

# "CLEAR SKIES"



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

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Issue 8

August, 2008

## CUAS OFFICERS MESSAGE

### LOOKING UP THIS MONTH

There are quite a few events happening in the sky this month . . . it's just that they won't be the easiest to see. We begin with a bang . . . and a total solar eclipse . . . which we can see directly. The Far East will witness the eclipse of the Sun on August 1. Solar eclipses occur when the Moon comes directly between the Earth and Sun. The Moon is 400 times smaller than the Sun, but it is also 400 times closer, so they appear roughly the same size in our sky. To see this eclipse you have to be in the shadow of the Moon. The shadow will cross northern Greenland, eastern Russia and into China. We won't see it in our sky here but several organizations, like the Exploratorium in San Francisco, are conducting live webcasts of the event, which occurs at roughly 6 a.m. our time. Why not get up early and check it out. See [www.exploratorium.edu/eclipse/](http://www.exploratorium.edu/eclipse/) for more information.

Plus we have a log jam of planets in the west, just after sunset. The problem is that they set in the twilight so you'll have to look quickly and have an unobstructed horizon. Early in August, we'll have Venus a bit north of west and Saturn to the upper left of Venus. Again, Venus is pretty low but it is also very bright, so give it a shot. A very thin crescent Moon will be to the left of Venus on the 2<sup>nd</sup> and then left of Saturn on the next night.

As we head into the second week of August, Venus approaches Saturn and Mercury joins the pair, situated to the lower right. On the 13<sup>th</sup> Venus and Saturn are a half degree apart, but set at 8:45pm in the twilight. Venus will seem to move past Saturn with Mercury in tow. Mercury passes 0.9 degrees to the lower left of Venus on the evening of the 19<sup>th</sup>. Saturn moves on to pass behind the Sun in early September. Mercury will hang out with Venus for a bit but then head back towards the glare of the Sun about the second week of September, while Venus continues to slowly get higher at sunset.



### CUAS DIRECTORY:

Guy Hampel, President	352-3690
John Stone, Vice-Prez	337-1893
Mike Conron, Secretary	355-5996
Willard Brineger, Treasurer	356-5929
Mike Lockwood, 5 <sup>th</sup> Director	398-9778
Phil Wall	352-5442
Bill Marble	621-7882

Jupiter is sort of the loaner in all this, but I don't think he cares. Jupiter rules the southeast as the Sun sets. Since we're past July's opposition, Jupiter is already there as the skies darken. A waxing gibbous Moon appears to the right of Jupiter on the 12<sup>th</sup> and then below and to the left of the planet the next night.

We should mention Neptune's opposition on the 15<sup>th</sup>. It's nearly an 8<sup>th</sup> magnitude planet, which means regular binoculars won't pick it up, but a small telescope should, provided you know where to look.

Of course August means the Perseid Meteor Shower. Campers have been watching this show for quite some time. In fact, the shower has been recorded every year since 714 A.D.! That's a lot of camping. The pea-sized dust particles from Comet Swift-Tuttle hit the Earth's atmosphere at a high relative speed and they burn up roughly 50-70 miles above us. The shock gasses in our atmosphere glow and we see a "shooting star." Though you can see Perseids all month, the predicted maximum will be the morning of August 12. On this morning, the waxing gibbous Moon sets at roughly 2am leaving the morning hours prime for meteor observing. Granted this is a Tuesday morning, but anyone interested in observing from the dome? Remember, you don't need a telescope for meteor watching, but a comfortable chair that will allow you to see the sky overhead, some dark skies, warm clothes (you'd be surprised how cold it can get in August during the morning hours!) and mosquito spray . . . you're set. And we have a Skywatch schedule for the Saturday before, so we'll have to keep our eyes open. If you do some dedicated meteor observing, give me a shout with some numbers. How many did you see and in what time frame? Good luck!

