (illustrated talk, with lots of gorgeous pictures).

★ ★ ★ ★ ★

CCAS Observing Session February 8/9, 2008

The Observing Session will be on Friday February 8 at the Brandywine Valley Association, starting at sunset, if the weather is good enough. In case of bad weather ("mostly cloudy" qualifies as bad weather for stargazing, even if it's not raining) then we will observe on Saturday February 9 (if the weather cooperates). If the weather is good both nights, we can observe both nights. You can arrive before sunset to set up if you want to. CCAS Observing Sessions are free and open to the public. You can bring friends and family.

If you have any questions write to observing@ccas.us or dknabb00@comcast.net, or call Don Knabb at **484-888-1831**. Directions to the BVA are on page 12.

★ ★ ★ ★ ★

CCAS Observing Sessions in 2008

March 7/8

April 4/5

May 10: Astronomy Day at Hoopes Park in West Chester

June 6/7

July 5 (Saturday only, due to holiday)

August 1/2

September 5/6

October 3/4

November 28/29

December 26/27

★ ★ ★ ★ ★

CCAS March Meeting

Coming attractions for our meeting on **March 11**:

Cosmology Class (DVD): **Cosmic Powerhouses of the Distant Past**

Constellation of the Month (COM): **Canis Major**

Main presentation: **Member's Night**: any member can give a brief talk on any astronomy subject (5-15 minutes long), or share observing experiences. Also, questions will be taken on any astronomy topic. The members present will try to come up with an answer. Any that cannot be answered at the meeting will be researched later and published in the April newsletter.

★ ★ ★ ★ ★

Treasurer's Report

by Bob Popovich

December 2007 Financial Summary

| | |
|-------------------|---------|
| Beginning Balance | \$1,717 |
| Deposits | 0 |
| Disbursements | 0 |
| Ending Balance | \$1,717 |

Membership Renewals Due

| | |
|----------|--|
| 02/2008: | Charitnonchick Dautrich Farrelly Goldader Kovacs La Para Marella Mau McDevitt Porreca Reimer Rowan Von Wagenen |
| 03/2008: | Ballester Cini Dascaloff LaFrance Malloy Morgan |
| 04/2008 | Imburgia Popovich Reynolds Richter Seago |

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 11 in this newsletter.

★ ★ ★ ★ ★

Welcome!

This month we welcome a new "family" member to the Society: Gary Calobrisi and Family, of Phoenixville. We're glad you decided to join us under the stars! Clear Skies to you all!

★ ★ ★ ★ ★

CCAS Backyard Observing Class

The Education Committee of the CCAS is offering a class intended to introduce people to basic astronomy. This year the class has been completely restructured. This class will be very different from the Introductory Astronomy class taught in the spring for the last several years. There will be more emphasis on the different kinds of observing you can do from your backyard. The 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 5 | How to Prepare for Observing |
| February 19 | Telescope Demo |
| March 4 | Within the Solar System |
| March 18 | Observing the Moon |
| April 1 | Targets of Opportunity |
| April 15 | Observing Stars |
| 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. All attendees will receive a copy of Sky Publishing's *Skywatch '08*.

There will be two door prizes. One will be a copy of the book *Turn Left at Orion*. A second book will also be given as a door prize, *Falling Stars: A Guide to Meteors & Meteorites*.

If you would like to help, either as an instructor (or perhaps as an instructor's assistant), or with "logistics" (set up, clean up, registration, etc.) please call **Kathy Buczynski at 610-436-0821**. We can always use some extra help.

Our costs have risen, forcing us to raise the registration fees: to attend the class for non-members is \$25.00 per person, and \$35.00 per family (with the same address). **For current CCAS members, the cost is \$6.00.** Space is limited to just 40 people, however, so call Kathy Buczynski to reserve your space now.

★ ★ ★ ★ ★

Astronomy Day Plans Underway

This year the CCAS will celebrate International Astronomy Day on Saturday May 10 in a different way than in recent years. We will team up with West Chester's Department of Recreation to host a star party at Hoopes Park in West Chester. The Recreation Department will do advertising of the event, in addition to providing support staff at the park that day. We will provide the telescopes and program.

Don Knabb is leading the planning for this event. If you have some ideas for what we could do for the program (note that offering an idea does **not** mean you have to run it or present it!), or can help with telescopes, making handouts, crowd control on the night of the event, please contact Don. Thanks!

