

"CLEAR SKIES"



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

Volume 22
Issue 4
2009

April

CUAS OFFICERS MESSAGE

This month's newsletter has some changes to it. Notice the change in the look. I am attempting to spruce up the look a bit. Also notice that most of the newsletter is in column format. I think this gives it a look more like a newsletter. So comments are welcome. If you don't like it, I will go back to the original.

Read Dave's article in the Looking up this month. It seems Mercury and Venus are playing tag. But Saturn will appear this month also. Dave also has bit about the meteor shower this month. Read all about it.

Also in this newsletter, in the CUAS news section, Dave writes about the IYA and there is an update on light pollution. We still have a telescope for sale, there seems to be the same news at the observatory. Although the mow list is back in, and the grass should probably be checked to see when it needs to be mowed.

-WM-

LOOKING UP THIS MONTH

Mercury has changed places with Venus in the evening sky. Venus has passed between the Sun and Earth to head to the morning sky, but Mercury undergoes its best evening view of the year. At the beginning of April, Mercury rises quickly from the glare of the Sun. By April 5th, it sets at 8pm and, one week later, its setting 45 minutes later. Greatest separation from the Sun occurs on the 25th when it sets after 9:30pm, about 40 minutes after the end of evening twilight. Look about a half hour after the Sun has disappeared in the west-northwest. Mercury should appear like a crescent Moon through a telescope. An interesting configuration occurs on April 26th, when Mercury can be seen just below

the Pleiades star cluster in the west and the thin crescent Moon will appear just above the cluster. Just as quickly as Mercury enters the evening sky, it also exits! By the beginning of May, the setting time is already decreasing. By May 10, it sets at 9pm and will be unable to be seen by mid-May.

After Mercury, Saturn will be the object of interest at our IYA park viewing sessions. Saturn is still below the hind leg of Leo, crossing the meridian (north-south line) by 10:30pm at mid-month. A waxing gibbous Moon glides by Saturn to open the month, coming to within six degrees on the evening of April 6. The rings are nearly aimed at us (4-degree tilt) so they still



CUAS DIRECTORS:

Guy Hampel, President	352-3690
John Stone, Vice-Prez	337-1893
Mike Conron, Secretary	355-5996
Willard Brineger, Treasurer	356-5929
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Phil Wall	352-5442
Bill Marble	621-7882

appear as a line segment across the planet's midsection.

After Saturn, you have to wait a bit before you find another planet. In mid-April, Jupiter rises in the east-southeast at 3:45am. On April 19, the waning crescent Moon passes Jupiter in route to Venus. The magazines report that, on the morning of the 26th, Jupiter will appear to have another satellite! The star 44 Capricorni will come between the planet and Ganymede.

Following Jupiter is the brilliant Venus, rising nearly due east right about as the morning twilight begins. We're in for a treat on April 22nd . . . provided you set an alarm, of course! On this morning, the same crescent Moon that passes Jupiter is immediately to the right of Venus with Mars just below and to the right of the pair. You are encouraged to watch the Moon carefully even as the Sun rises. Can you still see Venus with binoculars. If you keep watching, Venus will be "occulted" by the Moon. An "occultation" is

when something passes in front of something else. You can watch this even though it occurs in the daytime. The event begins about 7:45am, but look before then. Venus will reappear from behind the dark (unlit) part of the Moon at about 8:20am. If you work an 8-5 job, take binoculars to work!

And if you're up for a real challenge, the planet Uranus is only a half-degree to the upper left of Mars. This is difficult since it gets lighter in the southeast as Mars gets higher.

The Lyrid meteor shower reaches maximum on the morning of April 22nd. If you happen to be out waiting for Venus to rise, keep your eye out for a few "shooting stars." The Lyrids are not the most potent shower of the year with interested observing seeing about 18 meteors per hour just before dawn, but outburst have been known to happen, so you never know.

-DCL

Moon Phases

1 st quarter	April 2	May 1	May 30
Full	April 9	May 9	
Last quarter	April 17	May 17	
New	April 24	May 24	



CUAS NEWS

International Year of Astronomy update
. By the time you read this, we will have had our first IYA viewing session at Douglass Park. Hopefully we'll critique the first two at the April meeting and make adjustments as necessary. Phil Wall has set-up a nice section

on www.cuas.org for IYA plus other activities appear on the planetarium's site at: <http://www.parkland.edu/planetarium/IYA.html>. If you have not been to one of the IYA sessions, the goal is to have the following at each park viewing session:

- 2-3 telescopes
- One white table from observatory
- Club banner plus the IYA event banner
- Club brochures, IYA brochures, other handouts.

