

"CLEAR SKIES"



NEWSLETTER of the CHAMPAIGN-URBANA ASTRONOMICAL SOCIETY, Inc.
An affiliate of the Champaign Park District

February, 2008

WELCOME NEW OFFICERS

CUAS OFFICERS MESSAGE

Well, it is the second month of the New Year and a lot is happening this month and next. We have the total lunar eclipse on February 20th. Don't forget to go to the Staerkel Planetarium on that evening. Should be a good show.

For those of you who have not renewed your membership, please do so. As of the last count, there have been only a few renewals. So please renew.

Ok I don't have too much to say. So I will let this be a short message. Don't forget the meeting on February 14th.

Bill Marble

Editor

IT IS TIME TO RENEW YOUR MEMBERSHIP. BASIC MEMBERSHIP IS \$15.00. THOSE WITH KEYS IS \$25.00. DON'T GET DROPPED FROM THE ROLLS.

LOOKING UP THIS MONTH

The big celestial event this month is the total eclipse of the Moon on Wednesday evening, February 20. More info on the eclipse and the club observing event are described below in the "club news" section. Eclipses like this usually come in pairs and the solar eclipse counterpart is an annular eclipse that occurs early in the month (February 6) though the path of totality is down in Antarctica. So unless you have a parka and plane tickets, don't worry about it.

In the evening sky, Mars still rules the night, being nearly at the zenith (straight up) in the sky at 8pm in the middle of the month. Since we're quite a ways past opposition, Mars' apparent diameter and brightness will decrease as the Earth speeds away from it. Still check it out with a telescope and see what you can see. With Mars being so high in the sky, you'll be looking through the thinnest part of our atmosphere, so hopefully you'll find some crisp images. Also check out the position of Mars with



CUAS DIRECTORY:

Guy Hampel, President	352-3690
John Stone, vice Prez.	337-1893
Mike Conron, Secretary	355-5996
Willard Briniger, Treasurer	356-5929
Mike Lockwood, 5 th Director	398-9778
Mike Rosenberger, Obs. Dir.	598-2254
Phil Wall, Webmaster	352-5442
Bill Marble, Newsletter Ed.	359-6407

just your eyes. Mars begins the month near the horns of Taurus, the Bull. Retrograde motion ceased at the end of January. Thus Mars will begin its eastward trek through Gemini. Watch as the planet approaches the rich open cluster M35 in the foot of one of the Gemini twins at the end of the month.

Saturn comes to opposition on February 23, rising nearly due east as the Sun sets. Don't confuse Saturn with the star Regulus, the heart of Leo, the Lion. Regulus will rise first with Saturn being to the lower left. When the Moon undergoes the eclipse on the 20th, it will be situated between the two. With Saturn being in the middle of its smaller retrograde loop, it actually appears to be getting closer to Regulus. The magazines report that Saturn will be at its maximum brightness for the year in February but it's not as bright as it usually is for an opposition since the rings are nearly edge-on. Saturn will be the highlight for upcoming open houses at the observatory.

The rest of the action is in the morning sky, though you have to have an unobstructed horizon to catch the show. At the beginning of the month, the two brightest objects in the sky next to the Sun and Moon, appear to come very close to each other. Venus and Jupiter pass each other on the morning of February 1. Venus is on its way back towards the Sun while Jupiter gets a little higher as each day goes by. They'll come to within 0.6-degrees of each other on this morning! That's close! Look southeast and low. A lovely waning crescent Moon will appear to the upper right and near Antares. The pair rises at 5:15am. This is the best conjunction between these two until 2014! By the end of February, Venus rises at 5:30am with Jupiter making an appearance over 90 minutes later.

Venus get some company, though. Mercury rises from the glare of the Sun to meet Venus on February 27. On this morning, Mercury is 1.1-degrees above Venus in the east-southeast. The pair will remain close until the end of March. By the end of the month, Venus is rising at the beginning of the dawn twilight. It won't pass behind the Sun until early June.