★ ★ ★ ★ ★

For Sale Items

Al Lamperti of the Delaware Valley Amateur Astronomers Club sent this list of items for sale. Chestnut Hill College wants to make room in its observatory. They have the following items for sale:

10" f/8 Trecker reflector with 32 mm Brandon eyepiece and 50mm finder. Mirror in excellent shape. Equatorial mount.

Criterion Dynascope 6" f/8 reflector with 6x30 finder and AC motor on mount.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

Two Unitron 60 mm f/15 refractors. One with tripod and RA/DEC slo-mo controls and 18mm Kellner 0.965" eyepiece, solar projection screen and holder.

Eyepieces: 2 – Jaegers (?mm)

Criterion 7 mm AR

Criterion 6 mm Orthoscopic

Celestron Kellner 25 mm

Al has pictures of all items, available upon request. If you wish to see anything, please let him know and he can send you a photo. Any reasonable offer accepted. Pick up only.

Contact Al Lamperti at lamperti@temple.edu

Through the Eyepiece: Lunar Eclipse, February 20, 2008

by Don Knabb, CCAS Observing Chair

On February 20th we will be treated to one of the most beautiful naked eye observing opportunities that we can experience—a total lunar eclipse! Last March we were clouded out when a lunar eclipse occurred, and last August the Moon was just setting when a lunar eclipse was beginning at dawn. However, being further west, Brent Crabb of Santa Ana, California was able to capture the stunning collection of photos below.



Photo credit and copyright: Brent Crabb, Santa Ana, California. August 28, 2007. Used with permission.

But this February 20th, if the weather cooperates, everything is perfect for a lunar eclipse that can be easily viewed in Chester County. Well, maybe it would be better if it was on a Friday or Saturday night, but we can't have everything.

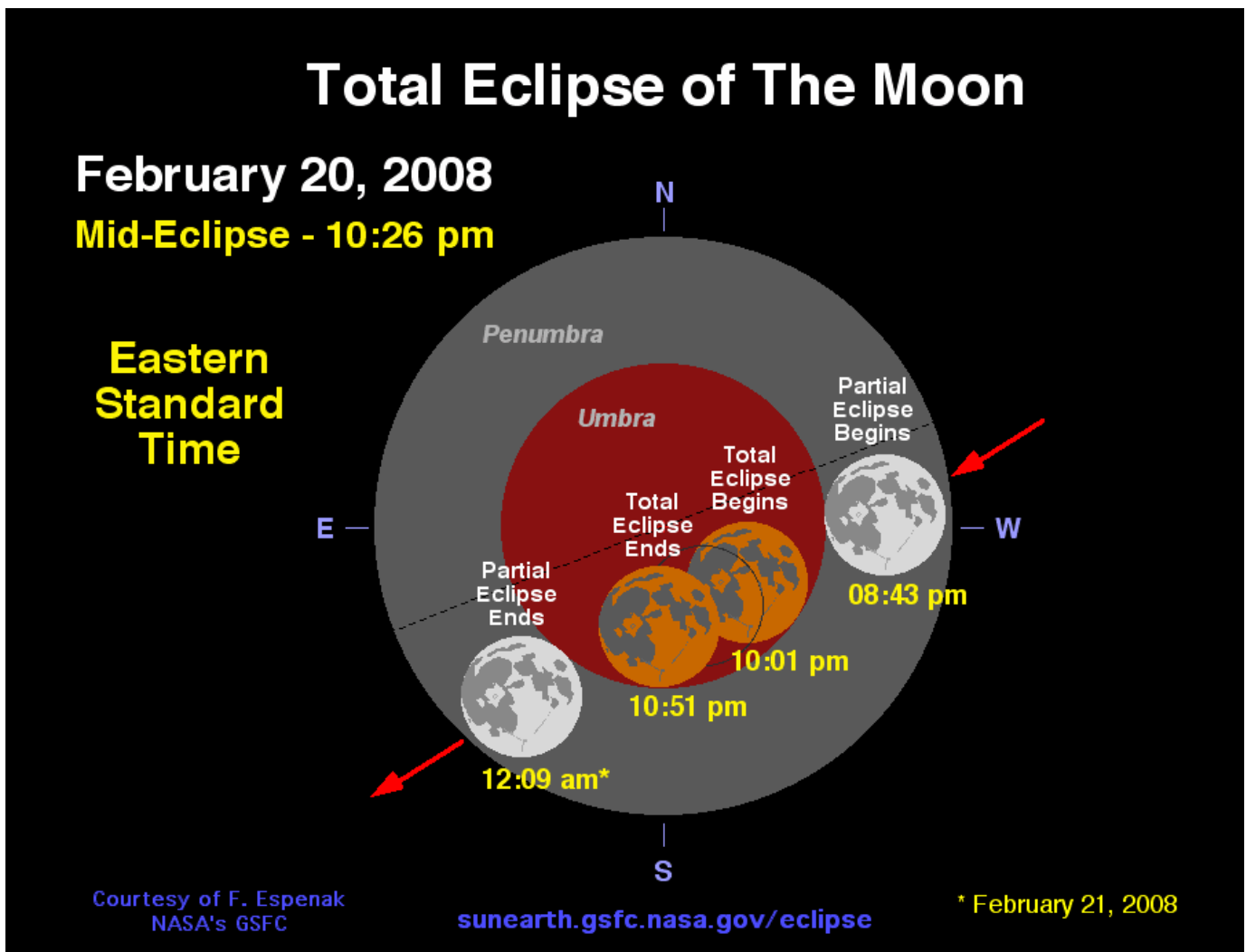
A lunar eclipse happens when the Moon passes through the some part of the shadow of the Earth. It is a total lunar eclipse if the Moon is completely in the Earth's shadow, as will happen on the 20th. This is also the time of the full moon and that is always the case with a lunar eclipse.