We also need to keep a count of the number of people we see as this will count towards Night Sky Network attendance. Dave Leake will handle the table and handouts. We still need to develop some sort of method to determine volunteers for each session. We don't want the same people doing all of the sessions as we want to avoid burn-out, plus each session is weather permitting with no rain date. The hotline number will be 351-2567.

More information on the **Galileoscopes**the shipping is \$9 in the US, meaning the \$15 price tag is actually \$24. You get a price break at 100 units (from \$15 down to \$12.50) but the shipping is \$400! Still cheap if you work it out, but the planetarium may not be purchasing a bulk amount. Dave Leake ordered five and will have them at the May meeting as they are due to ship in late April. You can see more online at <https://www.galileoscope.org/gs/>

April 2-5 begins "**100 Hours of Astronomy**" when webcams will take us into the control rooms at some of the major observatories for a live look into their operations. For more information, see <http://www.100hoursofastronomy.org/>

For sale Meade LXD55 SN 10" scope – like new – been to Astrofest once. All the original accessories are included plus a dew shield, Orion 12-volt dew zapper, 25' 12-volt power cord, and Coleman 12-volt powermate.

or scratches. Everything was in good working order when last used. There are no dents or scratches. Everything was in good working order when last used. The only thing wrong with it is that on one of the counter balances the threads are stripped. Asking \$800. Contact Vic Bennett at 217-840-7905.

Also on tap for this month are the **Globe at Night** project, where you can do some star counts in the constellation Orion and report your observations online at <http://www.globe.gov/GaN/>. From this data, a light pollution map will be constructed. It's easy – login and add your data to the mix! Sixty-two countries participated in 2008.

Light Pollution newsthe International Dark Sky Association has a new informative document about the "BUG" system for classifying lighting. The letters stand for "back-light," "up-light," and "glare." There are lighting zones around each fixture in these areas. The key, then, is to control the amount of light in these areas. More information and a diagram can be found on the IDA web site or go to: <http://docs.darksky.org/MLO/specbulletin-2-1.pdf> . The IDA model lighting ordinance is also out for public review. Check it out at: <http://www.darksky.org/mc/page.do?sitePageId=84399&orgId=idsa> and add your own opinions to the forum. The MLO is based on the BUG system. There's a joke in there somewhere. Kansas has a bill called the "Night Sky Protection Act" in their house of representatives (HB 2064) that will hopefully set-up some areas protected from excessive lighting. Read more at: <http://www.gbtribune.com/localnews.php?sid=d2d9cac>

The optics have never been cleaned and have been covered since purchased, there are no dents

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.

Join the **club listserv** and get viewing information in advance! See the web site for details.

The planetarium has an IYA web site now, which can be viewed by pointing our browser to www.parkland.edu/planetarium and clicking in "International Year of Astronomy." Comments

are welcome! When the club gets a page up and running, that planetarium will link to the CUAS page.

Remember the dates for the **park tour!** We need your help! If everyone volunteers for two dates, then we can spread the work around.

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, U
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

TREASURERS REPORT

CUAS Treasurer's Report for March 2009
Willard Brinegar, Treasurer 2009

As of 3/30/09

Assets*

\$ 4265.11 checking account

\$ 4265.11 Total Assets

Income*

\$ 30.00 2 new members

\$ 60.00 11 membership dues @ \$15

\$ 15.00 Donations

\$ 105.00 Total Income

Expenses*

\$ 0.00

*Note: Magazine subscription funds are not reflected in Income and Outgo since they are simply sent on to the respective publishers. As of 3/30/09, all received subscription payments have been sent on, so they are not reflected in the Assets category either.

OBSERVATORY NEWS



Small projects list for warmer weather 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.

The infamous "**mow list**" returns! 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. There is a mower and gas in the shed. 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) John Stone |
| 3) Mark Prather | 7) Audrey Ishii | 11) Bill Marble |
| 4) Mike Lockwood | 8) Wayne James | |



LOOKING AHEAD

April 2 Moonwalk 2009 kick-off 5-7pm Staerkel Planetarium
Again, we'll try to beat Rockford and Peoria by logging our miles walking. Lets see if we can walk to the Moon and back twice! Form a team and participate! More info will be available as we get closer to the event.

April 2-5 "100 Hours of Astronomy"
See the club news section for more information.