-DCL

Moon Phases

Waning Gibbous Moon



1 st quarter	February 17	March 14
Full	February 21	March 21
Last quarter	February 29	March 29
New	February 7	March 7

If you would like to see the phases of the moon, past, present, and future log on to <http://aa.usno.navy.mil/data/docs/MoonPhase.html#y2007>

Trivia space facts:

Objects discovered by astronomers and others are named by the International Astronomical Union. The IAU has been in effect since 1919. This is the official body for astronomy. All the members are professional astronomers at the Ph.D or higher, active in research and education. There are at present, 9,783 individual members from 87 countries, of those 64 are national members. The IAU has many responsibilities, some of which are, the organization scientific meetings, the naming of and definition of astronomical and physical constants, and it goes on. For more information on the IAU go to their website at <http://www.iau.org/>.

WM

This months question:

Are you familiar with the initials the astronomical family uses? What is CBAT, IAU, SAO, IAUC, CBET? These and other initials are used by astronomers, what do they mean and what do these organizations and or committees do? Stay tuned.

WM

Question from last month.

What two asteroids is NASA's Dawn *spacecraft*, launched September 27, 2007 scheduled to visit?

By now everyone has probably figured out the two asteroids the Dawn space craft will visit. They are Vesta in 2011 and Ceres 2013. Both are located in orbit between Mars and Jupiter in the asteroid belt.

WM

CUAS NEWS

Put February 20 on your calendar to come to the planetarium to observe the **total eclipse of the Moon**. The umbral phase begins at 7:43 p.m. so Dave will have the planetarium lobby open by 7 p.m. There are no shows in the dome, but we'll put up a table of CUAS information and use the space as a "warm room." You may pull a vehicle into the circle drive to use a telescope but remember that the archway between the planetarium and the Parkland Theatre is a fire lane. AC Power can be provided if needed. We are advertising this to the public, so we can use your help! Obviously this event is weather permitting. The total phase (where the Moon is completely in the Earth's shadow) begins at 9 p.m. It will be interesting to see how red the Moon becomes. The red results from sunlight refracting through the Earth's atmosphere. The blue end of the spectrum is scattered away (which is the same effect that gives us our blue skies) leaving the red to hit and reflect off the Moon. The Moon begins to come out of the shadow at 9:52 p.m. and we'll have a full Moon again by 11:09 p.m. The observing will probably run from 7:30 to 10 p.m., though the possibility exists that one of the local TV stations may visit to do a live remote broadcast! Join us!

The Staerkel Planetarium will be offering **scout merit badge workshops** once again this year. Girl Scout Sky Search badge seminars will held April 3, 9 and 15 from 7-8:30pm with the fee being \$4 per scout. The Boy Scout Astronomy Merit Badge seminars will be held on May 7 and 13 from 7-9:30pm with the fee being \$5 per scout. Advance registration is required with the registration deadline being a week before the workshop. See the planetarium web site or the spring "Live & Learn" guide to Parkland non-credit programs for more info and registration information.

REMEMBER TO RENEW YOUR MEMBERSHIP DUES for 2008! Use the form at the end of this newsletter and do this today so you can be with us for the next year. Dues are \$15 per year, plus, if you're a keyholder, subscribe to a magazine with the club's discount, or just want to make a donation to the group, now is the time! As of the week before Christmas, only 27 members have renewed!

Thanks to Williard, we have **2008 Astronomy calendars**. They are \$10 for members and \$12 for non-members, first come, first served! Get your copy while supplies last at the club meetings. This is a fundraiser for us!

Light pollution news:

The Urbana City Council did discuss the lighting issue in January. Though no vote was taken, several took issue with the views of a lighting engineerthis may be more of a discussion for a meeting than in print!

The County Board is to meet on January 17 at the Brookens building to discuss special use permits and exterior lighting. John Hall, Zoning administrator, will send us some information prior to that meeting. A course of action will appear on the listserv.

The CUAS draft ordinance continues to be revised. A request be made that it be much shorter and to the point. Other ordinances can be downloaded from the www.darksky.org web site. More info on upcoming will appear on the club listserv.

A reminder that CUAS is a part of the **Night Sky Network**. As a member, we are to use their materials to conduct several events over the calendar year. If anyone has been asked to do a talk or some other presentation, we have the materials! The latest is the "Shadows and Silhouettes" toolkit which just arrived! The web site for the network is <http://nightsky.jpl.nasa.gov/>.