The Earth's shadow is actually composed of two cone-shaped parts, one nested inside the other. The outer shadow or penumbra is a zone where Earth blocks some (but not all) of the Sun's rays. In contrast, the inner shadow or umbra is a region where Earth blocks all direct sunlight from reaching the Moon.

The Moon will not disappear as it passes through the umbra because our atmosphere refracts sunlight into the shadow cone. The exact color of the Moon is difficult to predict. I have seen total lunar eclipses that are mostly grey with a little reddish color to nearly blood red. But, some shade of orange or red is the most often seen color. The color is created by the same effect that causes the sky to be red at sunset and sunrise.

The eclipse will last about three and a half hours from start to finish. As the eclipse starts at 8:43 pm you will not be able to see any change. But as time passes you will notice a darkening of the moon that increases until the Moon enters the umbra and you will see the shadow of the Earth begin to cover the Moon. The Moon will be completely in the Earth's shadow from 10:01 pm to 10:51 pm.

Below is a diagram from NASA that shows the times and phases of the eclipse.



Eclipse map/figure/table/predictions courtesy of Fred Espenak, NASA/Goddard Space Flight Center

Don't miss this event even if it means staying up past your usual bed time. Share it with your family and friends! There will not be another lunar eclipse for us until the end of 2010.

For more information on solar and lunar eclipses, see Fred Espenak's Eclipse Home Page:

Information sources:

<http://sunearth.gsfc.nasa.gov/eclipse/LEmono/TLE2008Feb21/TLE2008Feb21.html>

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

Sky and Telescope, "February's Ideal Eclipse of the Moon", February 2008



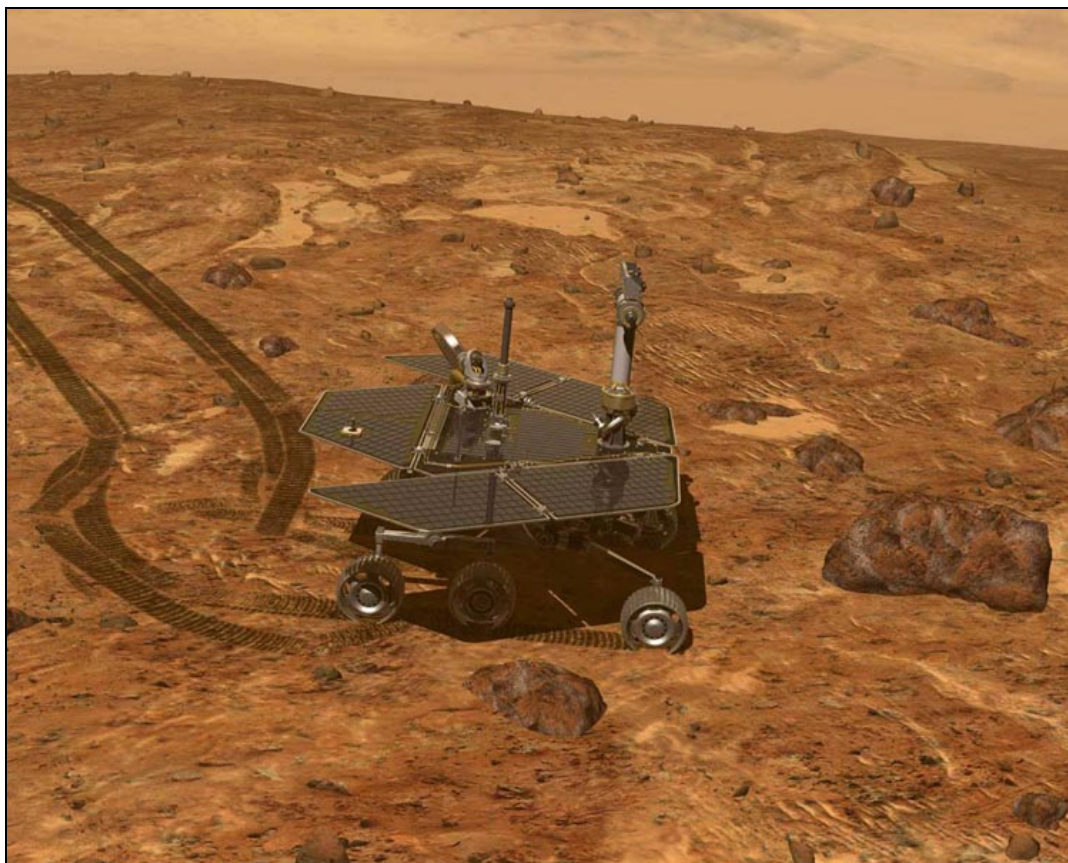
No Mars Rock Unturned

By Patrick L. Barry

Imagine someday taking a driving tour of the surface of Mars. You trail-blaze across a dusty valley floor, looking in amazement at the rocky, orange-brown hillsides and mountains all around. With each passing meter, you spy bizarre-looking rocks that no human has ever seen, and may never see again. Are they meteorites or bits of Martian crust? They beg to be photographed.

But on this tour, you can't whip out your camera and take on-the-spot close-ups of an especially interesting-looking rock. You have to wait for orders from headquarters back on Earth, and those orders won't arrive until tomorrow. By then, you probably will have passed the rock by. How frustrating!

That's essentially the predicament of the *Spirit* and *Opportunity* rovers, which are currently in their fourth year of exploring Mars. Mission scientists must wait overnight for the day's data to download from the rovers, and the rovers can't take high-resolution pictures of interesting rocks without explicit instructions to do so.



Are these rocks of any scientific interest? With the new AEGIS software, the Mars Rovers, Spirit and Opportunity, will be able to judge for themselves whether a scene is worth a high-resolution image. (Artist's rendering.)

However, artificial intelligence software developed at JPL could soon turn the rovers into more-autonomous shutterbugs.

This software, called Autonomous Exploration for Gathering Increased Science (AEGIS), would search for interesting or unusual rocks using the rovers' low-resolution, black-and-white navigational cameras. Then, without waiting for instructions from Earth, AEGIS could direct the rovers' high-resolution cameras, spectrometers, and thermal imagers to gather data about the rocks of interest.

"Using AEGIS, the rovers could get science data that they would otherwise miss," says Rebecca Castaño, leader of the AEGIS project at JPL. The software builds on artificial intelligence technologies pioneered by NASA's Earth Observing-1 satellite (EO-1), one of a series of technology-test bed satellites developed by NASA's New Millennium Program.