April 2 IYA Park Tour 8-10pm Crestview Park
Night #2 takes us to Crestview Park in Urbana. Join us if you can (weather permitting, of course). A full IYA schedule appears on the web site. If you can, join us for the first of about a dozen observing sessions in the park. We'll hand out brochures and maybe do a little recruiting of new members. Bring a telescope if you have one, too. All observing is weather permitting.

April 3 "World of Science" talk 7pm Staerkel Planetarium
Can plants make you healthy? What information is supported by good science? Dr. Donald Briskin will show us some useful "Medicinal Plants." Admission is \$1 at the door.

April 4 CUAS Family Skywatch 8pm CUAS Observatory
Join us for our first open house of the spring! Note that, due to the moon phase, there is no skywatch in March. 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.

April 6 IYA Park Tour 8-10pm Prairie Park
Night #3 takes us to Prairie Park, on West Washington Street in Urbana near the Urbana High School baseball field. Weather permitting.

April 9 CUAS Club meeting 7-8:30pm Staerkel Planetarium
We'll discuss the International Year of Astronomy and watch a sneak preview of the PBS special to air on WILL on April 14 (see below).

April 14 PBS Special 9pm WILL Channel 12
PBS created a special documentary called "400 Years of the Telescope." Be sure to check it out! Check local listings to be sure of the time. We'll also do a sneak peak of the show at the April meeting.

April 15 Girl Scout Badge Seminar 7pm Staerkel Planetarium
Girls scouts! Get help on the Sky Search Merit Badge in this workshop at the planetarium. See the planetarium web site for more information. Note – you have to be registered by April 8 if you're interested. The form appears on the web site.

April 18 Middle Fork Observing 8pm Middle Fork Preserve
Once again (weather permitting) we'll meet at the water fowl area, north of the campground, at the Middle Fork Forest Preserve north of Penfield and northeast of Rantoul. The skies are pretty dark from the water fowl area! We'll also offer some viewing for some of the campers.

April 21 IYA Park Tour 8:30-10:30pm Eisner Park, C
Park in the Hays Center parking lot, just off Church Street near Huber's.

April 25 New Moon Observing 8:30pm-? Observatory

April 28 IYA Park Tour 8:30-10:30pm Blair Park, U

April 30 IYA Park Tour 8:30-10:30pm Robeson Park, C
Park near the end of Southmoor Drive, off of Scottsdale, just past the elementary school.

May 2 CUAS Family Skywatch 8:30-10:30pm Observatory
Celebrate "National Astronomy Day" at the observatory for our public event for May. Hopefully we will have drummed up some attendance for our open houses from the IYA park events.

May 4 IYA Park Tour 8:30-10:30pm Morrissey Park, C
The park borders Windsor Road on its south side, but the parking is on the north side, off Harrington.

May 6 Merit Badge program 7-9:30pm Staerkel Planetarium
Boy scouts. . . . join us for help with the Astronomy Merit Badge. The cost is \$5 per scout and advance registration is required. See the planetarium web site for details. You must be registered by April 29 to be included. This is a workshop, so come prepared to work!

May 8	“Bad Astronomy” opens	8pm	Staerkel Planetarium
The planetarium’s latest show on pseudoscience opens this weekend and shows every Friday and Saturday in May at 8pm. In June and July, it’s Fridays only at 8pm. Is astrology real? Did we fake the Moon landing? Take a light-hearted look at these issues and more!			
May 12	Merit Badge program	7-9:30pm	Staerkel Planetarium
A repeat of the May 6 program. You must register by May 5. Call Dave Leake at 351-2567 with questions.			
May 14	CUAS Club Meeting	7-8:30pm	Staerkel Planetarium
May 17	IYA Park Tour	8:30-10:30pm	Hessel Park, C
This will follow a band concert in the middle of the park			
May 23	New Moon Observing	9-?pm	Observatory
May 26	IYA Park Tour	8:30-10:30pm	Millage Park, C
The park is in the Cherry Hills subdivision, south of Windsor Road. Take Cherry Hills Drive to Lakeview, to Worthington to Cherry Creek.			
May 28	IYA Park Tour	8:30-10:30pm	Meadowbrook, U
Behind the Prairie Play playground.			
May 30	CUAS Family Skywatch	8:30-?	Observatory
Yes, given the Moon, we’ll have two open houses this month.			
June 11	CUAS Club Meeting	7-8:30pm	Staerkel Planetarium
June 19	“Summer Prairie Skies” opens	7pm	Staerkel Planetarium
June 20	New Moon Observing	9-?pm	Observatory
June 27	CUAS Family Skywatch	9-11pm	Observatory
July 9	CUAS Club Meeting	7-8:30pm	Staerkel Planetarium
July 18	New Moon Observing	9-?	Observatory
July 25	CUAS Family Skywatch	9-11pm	Observatory



Astronomy Club Resources

Using 1970’s technology to return to the moon.