TREASURERS REPORT

CUAS Treasurer's Report for January 2008
Willard Brinegar, Treasurer 2008

As of 1/31/08

Assets*

\$ 111.00 petty cash envelope

\$ 2869.14 checking account

\$ 2980.14 Total Assets

Income*

\$ 20.00 two calendars to member @ \$10

\$ 90.00 six membership renewals @ \$15

\$ 15.00 new member @15

\$ 20.00 key fees @ \$10

\$ 23.00 Donations

\$ 168.00 Total Income

Expenses*

\$ 18.95 For Orion 2" moon filter

*Note: Magazine subscription funds are not reflected in Income and Expenses since they are simply sent on to the respective publishers. As of 1/31/08, all received subscription payments have been sent on. So they are not reflected in the Assets category either.

OBSERVATORY NEWS

The club will duplicate more club tri-fold **brochures** for use at events, including the Sky watches. We want to be sure everyone walks away with some club information in an effort to recruit new members.

Spring projects we probably need to **scrape paint** again, both inside and



outside. The inside looks pretty bad in the daylight! Thank goodness it's used in the dark! Also, a new **tarp** for the 16-inch, cooling **fans** in the telescope, and a **vent** for the shed. If you're returning the 8-inch red Dobsonian telescopes to the dome, remember to try to store them horizontally to help protect the mirror coatings.

Mike Lockwood and John Pratt will soon look at the dome-mounted **16-inch scope's mount**, which is very tight in right ascension. The plan is to turn the shaft to a smaller diameter and then replace the two large bearings with five smaller ones. We'll be discussing this at an upcoming meeting. The project could cost \$1,000.

Do we want to bring back the **logbook**? If we have one, you'd have to remember to sign-in what you're at the dome, but it will help us determine how much the dome is used and allow us to estimate an annual attendance . . . which would come in very handy should we pursue a grant.

Here is the **mow list**, though we may be done for the year! When you mow, let the next person know immediately. If you'll be out of town or can't mow, let the next person know ASAP so we don't lose control of the lawn out there. We're currently going through for the second time. Thank you!:

- | | | | |
|---------------------|---------------------|------------------|--------------------|
| 1) Mike Rosenberger | 4) Audrey Ishii | 7) Mike Lockwood | 10) Dick Robrock |
| 2) Dave Leake | 5) Willard Brinegar | 8) Mike Matthews | 11) Bob Rubendunst |
| 3) Mark Prather | 6) Guy Hampel | 9) Wayne James | 12) John Stone |
| 13) Bill Marble | | | |



LOOKING AHEAD

February 1 “World of Science” talk 7pm Staerkel Planetarium
Carol Jo Morgan will be in the dome for “Show Me the Green!” What does it mean to be “green?”
Might the streetlight issue come up? Show up and see!

February 9 Member's Only Observing 7pm - ? Observatory
Sure, it's cold but why not catch some dark skies at the observatory! Dress warm! Remember that 700E is not the first road to be plowed after a snow, so use caution! Also, if the grounds are damp and soft, it's easy to get stuck. Weather permitting.

February 14 CUAS Club Meeting 7-8:30pm Staerkel Planetarium
This will be our annual “Telescope Users Seminar” night where members of the public can bring their telescopes to Parkland and get one-on-one assistance on their operation. Bring your collimating tools and expertise . . . or bring your telescope if you are having issues with it. In the past we have had a dozen people participate!

February 16 CUAS Family Skywatch 7-9pm Observatory
This will be our first observatory open house of the year. We'll start at 6:30 or 7pm, weather permitting. Take I-57 to the south of Champaign to the Monticello Exit. Take the exit and then turn right (west) on

the Monticello Road. Go 1.4 miles and then turn left on County Road 700E. The Observatory will be 0.8 miles south on this road, on your left.

February 20 Total Lunar Eclipse 7-11pm Staerker Planetarium
Bring a telescope to the planetarium on this night and set it up for the best eclipse of the year. We can have a table with info on it inside the lobby (read: warm room!) of the planetarium. This will be open to the public – volunteers will be needed!

March 7 “World of Science” talk 7pm Staerker Planetarium
Vijay Singh (no, not the famous golfer) will be in the dome to talk about ethanol and its future use. Admission is \$1 at the door.

