

"CLEAR SKIES"



May, 2008
Volume 21
Issue 5

Newsletter of the Champaign Urbana Astronomical Society, c/o Staerke Planetarium, 2400 W Bradley Ave Champaign, IL 61821
An affiliate of the Champaign Park District
Web site address <http://www.cuas.org/> E-mail editor & publisher coffeelover2@comcast.net

CUAS OFFICERS MESSAGE

May is supposed to mean the start of flowers and the end of the rainy season. Well I guess that we will soon see. On the evening of April 24, 2008 some of our club members attended the *Rocket into Space* event at Parkland College. The event was put on for area science teachers, elementary students and their parents and was well attended by both groups. The teachers were told about the club and our willingness to act as a resource for their classes and about the public viewing sessions we have. We will have to see if anything comes of this invitation. The students were asked to pick which soda can represented the weight of a standard soda can on Jupiter or Pluto; the children had fun and we were able to pass out many brochures and invites to the next public viewing session on May 10 to their parents. The event was a success with one exception -- it was too windy for launching rockets. More than 400 people attended and most saw a planetarium show. At the end of the event we experimented with looking at galaxies inside; we mounted them to one of the ceiling mounted televisions and looked at them with low power eye pieces. The favorite was of our galaxy with a 'you are here' sign on it. The picture came from one of the *Night Sky* education sets that we receive regularly for educational use. Thank you, Dave.

I was reading a few articles on astronomy, some of which I actually understood. One article was on Brown Dwarf Stars with one star of interest



CUAS DIRECTORY:

Guy Hampel, President	398-9778
John Stone, Vice-prez.	352-3690
Mike Conron, Secretary	355-5996
Willard Brineger, Treasurer	356-5929
Mike Lockwood, 5 th Director	337-1893
Mike Rosenberger, Obs. Dir.	598-2254
Phil Wall, Webmaster	352-5442
Bill Marble, Newsletter Ed.	621-7882

called CFBDS0059. It is between 15 to 30 times the mass of Jupiter, is only 350°C, is located only 40 light-years from our solar system and is an isolated (not orbiting anything) object. Brown dwarfs keep getting cooler over their life time. This one is the coldest one found to date and is more like a planet as it has ammonia in its atmosphere. Oh good a new class of stars for us to remember. Brown dwarfs had two classes until now, class L (1,200°C –

2,000°C), class T (under 1,200°C) and now we add a new class Y which are really cool heat producers like the one above. This new class should fill the gap down to -100°C for the largest of the giant planets (extrasolar planets). Wait I have a question. Is Jupiter a planet or some form of a dwarf star. Let's see, it does not meet the requirements for a brown dwarf, it is not a solo object, but it does radiate 2 times the energy than it receives from the sun. Oops, does Jupiter warrant yet another classification? No, it is our neighbor planet and it is in our solar system and each of the planets that make up our solar system have their own interesting characteristics that make them unique. Back to Brown Dwarf Stars, have they existed before the first was discovered back in 1995 or have they been around for a long time and our technology and ability to look in the direction where they are have allowed us to just recently find them.

Another interesting item is that we are continuing to find new information about objects in our own solar system. A photo was taken using a discovery spacecraft named after the guy who found Saturn's second largest moon Rhea in 1672. The Cassini photograph was taken in November 2005 then studied and the photo reveals that the moon Rhea has at least one ring. The later use of modeling programs seems to confirm that the moon will retain the ring for a long time. The spacecraft Cassini is continuing to provide man with lots of marvelous photos and data on the objects around Saturn for us to study. I am looking forward to the many future discoveries that are yet to come. Please come to this month's club

LOOKING UP THIS MONTH

We've been talking about it since January and now it's here. . . . the best evening view of Mercury for the year! Hopefully you started looking in late April. Mercury is the star-like object in the west-northwest. It will be easier to see during the first full week of May. Start looking about 40 minutes after sunset. A crescent Moon can be your guide on May 6 as it

meeting with your own interesting astronomical points of interest.