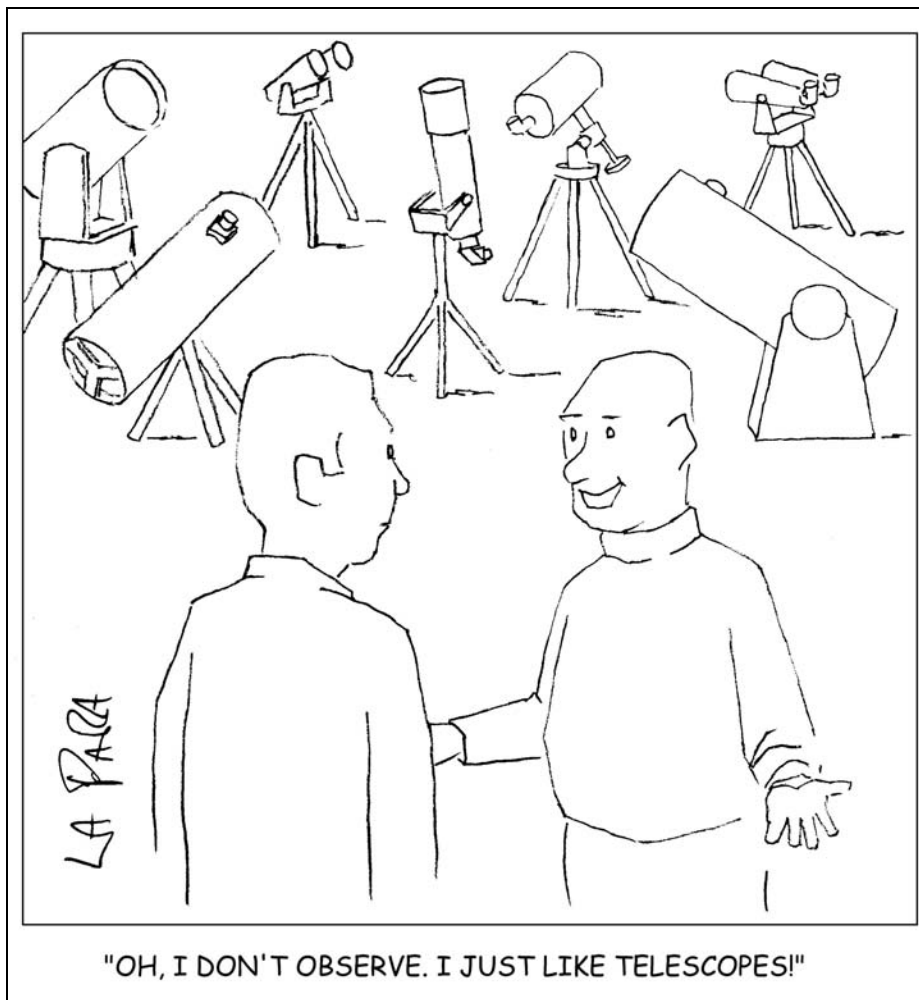
AEGIS identifies a rock as being interesting in one of two ways. Mission scientists can program AEGIS to look for rocks with certain traits, such as smoothness or roughness, bright or dark surfaces, or shapes that are rounded or flat.

In addition, AEGIS can single out rocks simply because they look unusual, which often means the rocks could tell scientists something new about Mars's present and past.

The software has been thoroughly tested, Castaño says, and now it must be integrated and tested with other flight software, then uploaded to the rovers on Mars. Once installed, she hopes, *Spirit* and *Opportunity* will leave no good Mars rock unturned.

Check out other ways that the Mars Rovers have been upgraded with artificial intelligence software at: nmp/TECHNOLOGY/infusion.html#sciencecraft.

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



Cartoon by Nicholas La Para

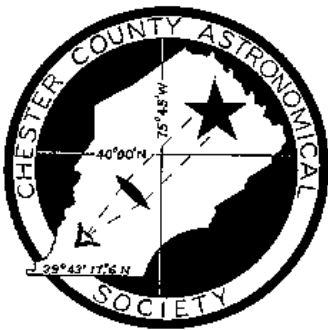


Backyard Observing Class

February 5
through
May 20, 2008

8 one-hour classes
First & Third Tuesdays
7:00 p.m. to 8:00 p.m.

Sponsored by the
Chester County
Astronomical Society



www.ccas.us

All classes are taught by
members of the CCAS,
a club of amateur astronomers



Cost

\$25.00 per person
or
\$35.00 per family
(with same address)

For ages 9 - 90

Price Includes

- Parking
- Handouts
- *Skywatch '08*, an annual summary of observing highlights
 - 4-month CCAS membership
 - CCAS Monthly newsletter
- Observing sessions
 - Planisphere
- Drawings for books

Enrollment limited to 40.
Call and reserve
your space now!

Kathy Buczynski
610-436-0821

Location:

West Chester University
Rm. 113 Boucher Building
South Church Street
West Chester, PA

Learn:

- What's in the sky this month
- How to find stars and constellations in the sky
- How to observe planets
- How to observe eclipses
- How to observe comets, meteors, auroras, asteroids
- What's on the Moon
- Observing star clusters, nebulae, and galaxies
- The different kinds of stars you can see
- How to use star charts
- About types of telescopes and binoculars
- About light pollution
- How to prepare for star parties and observing sessions



Note: Content of class sessions is subject to change without notice

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/>



★ ★ ★ ★ ★ ★ ★ ★

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"!

