

"CLEAR SKIES"



NEWSLETTER OF THE CHAMPAIGN-URBANA ASTRONOMICAL SOCIETY, INC.
AN AFFILIATE OF THE CHAMPAIGN PARK DISTRICT

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JANUARY 2010

CUAS OFFICERS MESSAGE

HAPPY NEW YEAR 2010

LOOKING UP THIS MONTH

BY DAVID LEAKE

Happy New Year, everyone! Highlighting this month will be the once-every-26-month opposition of Mars. The official date is January 29, though Mars is actually closest to our Earth two days before opposition date. As Earth/Mars encounters go, this one isn't as favorable. The separation between the two planets is almost 62 million miles. Still, Mars is worth a look with the telescope. At opposition, Mars rises as the Sun sets and is visible all night. Look for the reddish dot nearly due east. Mars is also about in the middle of its retrograde loop. The planet is moving westward from the sickle of Leo towards the Beehive star cluster in Cancer. In fact, use binoculars and use Mars to direct you to the cluster. A nearly full Moon is to the right of Mars on January 2nd and then the Moon returns to be near Mars on the 30th.

Let us not forget Jupiter, which is still visible this month in the southwest. On New Years, Jupiter sets at 8:30pm, but by the end of January, this time decreases to 7pm, about an hour after twilight ends. Look at Jupiter early in the month and early in the evening to catch it high in the sky. A lovely crescent Moon is to the lower right of Jupiter on the 17th.

Venus passes behind the Sun on January 11th and then enters the evening sky, but it does so slowly. It will probably be the middle of next month before we begin to see it easily. When can *you* see Venus for the first time this year?

Whereas Mars rises before Leo, Saturn follows our Lion in the east, rising at 10:30pm at mid-month. Saturn's rings are only open about 5° but this is the most we'll see if the rings until August. Saturn is only a degree north of Eta Virginis, a 4th magnitude star in Virgo.

And we definitely have to mention Mercury this month as it has the best morning view until September. Granted it is cold, but it might be worth setting an alarm anytime between January 11th and mid-February. Mercury rises abruptly from the glare of the Sun where on the 18th, it rises at 5:45am, a full 50 minutes before the start of morning twilight. Greatest separation from the Sun is officially on the 27th. A very thin waning crescent Moon is to the lower right of Mercury in the southeast on the morning of the 13th.



CUAS DIRECTORY:

Guy Hampel, President	352-3690
John Stone, Vice-Prez	337-1893
Dave Leake, Secretary	
Willard Brineger, Treasurer	356-5929
Mike Lockwood, 5 th Director	684-2170
Phil Wall, web master	352-5442
Bill Marble, newsletter editor	621-7882

Lastly, there is an annular eclipse of the Sun during this month's new Moon, on January 15th. The eclipse track starts on the east coast of Africa and progresses across the Indian Ocean, clipping the tip of India and then entering the Chinese mainland. We won't get to see anything from Illinois, but with the internet, you might find the eclipse online. The Earth is closest to the Sun on January 3rd at just over 91 million miles.

MOON PHASES

Waning Gibbous Moon



1 st quarter	January 23	February 22
Full	January 30	February 28
Last quarter	January 7	February 5
New	January 15	February 14

MOON FACTS

We all know there was a man on the moon, but did you know that there is one who stayed there? Dr. Eugene Shoemaker, a Geological Surveyor, who educated the Apollo mission astronauts about craters, never made it into space himself, but it had always been one of his dreams. He was rejected as an astronaut because of medical problems. After he died, his ashes were placed on board the Lunar Prospector spacecraft on January 6, 1999, which was crashed into a crater on the moon on July 31, 1999. The mission was to discover if there was water on the moon at the time, but it also served to fulfill Dr Shoemaker's last wish.

CUAS NEWS

BY DAVID LEAKE

Welcome to our **new group of officers** for calendar year 2010. This includes Guy Hampel as returning president, John Stone as vice-president, Willard Brinegar as returning treasurer, Dave Leake as secretary and Mike Lockwood as fifth director. There will be an officer's meeting soon and there was talk of getting the dome keyholders together, too.

Remember to renew your dues as to not miss any of the action! Use the form at the end of this newsletter and send your check into the club treasurer! All dues are prorated to January 1.

In case you missed it on the club list, we got some good news and some bad news just before the December meeting. First, the good news. . . . Guy Hampel and John Stone attended the December Champaign Park District board meeting to accept a **programming award** from the commissioners! The award is now on display in the cabinet in the planetarium lobby.

The bad news is that someone heavily **vandalized** the dome site at about this same time (December 8-9, 2009). Not only were there ruts in the grass (which we have come to get used to), but the perpetrators backed over our pine tree, east of the dome, and they backed into our metal shed, heavily damaging the west wall. The door frame will need to be replaced and the entire structure will have to be put back onto its foundation. We have a \$500 deductible with State Farm Insurance, so we might as well spend our own money to repair it. Member Scott Hough, the person who oversaw the original construction, has been commissioned to do the repair job when the weather warms a bit.

There was also a discussion about expanding operations at **Middle Fork**. True, the site is more distant from Champaign, but the skies are darker. CUAS officers will approach the Champaign County Forest Preserve about possibly securing space in the out building that is at the water fowl site. There is power there for photography and the park officials themselves state that the park is underutilized. There are also rest rooms behind this building.

