

# "CLEAR SKIES"



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

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October, 2008

## CUAS OFFICERS MESSAGE

What is a telescope for?

Selecting a telescope for your own use is the subject of this month's meeting. If you have a desire for a telescope whether it is your first or your hundredth there are some things that you need to consider first to narrow down the choices, as there are many. Each of these choices affects how much you spend. The first decision that you make should be stop, wait and do some more research. Let me explain, if you just jump in you can spend large sums of money for something that sits in the closet and collects dust. Start with asking yourself what will I use this telescope for? This is actually a very complicated question and requires thought and time to resolve. The ramifications of wrong answers to the question "I want a telescope?" or just jumping in are you could spend \$50 for inexpensive binoculars to the price of an expensive car or even a very nice home and still not get to the upper limit of what it takes to view or study some things. The best advice I have for you is to talk to people that have been involved in "looking up at the wonders of the day and night skies", ask them questions and take your time before spending money. This starts with coming to astronomy club events, asking questions, listening to the conversations club members have between themselves, keeping your eyes open and coming back to the next club meeting, public sky watch and any other event you can find. One last thought here is that you do not have to own a telescope to join an astronomy club, all you have to have is an interest in astronomy and later a few dollars for dues if you decide to join a club to cover things like a newsletter and maintenance of club telescopes.

Yes. the club has over the years acquired a variety of telescopes for members to use, take advantage of access to using them; someone from the club will be happy to show you how to use each of these telescopes. Next make a list of questions, please write them down so that you can log the answers that you get from people. Remember this is a list that will actually grow until you purchase that first or next telescope. You need to ask yourself what do you want to look at and from where are you going to look from. To look at the sun (our closest star) you need special equipment, come and ask a club member where



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to start. To look at the moon you have to ask to what level of detail of study suggests different levels of equipment you need. To look at objects that Galileo looked at 400 years ago, again suggests a list of equipment. To look at the planets and the ex-planet Pluto requires a list of equipment to give you the detail of study you would like to have. To look at real distant objects like globular clusters, nebulae and galaxies also have lists of required equipment. As you can see what you want to look at, study and to what detail suggests options, requires time and research. A comparison to making a decision on which telescope might be like buying a car or vehicle to get you from here to there and back without a list of requirements; I might not get the right one. A Smart Car is a great car for saving money and driving in tight spaces but if you need to move a family of five it is not the one for you. Again that Smart Car will not haul that lumber or ton of bricks that you use every day for your work; a specific truck model is the proper vehicle for this job.

Here is a parting comment for now. If you want pictures or views of the night sky of the quality of those of the Hubble telescope again a small \$100 telescope from Sam's Club will not work. You would have to get a few friends together to buy a rocket and a satellite equipped with your special telescope, schedule your launch with mission control and hire a collection of scientists and technicians to work full time for you. This option is expensive, instead use the internet to view the images that taxpayers have pooled their money to provide for you. This is a great way to see images of objects but actually looking with your own eyes at objects through a telescope is a sight to be seen, just take your time, do your research and enjoy the journey toward looking up.

Guy

### **LOOKING UP THIS MONTH**

Have you seen Venus yet? It's getting higher in the sky as we go through October. The actual setting time for Venus doesn't change that much this month, hovering around 7:45pm CDT, but the sunset time keeps getting earlier. Look to the west-southwest roughly a half hour after sunset. Late in the month, Venus passes above the red star Antares. The Moon can be your guide twice this month as the moon is just below Venus on October 1 and just to the left the next night, and nearly the same thing occurs on Halloween. Through a telescope, Venus appears nearly full as it comes around from behind the Sun.

Jupiter is just above the Teapot in the southwest as the Sun sets. Look for Venus and Jupiter to approach each other with Venus passing below Jupiter at the end of next month. So check them out now and watch them get closer. The Moon is below and to the right of Jupiter on October 6 and to the left the next evening. At mid-month, Jupiter sets at roughly 11pm.

With Mars passing behind the Sun, the next naked-eye planet is Saturn, rising at 4:45am early in October. This rise time gets earlier until it rises at 3am toward month's end. Look for Saturn in Leo in the east. The rings are only tipped three degrees!

Mercury comes between the Earth and Sun on the 6<sup>th</sup> and then moves into the morning sky. On the 22<sup>nd</sup> it sits a full 180 west of the Sun where it rises at 5:45am. This is the best morning view of Mercury of the year.