★ ★ ★ ★ ★ ★ ★ ★

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.

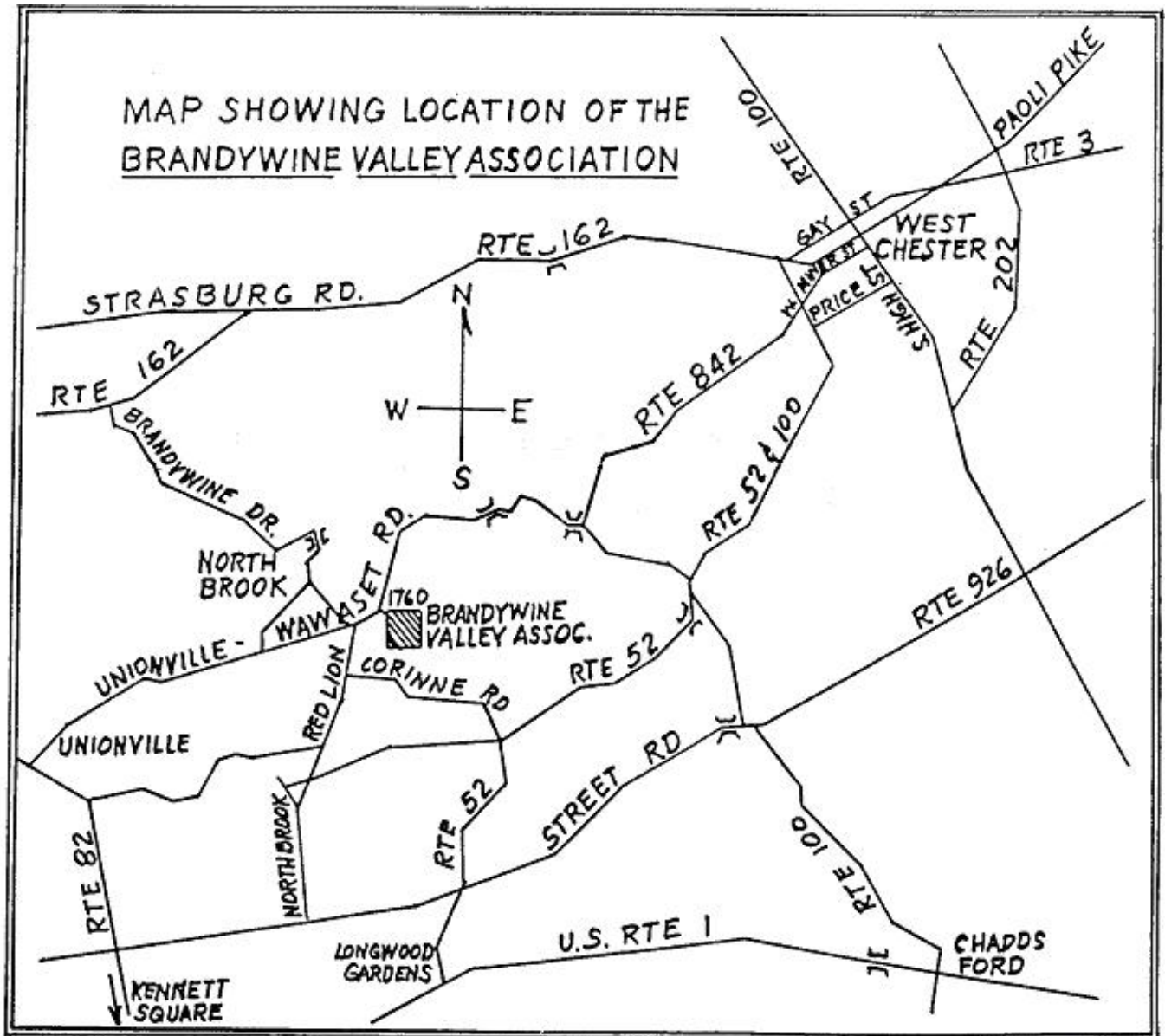
To **start** a new subscription, make **sure** you make out the check to the **Chester County Astronomical Society**, note that it's for *Sky & Telescope*, and mail it to Bob Popovich.