March 7/8 “Arctic Light” film 8pm Staerker Planetarium
A beautiful two-story-tall film was shot at 70-degrees north in Tromso, Norway. This is part of the planetarium’s “First (and Last) 35mm Film Festival.” See www.parkland.edu/planetarium for more details on the series.

March 8 Members-Only Observing 7-?pm Observatory

March 13 CUAS Club Meeting 7-8:30pm Staerker Planetarium

March 15 CUAS Family Skywatch 7-9pm Observatory

March 25 David Levy talk 7:30pm Beckman Institute
Though details are sketchy, amateur astronomer extraordinaire David Levy will be in town on this night. If you’ve never heard Mr. Levy, he gives a very inspiring presentation. Details to follow.

April 3 “Moonwalk 2008” kickoff 5-6:30pm Staerker Planetarium
Champaign-Urbana is being challenged by Peoria to walk to the Moon and back . . .twice! That’s about 960,000 miles! More details will follow!

April 4 “World of Science” talk 7pm Staerker Planetarium
Our last talk of the year features our Natural Sciences department chair and chemist, Ed O’Sullivan, speaking on a timely topic “Steroids in Sports.” Admission is \$1.

April 4-5 ISAAPT meeting Loomis Lab
The Illinois Section of the American Association of Physics Teachers will meet on the UI campus. See www.isaapt.org for more information.

April 5 Members-Only Observing 7-? Observatory

April 10 CUAS Club meeting 7-8:30pm Staerker Planetarium

April 12 CUAS Family Sky watch 7-9:30pm Observatory

April 24 “Rocket into Space” 5:30-8:30pm Staerker Planetarium
CUAS teams up with the planetarium, WILL TV, both Champaign and Urbana Libraries, the Krannert Art Museum, Central Illinois Aerospace, and the Orpheum Children’s Science Museum for a night of hands-on activities for the kids (aimed at grades K-2) at the planetarium. More details will be forthcoming, but CUAS will have a table and maybe do some solar observing outside. Put this Thursday evening on the calendar!



Astronomy Club Resources

It looks like the Mars Rovers will be getting a makeover soon. Right now whenever Spirit and Opportunity want to take a look at something that appears to be a meteorite or an odd looking piece of the Martian landscape, they have to ask permission from Earth, which takes about 24 hours to send a signal and get an answer. By then they may have already gone by and lost the chance to see what it really is. So that is where we are now, the Rovers must get permission to take pictures, dig up soil samples, or whatever else they do.

But there is hope afloat. NASA plans to upgrade the software which will allow the Rovers to decide on their own whether to take picture or dig a hole. The artificial intelligence software developed by JPL called Autonomous Exploration for Gathering Increased Science (AEGIS), will allow the Rovers to search for unusual objects with their low resolution black and white cameras and if they think it is worth it could turn on the high resolution color cameras and take a picture, thus preserving data that they may otherwise have passed up.

WM

MEMBERSHIP FORM

- Enroll me as a new member!
- Membership renewal [attach mailing label]
- Change of address only

Name _____
 Address _____
 Phone # _____
 Email address: _____

Make all checks payable to:
"Champaign-Urbana Astronomical Society"

Circle all that apply:

Basic membership	\$15
Observatory key fee	\$10
Astronomy magazine renewal*	\$34
Sky & Telescope renewal*	\$33
Donation	\$ _____
Total Enclosed	\$ _____

*enclose mailing label

Detach and mail to:
 C.U.A.S. Treasurer
 c/o Staerkel Planetarium/Parkland College
 2400 West Bradley Avenue
 Champaign, IL 61821

For more information, check out NASA's website.

CHECK OUT ALL CLUB EVENTS ON THE CUAS HOME PAGE:

<http://www.prairienet.org/cuas> or
<http://www.cuas.org>

"Clear Skies" is published twelve times per year for its membership. [Circulation: 78]
The Champaign-Urbana Astronomical Society is an affiliate group of the **Champaign Park District.**

<http://www.champaignparkdistrict.com>

William M. Staerkel Planetarium has public shows on Friday evenings in August. Call 217/351-2446 for more information.

<http://www.parkland.edu/coned/pla>



**Champaign-Urbana Astronomical Society
C/O William M. Staerke Planetarium
Parkland College
2400 West Bradley Avenue
Champaign, IL 61821**