-DCL

## ***Moon Phases***

1 <sup>st</sup> quarter	August 8	September 7
Full	August 16	September 15
Last quarter	August 23	September 22
New	August 1	September 29

## ***Waning Gibbous Moon***



## ***Members Corner***

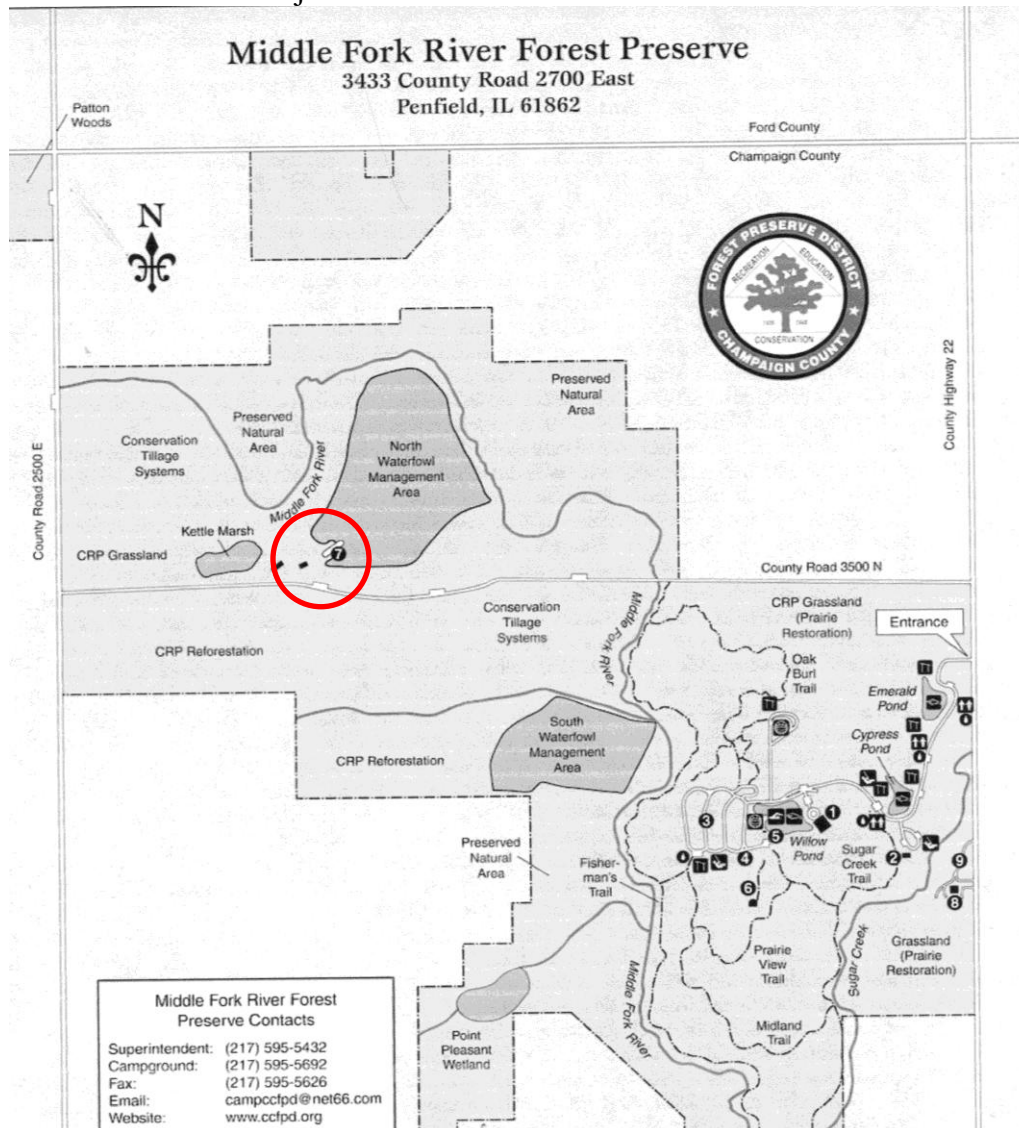
What is going on with the Phoenix Mars Lander?

I just read a small article on CNN News. Water has been discovered, but only at 1% level. There is still a lot of work to do. Apparently, several weeks before they can determine if there is enough to support life. The mission was to end in August, but NASA has extended it for five weeks, saying that there seems to be enough solar power to last that long. So now we have to wait for awhile to see if there are any chemicals in the water.

-WM-

# CUAS NEWS

On Saturday, August 30, CUAS has been invited to observe from the **Middle Fork Forest Preserve**, northeast of Rantoul. We were here earlier in the year and the skies are excellent! Please note that we will not be at the campground, but at the water fowl viewing area, north of this campground. A map is pasted in here but you can also see a map at [http://www.ccfpd.org/about/CCFPD\\_Middle\\_Fork\\_Map.pdf](http://www.ccfpd.org/about/CCFPD_Middle_Fork_Map.pdf) The observing spot is labeled with a number 7 just off County Road 3500 North. Take route 136 out of Rantoul to the east and look for the brown park signs. This event begins at dusk and is weather permitting. Our thanks to Bob Rubendunst for setting up this time for us. Campers in the campground area will be invited to join us.