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

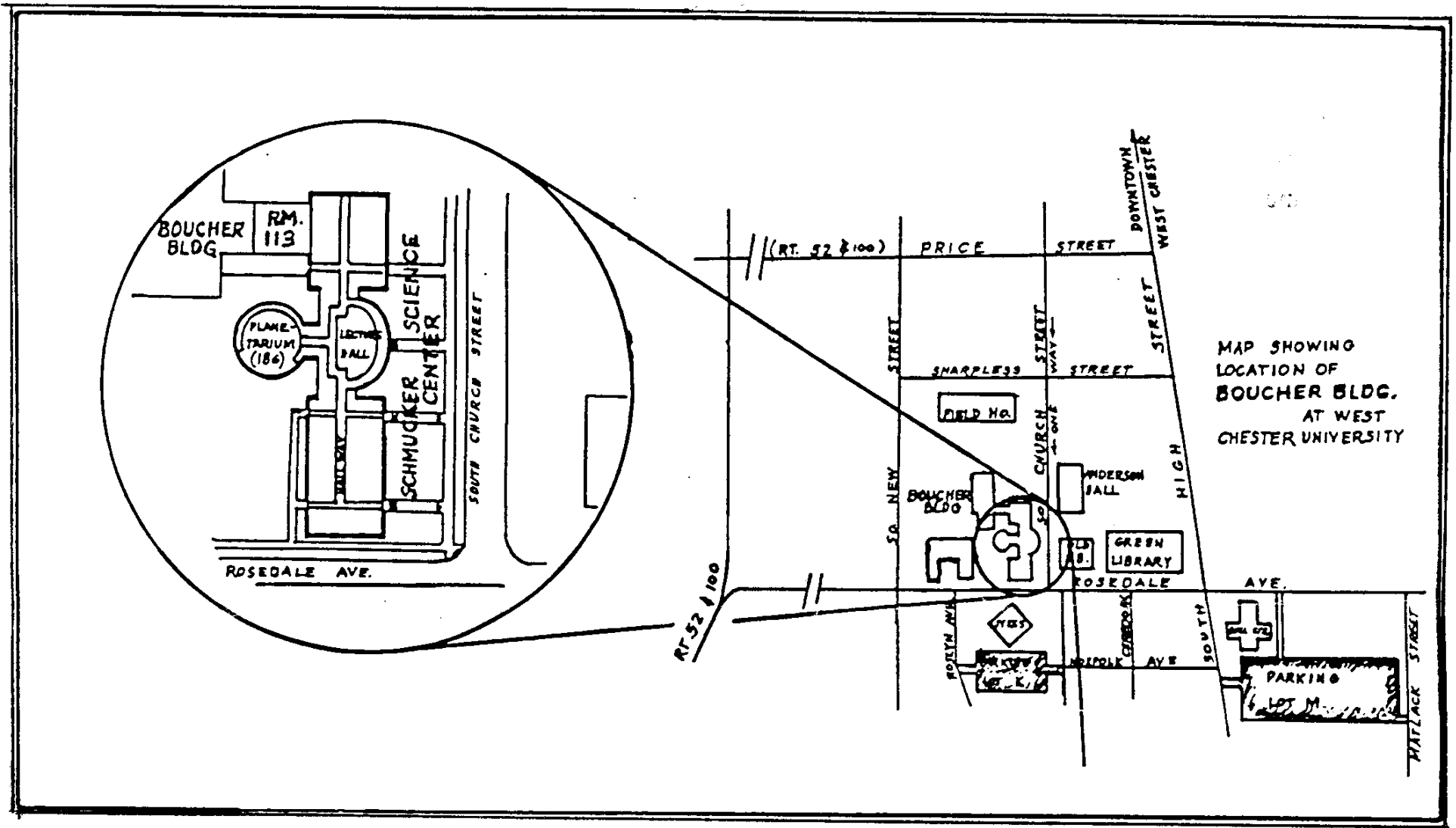
If you have **any** questions call Bob first (**610-363-8242**).

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**.



To get to the Myrick Conservation Center of the Brandywine Valley Association from West Chester, go south on High Street in West Chester past the Courthouse. At the next traffic light, turn right on Miner Street, which is also PA Rt. 842. Follow Rt. 842 for about 6 miles. To get to the observing site at the BVA property, 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 (so you don't ruin other observers' night vision).



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.