The business items that need to be discussed at the meeting include:

Scheduling a work day to seed the areas without grass where cars have spun donuts in the yard, fix the loose siding on the storage shed, rework the dome stairs, and scrape and paint the dome. Another discussion items include: a) other topics of discussion or guest speakers we want to come to the club meetings b) what do we need to do to get more people to use the dome site for observing, and c) what is the easiest/preferred method to notify the group that an impromptu club viewing session will occur on any given night.

Last weekend Don and I spent part of Saturday night talking and waiting for portions of the sky to clear. The conversation was good but the Champaign sky was not very cooperative; Oh well better viewing next time. Remember the public sky watch on the 10th should be well attended by guests and we need club members to be there to share their knowledge of the night sky with them.

Come to our next club meeting and see our very own Dave Leake give a power point presentation from The Night Sky education packages. You will have to come and see which one he will present. [Editor's note . . . Dave will be at a band concert!]

Guy

sits a bit more than two degrees above Mercury. Mercury is highest in the sky on May 12 when it will appear like a little half Moon in a telescope and won't until 10pm CDT. The next night it officially reaches its greatest separation from the Sun at 22 degrees, though, by now, it is fading in brightness a bit. By the end of May, Mercury will be tough to see. Make sure you get out and take advantage of this opportunity!

A bit higher in the sky in the west, the planet Mars sits to the left of Castor and Pollux. But Mars moves from Gemini into Cancer early in the month and heads towards the Beehive cluster. It reaches the cluster on the evening of May 22, taking two nights to traverse the cluster. There's not much to see in a telescope, but having the planet in the foreground with the star cluster in the background will be something to see. Mars is 167 million miles away . . . compared to 3,150,000,000,000,000 miles away for the Beehive! I think the right amount of zeros are in there! Mars doesn't set until about 1am.

Be sure to have the internet on for the Phoenix landing on Mars over Memorial Day weekend. In fact, it is suppose to touchdown in the northern latitudes of the red planet during the afternoon of May 25. The probe is not a rover, but a conventional lander equipped with a shovel to sample some of the Martian soil. And just like the mythical bird that rose from the ashes, the Phoenix probe was built with spare parts from earlier probes. There is a PBS special on the Phoenix mission, called "Ashes to Ice," scheduled for May 22 at 9pm.

Moon Phases

1 st quarter	May 11	11:47 p.m.	June 10	11:04 a.m.
Full	May 19	10:11 p.m.	June 18	1:30 p.m.
Last quarter	May 27	10:57 p.m.	June 26	8:10 a.m.
New	May 5	8:18 a.m.	June 3	3:23 p.m.
Summer Solstice	June 20	7:59 p.m.		

Even higher in the sky, but still in the west, we find Saturn, beneath the Big Dipper and only a couple of degrees from Regulus, the heart of Leo the Lion. But this distance will slowly increase as Saturn creeps to the east. The rings are opened to nearly ten degrees, the most we'll see them open until 2010. Late in the month, look for the shadow of the rings on the planet itself.

Jupiter rises in the southeast just before midnight, just to the east of the Teapot of Sagittarius. A waning gibbous Moon appears just below Jupiter on the 24th.

And we didn't forget Venus . . . it's just in a cruddy place. And it will be until the fall. Have fun! -DCL

MEMBERS CORNER

Trivia Question



Waxing Gibbous



CUAS NEWS

Next year (2009) is the 400th anniversary of the telescope. It has been designated the “International Year of Astronomy” (IYA). Though plans are still being discussed, one of the goals for the IYA is to have *everyone* on the globe look through a telescope at least once. This is a monumental undertaking and will require some dedication from amateur astronomers. So the question becomes, are you up for it? At the April meeting several options were discussed. One is to do a “park tour” in Champaign and Urbana where club members would visit a local park (weather permitting of course) for a couple of hours and offer free observing. I volunteered to put together a list of parks, plus draft a letter to each of the park districts so they can assist in the publicity. – Dave Leake

Thanks for Don Thompson, the Smiths and the Hampels for their time at “Rocket Into Space!” The planetarium welcomed over 500 kids and their parents on April 24. The display included a CUAS display in the lobby.