The Orionid meteor shower peaks during the morning hours of October 21<sup>st</sup>, but the 3<sup>rd</sup> quarter Moon will interfere with observations. If you can't sleep, why not check out the sky as the brighter shooting stars should still be able to be seen.

The magazines report that the brightest asteroid, Vesta, comes to opposition on October 29<sup>th</sup>. The asteroid (which means "star-like") is in the head of Cetus, the whale . . . which is southeast of the Great Square of Pegasus. On October 20<sup>th</sup>, Vesta comes fairly close to Gamma Ceti. At magnitude 7.0, you should be able to see Vesta in binoculars if you know where you're looking. The best way to know you've seen the asteroid is to draw the stars you see one night and then check one week later. No other asteroid gets this bright this year.

-DCL

### **Editors Corner:**

By now you probably know that the mission to repair the Hubble telescope has been postponed until February 2009. It was reported in the September 30, News Gazette that there has been a serious breakdown of the observatory. It seems that the command and data-handling system, among others have failed. This means that Hubble is unable to capture and beam down the data needed to produce its deep space images. Apparently NASA did not anticipate this latest failure, so there has not been any training done on how to fix it. According to the article, it take two years of training in order to be able to repair or replace the parts. So for now the launch of Atlantis to repair and or replace parts on Hubble, is on hold.

-WM-

### ***Moon Phases***

### ***Waning Gibbous Moon***



1 <sup>st</sup> quarter	October 7	November 7
Full	October 14	November 14
Last quarter	October 21	November 21
New	October 28	November 28

# CUAS NEWS

Thanks to the efforts of Bob Rubendunst, we'll be observing three times in 2009 at the **Middle Fork Forest Preserve**, north of Penfield and northeast of Rantoul. Those dates are April 18, August 15 and October 10. Get them on the calendar now!

If you missed the September meeting, you missed a wonderful talk by John Stone on measuring **light pollution in the county**. John passed around two Sky Quality Meters that measures sky brightness in units of magnitude per square arc second. Here, the greater the number, the worse the sky. Using a computer and a GPS receiver, John drove around the county measuring sky brightness, then mapped this onto Google Earth. It was quite interesting!

You may be seeing **NASA TV** again sometime soon! NASA television was dumped by Comcast cable but may be returning thanks to Chris Foster at Parkland College television (PCTV). Chris has pledged to air NASA TV some afternoons, evenings, and weekends but some new equipment is required and that's about a \$900 investment. Chris pledged half the money and the other half is being made up by community groups, including CUAS (\$100), Illinois Space Society (\$100), Central Illinois Aerospace (\$100) and the planetarium (\$100). We'll also get a mention on the channel as a sponsor of NASA TV.

We need your help for the **October CUAS meeting**. On this night, we'll invite the public for a telescope buyer's seminar. We'll informally discuss the different kinds of telescopes, telescope mounts, and things like "power." We'll talk about what is important in considering a purchase and what isn't important. Do we want to assign topics to people or just wing it? Do we want to have examples of telescopes in the room? Do we want to do a powerpoint or any other kind of presentation?

**International Year of Astronomy** update . . . . After conferring with the Champaign Park District, Dave Leake distributed a draft schedule of IYA events for next year. Granted there are quite a few observing events, but there are no rain dates (and realistically over a third of these dates may be clouded out), plus we have avoided dates around the summer solstice since it gets dark so late. The key now for CUAS is to try to get some members to commit to attending a few dates. If each of us takes a night or two, then we're covered. Especially if you own a telescope, consider volunteering for 1-2 dates. We can do some telescope training if need be. The use of a possible video camera and a TV to handle large groups was also discussed. Dave will contact the News-Gazette about a collaboration. We're investigating the possibility of using Parkland astronomy students in search of service learning hours to help with these sessions. The schedule reads as follows. If you can volunteer for an evening, email Dave at [dleake@parkland.edu](mailto:dleake@parkland.edu).

Mon	Mar. 30	8-10pm	Douglass, C
Thu	Apr. 2	8-10pm	Crestview, U
Mon	Apr. 6	8-10pm	Prairie, U
Tue	Apr. 21	8:30-10:30	Eisner, C
Tue	Apr.28	8:30-10:30	Blair Park, U
Thu	Apr. 30	8:30-10:30	Robeson, C
Mon	May 4	8:30-10:30	Morrissey, C
Sun	May 17	8:30-10:30	Hessel Park, C
Tues	May 26	8:30-10:30	Cherry Hills, C
Thu	May 28	8:30-10:30	Meadowbrook, 1
Wed	Aug. 26	8:30-10:30	Anita Purves, U
Thu	Aug. 27	8:30-10:30	Lohmann, U
Tue	Sep. 22	8-10pm	Clark, C
Thu	Sep. 24	8-10pm	Garden Hills, C
Mon	Sep. 28	8-10pm	Centennial, C

\* Daylight Savings Time

**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.

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.