Why can’t we use the same old stuff we have always used to return to the moon?
Well for one thing, that stuff is old and out of date. We have technology that is so much better

and more accurate that it would be foolish for the scientists and administrators to rely on 1960's and 70's systems.

So NASA is in the process of upgrading their rockets and other hardware. Computers now are so much more powerful. Our cell phones have more memory than computers did back then. We have progressed so much in the last 40 years. We are light years ahead of that past technology. I remember when I was in the U. S. Air Force in the 1950's, we had a computer in our AWACS airplanes that used paper tape and took up the whole inside of the fuselage, with the exception of one radar screen. I have grown up with computers, and can attest to the advances we have had over the last 50 years. But back to the article from NASA.

The computer on board the Apollo, and the Lunar lander has a whopping 4kilobytes of RAM and 74kilobyte hard drive. We can't even start up a calculator with that anymore. So in order to return to the moon by the scheduled 2010 dates, the computer systems must have a major upgrade. Not only do the computers need

If you are interested, CNN had an article on Jupiter, saying that the famous red spot is shrinking. This spot is an ancient monster storm about the size of three earths. The storm has lost about 15% of its size in ten years between 1996 and 2006.

It shrank by about 1 kilometer (about 0.6 miles) a day during that time period, said Xylar Asay-Davis, a postdoctoral researcher who was part of the study.

"It's not just the motion of the spot as a whole object. Within it, it has a very complicated swirl to it -- sort of a thin ring on the outside and then a sort of quiet area in the center -- and that shape of it has been changing over time," Asay-Davis said.

"What we actually look at is where the winds are the strongest in the vortex. It's the ring

a major upgrade, but we must figure out how to sustain humans on the moon for months on end. How do we protect them from the dangers of the universe, blocking radiation. Also it has to be figured out how to recycle all the waste that will be generated, i.e. waste water, garbage, human waste, etc.

We must figure out how to grow food. Astronauts can't carry enough to sustain them for months. Buildings must be built to house the Astronauts that will protect them from the elements. So there is a lot of work to be done. And unless, NASA has gotten a head start on 2010, they may not make it. NASA has a lot of work ahead of them. Not only the computer, new food technology, they must also build new moon landers, and new rockets and capsules for the astronauts. For more information on this, read NASA's article at the web site.

-WM-

[Astronomers](#) have observed for years that the clouds of the Great Red Spot have been waning, but this newest research focused on the motion of the storm -- a much more reliable way to measure its size, Asay-Davis said. He and fellow Berkeley researchers Philip Marcus, Imke de Pater, Michael Wong and Sushil Shetty developed software that tracked the movement of the spot's cloud patterns over long periods of time.

where they're the strongest, and that ring has been shrinking over time."

The findings have been submitted for publication in *Icarus*, the International Journal of Solar System Studies.

The researchers do not know why the storm is shrinking. In fact, little is known about the Great

Red Spot at all. Even the exact cause of its distinctive color is a mystery.

"We don't actually know what causes any of the colors on Jupiter," said Amy Simon-Miller, chief of the Planetary Systems Lab at [NASA's](#) Goddard Space Flight Center. "One of the leading theories is that [the storm] is dredging up stuff from much deeper below in the atmosphere that turns red when it's exposed to sunlight."

The spot isn't always bright red; sometimes it's actually quite pale, Simon-Miller noted.

Astronomers have been tracking it since the 1870s, said Glenn Orton, a senior research scientist at NASA'S Jet Propulsion Laboratory who investigates planetary atmospheres. It is possible that the spot may one day disappear, he added.

"It's just a storm that, like many things, has a natural growth and disintegration rate," Orton said.

Astronomers see a dramatic difference in the spot's shape when comparing photos of Jupiter taken more than a century ago to recent images of the planet. Orton joked that the Great Red Spot used to be so long that its acronym should have stood for the "Great Red Sausage."

"I just happened to look at an old picture and said to myself, 'That looks like a breakfast sausage.' It's very long. I mean, if you look at one of those pictures back from then and a picture now, you think, 'My God, this thing is going on a diet,'" Orton said.

Now eye-shaped, the spot is expected to become circular by about 2040, he added.

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 & 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

-WM-

The above article was taken from CNN 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
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