Member Bob Rubendunst gave a nice presentation at the April meeting on an eclipse tour he is leaning towards taking a solar eclipse tour in 2009. The track of the July 22 total solar eclipse passes through India, Nepal and China with a duration of just over six and a half minutes – the longest of the century! Maximum eclipse occurs over the ocean. Bob is considering an Italian 12-day cruise that sails out of Beijing. The trip also visits South Korea. If you’re interested in joining him, contact him or see www.astronomyvacations.com.

We’re tentatively planning on some **dark sky observing** from the water fowl area at the Middle Fork Forest Preserve on May 31 and August 30. Bob Rubendunst will confirm the dates for us. We also talked about a date or two in the fall at the meadow at Allerton Park. Dave Leake will check with Kim Petzing regarding September 20 and/or October 18 or 25.

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 Treasurer’s Report for April 2008
Willard Brinegar, Treasurer 2008

As of 4/30/08

Assets*

\$ 111.00 petty cash envelope
\$ 3955.10 checking account
\$ 4066.10 Total Assets

Income*

\$ 30.00 two membership renewals @ \$15
\$ 15.00 new member @15
\$ 750.00 Donation
\$ 795.00 Total Income

Expense*

\$ 0.00

*Note: Magazine subscription funds are not reflected in Income and Expenses since they are simply sent on to the respective publishers. As of 4/30/08, all received subscription payments have been sent on, so they are not reflected in the Assets category either.

OBSERVATORY NEWS

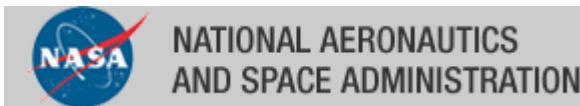
The infamous “**mow list**” returns! In fact, as this issue goes to press, we’re already at person #3! If you want on the list or removed from the list, contact Dave Leake. Immediately after you mow the lot, contact the next person so they can plan to check the grass height. There is a mower and gas in the shed. Allow a couple of hours to complete the job.



- | | | | |
|---------------------|---------------------|------------------|--------------------|
| 1) Mike Rosenberger | 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 | | | |

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, 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. *Be at the dome work day on May 17 to help with these projects.* 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.

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.



What is a Laser?

We all use lasers. To aim them at a star, to find stars, all kinds of uses in astronomy. But we also use lasers everyday. Lasers are in our CD players, DVD players, they even bring us email, if we have broadband cable. Doctors use lasers, welders use lasers. All kinds of professions use lasers. But do we really know what a laser is. Well, I am about to attempt to tell you.

Regular light, like sunlight, is made up of many different wavelengths, or colors of light.



LOOKING AHEAD

May 3	Members-only Viewing	8-? pm	Observatory
Come to the dome to catch some of the "faint fuzzies." Weather permitting.			
May 8	CUAS Club meeting	7-8:30pm	Staerkel Planetarium
May 10	GLPA State Planetarium meeting		Peoria

May 10	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.			
May 17	Dome work day	TBA	Observatory
Come and help out with several observatory projects.			
May 31-June 4	ASP/AAS meeting		St. Louis
May 31	Dark Sky viewing	8-?	Middle Fork
If you want to see some dark skies, come to the water fowl area, north of the main campground.			
June 7	CUAS Family Skywatch	8-10pm	Observatory
Dr. James Kaler has requested that we participate in summer solstice celebration at the Krannert Center for the Performing Arts. If you can make it, we need several telescopes set up either on the east or west side of Krannert to do some observing for patrons.			
June 12	CUAS Club meeting	7-8:30pm	Staerkel Planetarium
June 20	Krannert Center Observing	dusk to 10pm	Krannert Center
June 20	Summer Prairie Skies opens	7pm	Staerkel Planetarium
July 5	Member's Only Observing	8pm-?	Observatory
July 10	CUAS Club Meeting	7-8:30pm	Staerkel Planetarium
July 12	CUAS Family Skywatch	8-10:30pm	Observatory

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.

The Champaign-Urbana Astronomical Society is an affiliate group of the **Champaign Park District**. <http://www.champaignparkdistrict.com>

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

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**