We opened the closet at the June meeting and got out both the **club library** and our assortment of **T-shirts** for purchase. Any club member in good standing can check out books from the library for a month. The T-shirts are \$10 each.

**International Year of Astronomy** update . . . . there was a good discussion at the July meeting of the proposal that appeared in last month's issue. A park tour of 15 parks in Champaign and Urbana were proposed. President Guy Hampel also brought up the possibility of setting up something in the

surrounding communities, such as Mahomet, Rantoul, Fisher, Tolono, St. Jo and either Homer or Sidney. Any club members currently in one of these communities are encouraged to consider this (a two-hour observing session at a local park) and we will publicize it with the IYA program. Dave Leake sent letters to park district officials in mid-July.

**Membership** at the meetings has been dwindling as of late. Granted, the summers are prime vacation time, though the high gas prices are reducing that. Bring a friend to the next meeting or invite a coworker.

**Lighting Update** . . . . A lot has been happening on this front! On July 23, Dave Leake met with Charlie Smyth (Urbana City Council), Deb Frank Feinen (Champaign City Council), Roland White (City Engineer) and Bruce Knight (Champaign City Planning director) at the Champaign City Building to discuss lighting. Mr. Smyth (who is also CUAS member Audrey Ishii's husband) has been collecting a lot of information on lighting, including new information from engineer Jim Benya. The latest model addresses the idea of reflected light. You can have a full cut-off fixture, but if you put an overpowering bulb in that fixture, you're still going to have uplight. The idea is to consider zones around the fixture and apply maximums to the intensity of light in these particular zones. For example, a zone may be 80-90 degrees from the nadir (point straight down; 90-degrees would be the horizontal). It also depends on what you're shining the light on. An asphalt pavement will "take" more light than concrete. So the issue isn't so much about cut-off lighting anymore, but it's about angle and intensity.

The meeting went well. In the university district, Champaign will require a full-cut-off option for the fixtures. Also, the Champaign streetlighting master plan is in need of an update. In the next year or two this will be done and it is our hope that some of this new information will be included. For private and commercial areas, this must come from the Zoning Board. The city employees were very open to the idea of creating lighting zones.

The membership who attended the July meeting approved the purchase of 25 Astronomy magazine **2009 calendars**. Yes, it's early but we want to be sure we sell them! They'll be available at the meetings when they arrive.

Congratulations to member **Robert Holmes** of Charleston on his discovery of his first comet! From the CCOD home page: An apparently asteroidal object, discovered on Jul. 1, 2008, by Robert E. Holmes, Jr., (Charleston) was identified as cometary after placement on the NEO Confirmation Page by P. Birtwhistle (Great Shefford), L. Buzzi (Varese), S. Foglia (analysing further images by Holmes), and J. Lacruz (La Canada). The first orbit for the 19.5<sup>m</sup> comet **C/2008 N1 (Holmes)** shows perihelion on Sep. 24, 2009, at about 2.8 AU. ([IAUC 8958](#), subscription required, [MPEC 2008-N18](#))

The **club listserv** may be going away in its present form. Though the club has not officially been notified at press time, other groups using prairienet for their lists are being told that this function will cease to operate by the end of the year. Club webmaster Phil Wall has been notified and is looking into other options for the group.

The Staerckel Planetarium will again offer a five-week "**Backyard Astronomy**" workshop beginning September 29 from 7-8:30pm in the planetarium. The workshop is directed at the beginner and will include how to read a star chart, how to find planets and constellations, how to observe meteor showers, and what to look for in buying a telescope. The cost is \$20 per person. Advance registration is required with the deadline being September 22. For more information, consult the planetarium web page ([www.parkland.edu/planetarium](http://www.parkland.edu/planetarium)) or see Parkland's fall "Live & Learn" brochure, which should come out in early August.