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.

The Staerkel 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. Raffle tickets are \$100 each but there will only be 500 sold. And thanks to sponsors, the planetarium should receive 100% of the funds raised. You can get tickets either at the planetarium or online at the Parkland Foundation web site. The car will be given away at the Parkland gala this October 24<sup>th</sup> at the Round Barn Center. At press time less than 200 tickets have been sold – the odds are pretty good!

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.

**Lighting Update** . . . . .no updates since the last newsletter, though the International Dark Sky Association has released some new information on LED streetlighting. You can find out more at [www.darksky.org](http://www.darksky.org).

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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!

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### TREASURERS REPORT

CUAS Treasurer’s Report for September 2008  
Willard Brinegar, Treasurer 2008

As of 9/30/08

#### Assets\*

\$ 4254.96 checking account  
\$ 4254.96 Total Assets

#### Income\*

\$ 10.00 One T-shirt  
\$ 110.00 Eleven calendars  
\$ 120.00 Total Income

#### Expenses\*

\$ 0.00

\*Note: Magazine subscription funds are not reflected in Income and Expense since they are simply sent on to the respective publishers. As of 8/31/08, all received subscription payments have been sent on, so they are not reflected in the Assets category either.

## **OBSERVATORY NEWS**



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 (no paper or plastic), 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.

We should be nearing the end of the **mow list**. If you want on the list or removed from the list, contact Dave Leake. Immediately after you mow the lot, contact the next person so they can plan to check the grass height. Allow a couple of hours to complete the job.

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



## **LOOKING AHEAD**

October 3                      “World of Science” talk                      7pm                      Staerkel 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  
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.

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  
We'll advertise a telescope buyer's seminar for the general public. Anyone who might be thinking of purchasing a telescope for the upcoming holidays may attend (free of charge) to get some pointers on what to look for and what to avoid in a telescope purchase.

October 25	Allerton Park Observing	7-10pm	Allerton Park
November 1	CUAS Family Skywatch	7-9pm	CUAS Observatory
November 7	“World of Science” talk Randy Lloyd, from the UI Extension in Bloomington, will visit to discuss the Twin Groves Wind Farm, north of Farmer City. Admission is \$1.	7pm	Staerkel Planetarium
November 10	“Journey to Palomar” Public Television will premier a new show called “Journey to Palomar.” See your local listings for details or <a href="http://www.pbs.org">www.pbs.org</a> .	7pm	PBS (WILL)
November 13	CUAS Club Meeting	7-8:30pm	Staerkel Planetarium
November 28	“Rites of the Season” The planetarium’s holiday special returns to the dome over Thanksgiving weekend. Hear about our traditions that surround the winter solstice under winter’s star-rich sky.	8pm	Staerkel Planetarium
December 5	“World of Science” talk The planetarium welcomes back Dr. Jim Kaler, professor emeritus in the Astronomy department, for a talk on the Milky Way and the treasure you can find in the galaxy. Admission is \$1 at the door.	7pm	Staerkel Planetarium
December 6	CUAS Family Skywatch This is our last open house for the year.	7-9pm	Observatory
December 11	CUAS Club Meeting	7-8:30pm	Staerkel Planetarium



### *Astronomy Club Resources*

This month's NASA article is interesting in that it talks about colliding galaxies. Astronomers using the Spitzer Space telescope have discovered the distant galaxy J100054+023436 is giving birth to about 4000 stars per year. In comparison, our Milky Way galaxy only produce about 10 per year.

“We call it the Baby Boom Galaxy.” Says Peter Capak of NASA’s Spitzer Science Center in Pasadena, CA. He said the galaxy is undergoing a major baby boom, producing most of its stars all at once. He likened this to the human population of everyone being born at the same time. Capak is the author of a scientific paper, “Spectroscopic Confirmation of an Extreme Starburst at Redshift 4.547” detailing the discovery in the July 10th issue of *Astrophysical Journal Letters*.

Read more of this fascinating article at NASA’s website.  
<http://spaceplace.nasa.gov/partners/>



**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. Staerkel Planetarium  
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