**Fall Star parties . . .note the August pre-registration deadlines!**

- ❑ Astrofest <http://www.chicagoastro.org/af/index.html> September 5-7 (Pre-reg deadline: Aug. 11) Vana's Farm, west of Kankakee.
- ❑ Prairie Skies <http://www.prairieskies.org/> September 25-28 (Pre-reg deadline: Aug. 23) Camp Shaw-Waw-Nas-See 4H campground, northwest of Kankakee
- ❑ Illinois Dark Skies <http://www.sas-sky.org/main.html> September 25-28 (Pre-reg deadline: ?) Panther Creek Wildlife Area north of Springfield.
- ❑ Nice list of others: <http://www.slasonline.org/starparties.html>

The Staerke Planetarium is pleased to announce the 2008-2009 **"World of Science" Lecture Series**. The talks occur on the first Friday of the month at 7pm and admission is only \$1 at the door. Note Dr. Kaler's return to the dome in December. The line-up of speakers includes:

October 3 "Stem Cells"

What are stem cells, how are they made, and why are they important? These questions and more will be discussed by Joanne Manaster from the Cell & Developmental Biology Department at the UI.

November 7 "Wind on the Prairie: A New Look at Growing Energy"

We welcome Randy Lloyd from the UI Extension Office in Bloomington to talk about the development and growth for wind energy and the Twin Groves Wind Farm, situated just east of Bloomington.

December 5 "The Milky Way "

Dr. James B. Kaler returns to the dome for a breathtaking tour of our Milky Way galaxy, "seen" from both outside and from within.

February 6 "Recovering Energy From Wastes"

Dr. Timothy Lindsey, manager of the Pollution Prevention Program at the Illinois Waste Management & Research Center, will show us some practical approaches for reducing fossil fuel consumption and demands on our landfills.

March 6 "Climate Extremes and Their Impacts in Illinois"

Climatologist Jim Angel, with the Illinois Water Survey, will talk about several climate events, including the powerful floods of 2008, where agricultural losses in Illinois alone exceed \$1.5 billion!

The Staerke Planetarium continues to raise funds for a full-dome immersive video system to replace their 57 slide projectors. Thanks to Worden-Martin, the Parkland Foundation will be raffling off a **Saturn Sky**, which is a sporty convertible retailing for \$26,000. At press time, raffle ticket information is sketchy. The car will be given away at the Parkland gala this October.

We will need volunteers for the **summer observatory open houses** ("Skywatch"). Even if you can't run the observatory, you can help by staffing some of the telescopes outside or even helping with parking. The weather has been horrible for our spring events – maybe the summer will be different.

See the calendar section, put the Skywatch dates on your calendar, and join us!

Consider taking your **CUAS newsletter** by email only and save the club some money. By your request, we can email you a pdf file monthly instead of spending money on stamps.

## TREASURERS REPORT

CUAS Treasurers Report for July 2008  
Willard Brinegar, Treasurer 2008

As of 6/27/08

### Assets\*

\$ 111.00 petty cash envelope  
\$ 3996.46 checking account  
\$ 4107.46 Total Assets

### Income\*

\$ 30.00 Two membership renewals @15  
\$ 10.00 one calendar  
\$ 10.00 key fee  
\$ 50.00 Total Income

### Expense\*

\$ 158.64 Klambach Publishing (Calendars)

\*Note: Magazine subscription funds are not reflected in Income and Expense since they are simply sent on to the respective publishers. As of 7/30/08, all received subscription payments have been sent on, so they are not reflected in the Assets category either.

## OBSERVATORY NEWS

There was discussion at the meeting about a **break-in attempt** at the observatory. Someone tried to pry off the metal piece that covers the latch. They were unsuccessful. We'll have to bend that piece back. If anyone finds something or sees something suspicious at the observatory site, do not hesitate to call the Champaign County Sheriff's office.

Summer 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, 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. We also need to strip the paint on the inside but, given the dust that would be created, it might be best to wait until the telescope is removed.

Congratulations to *Astronomy magazine* who released a 35<sup>th</sup> anniversary issue in July.



The infamous **mow list** has returned! If you'd like to be added (or deleted), let Dave Leake know. 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. Thank you!:

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



## LOOKING AHEAD

August 2                      Member's Only Observing    8pm - ?                      Observatory  
 Ready for some dark(er) skies? Join us at the dome for this weather permitting session. "Member's Only" sessions are for club members wanting to see a few of the fainter fuzzies in the sky. (see the "CUAS news" section).

August 9                      CUAS Family Skywatch    8-10pm                      Observatory  
 This is our public observing event for the month. 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. All viewing sessions are weather permitting.

August 14                      CUAS Club meeting            7-8:30pm                      Staerke Planetarium  
 Note . . .there will be a wedding rehearsal in the dome from 6-7pm this night. Thanks in advance for your patience. Program to be announced.

August 23                      Weekend Wizards: Astronomy    1-3pm                      Orpheum  
 If anyone wants to help out, we could use a few hands at the Orpheum Children's Science Museum for "Weekend Wizards" for the kids. Maybe bring a telescope equipped for solar viewing?

August 30                      Dark Sky Observing            8pm-?                      Middle Fork, Penfield  
 Again, see the club news section for directions.

September 6                      CUAS Family Skywatch    8-10:30pm                      Observatory

September 11                      CUAS Club meeting            7-8:30pm                      Staerke Planetarium

September 19                      "Fall Prairie Skies" opens    7pm                      Staerke Planetarium

September 27                      "Member's Only" Observing    8pm-?                      Observatory

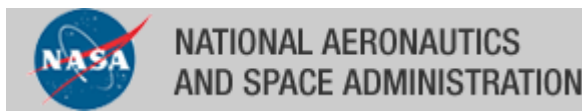
October 3                      "World of Science" talk    7pm                      Staerke Planetarium  
 Joanne Manaster will give us the scoop on stem cell research. Admission is \$1 at the door.

October 4                      CUAS Family Skwatch    8-10pm                      Observatory

October 4                      Decatur Astronomy Jamboree    6:30-11pm  
The jamboree has a new web site thanks to Bryan Maple: <http://www.astrojam.com/>. Though technically a Decatur event, it is held in Friends Creek Regional Park, which is just on the other side of Cisco, just off I-72. It's not that far from Champaign. This year's speaker is Decatur club VP David Berns on the International Year of Astronomy.

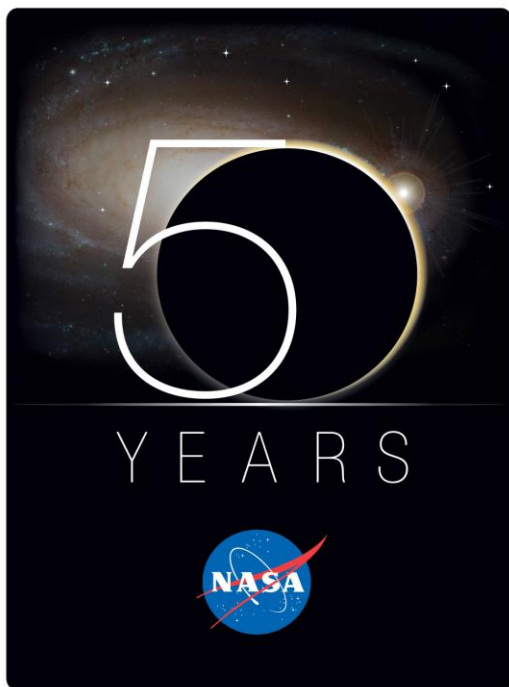
October 9                      CUAS Club Meeting                      7-8:30pm                      Staerkel Planetarium

October 25                      Allerton Park Observing                      7-10pm                      Allerton Park  
We'll observe from the meadow, just south of the visitor's center, weather permitting. We'll also need someone to give a short presentation in the visitor's center at 7pm. Any takers?



*Astronomy Club Resources*

On October 1, 1958 The National Aeronautics and Space Administration began operations.



In November of 1957 President Eisenhower made a speech concerning space exploration. He appointed Dr. James Killian, president of MIT as his special assistant for Science and Technology. Congress took this to mean that civilians would be the driving force in space exploration. And of course there was much debate in Congress concerning the future of space flight, headed by Lyndon Johnson, a future president. They debated whether or not we could have been the first to launch a probe into space and beat the Soviet Union. But probably because of politics the initial launches were delayed. But when President Eisenhower appointed Killian as the head of NASA, things started to change. He opposed Defense Department control and felt that civilians should be in control. And on January 31, 1958 Explorer I lifted off to a successful orbit. And NASA was in business. To read more on the fascinating beginning of NASA go to <http://www.hq.nasa.gov/office/pao/History/monograph10/>

**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>

## 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
<i>Astronomy</i> magazine renewal*	\$34
<i>Sky &amp; Telescope</i> 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



**Champaign-Urbana Astronomical Society  
C/O William M. Staerke Planetarium  
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