There was also talk about maybe doing some “**sidewalk astronomy**” in town this year. Possible sites could be the parks, Barnes & Noble, a restaurant like Za’s, the movie theaters, or maybe Marketplace Mall. The idea is taking telescopes to where the people are. Dave Leake had a meeting with the general manager of Marketplace who is very open to the idea of telescopes being set-up outside the mall for passers-by to check out the sky, with the only issue being insurance. There would be no other fees. Is this worth pursuing?

We still have about nine 2010 “**Deep Space Mysteries**” calendars from Astronomy magazine. They will be on sale at the club meetings for \$10 for members and \$12 for non-members. Get em while they last! The Twin City Amateur Astronomers of Bloomington-Normal will be hosting the **North Central Region of the Astronomical League (NCRAL)** on April 16-17, 2010. The theme is “Generations: Past, Present and Future of the Telescope.” TCAA, who will be celebrating 50 years as an astronomy club, are planning observing at the Sugar Grove Nature Center, programs at both the ISU Planetarium and at the Challenger Learning Center, and a tour of historic sites in the B-N area, including movies at the historic Normal Theater. Speakers currently include Dr. Carl Wenning (see below), Dr. Daniel Holland (ISU), Michael Bakich (Astronomy magazine), possibly astronaut Scott Altman (who participated in the last Hubble repair mission) and someone from the James Webb Space Telescope group. There is also a special video tribute to Clyde Tombaugh being planned. For more information, see www.ncral2010.org. We’re told that you need not be a member of the Astronomical League to participate. The cost is \$75 per person (before April 1) that includes a Saturday evening banquet. You can register online at the web site. You are welcome to attend even if you’re not an AL member.

The **Chicago Astronomical Society** has taken two trips to Walnut Point State Park, near Oakland, Illinois, to look into the old of the 1-meter telescope that still exists on site. Recall that our dome was there at one time. The 1-meter reflector was sent to Mt. Laguna just outside of San Diego and the building has been used for storage since the late 1980’s by the adjacent Walnut Point State Park. CAS is even calling the site the “Walnut Point Observatory.” They have made overtures to collaborate on a project. Are we interested? They are looking into powering the place by a combination of solar and, oddly enough, hydroelectric, as there is a nearby creek and lake. Dave Leake is a member of their listserv and will provide updates.

Light pollution update At the December meeting, the club voted to purchase a light shield even if the light near our dome site is still off. We can use the shield for educational purposes until it is needed.

Planetarium update the planetarium will closed for the month of January. Workers will visit to erect scaffolding during the week of January 11 and then engineers from Astrotec of Ohio will clean and repaint the dome. The repainting will reduce the reflectance of the dome. *The club voted to still have the January club meeting at the planetarium, even though it will have to be in the lobby.* The planetarium reopens in February to public audiences including a “World of Science” talk on the Large Hadron Collider by two UI physicists. The hope is that the new digital system will be approved at the January board of trustees’ meeting.

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.

Also remember that the club offers magazine discounts for both *Astronomy* and *Sky & Telescope*. If you are interested, contact treasurer Willard Brinegar.

Join the **club listserv** and get viewing information in advance! *NOTE . . . this is not the same list as before!!!!* We had to dump the cuas-l on prairienet since prairienet went belly-up. This is a yahoo group that you have to join. See the web site www.cuas.org and look for “email listserver” link on the navigation bar on the left.

TREASURERS REPORT

BY WILLARD BRINEGAR, TREASURER

As of 12/31/09

Assets*

\$3987.25 Checking account

\$3987.25 Total Assets

Income*

\$15.00 New member

\$105.00 Seven Renewal Dues

\$20.00 Key fees

\$10.00 One calendar sold

\$43.20 Donations

\$85.08 Amazon referrals

\$278.28 Total Income

Expenses*

\$20.00 Bank fee for new Checks

\$488.00 Insurance

\$158.76 Postage for news letters

\$ 666.76 Total expenses

*Note: Magazine subscription funds are not reflected in Income and Outgo since they are simply sent on to the respective publishers. As of 12/31/09, all received subscription payments have been sent on, they are not reflected in the Assets category either.

OBSERVATORY NEWS

BY DAVID LEAKE



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. Evidently no one showed up at our work day . . . do we schedule another one?

President Guy Hampel has looked at the dome with a person who is an expert on paint and a course of action is being planned for next spring. Stay tuned!



LOOKING AHEAD

BY DAVID LEAKE

December 4 “World of Science” talk 7pm Staerkel Planetarium
The planetarium welcomes back astronomer Jim Kaler to talk about the Sun. Learn what the big deal is concerning the recent lack of sunspots. Admission is \$1 at the door.

December 10 CUAS Club Meeting 7-8:30pm Staerkel Planetarium
We'll reflect on the past year, and talk about what to do in the upcoming year. In the past we've had refreshments and munchies at this meeting . . . feel free to bring the family and enjoy a little holiday cheer.

December 12 New Moon Observing 7pm - ? Observatory
This is a club event . . . note that there is no scheduled observatory open house in December or January.

December 18/19 “Rites of the Season” 8pm Staerkel Planetarium
The last showings . . . ever . . . of a holiday classic, first performed in 1989.

January 14 CUAS Club meeting 7-8:30pm Location TBA
Be sure to look in the January issue for the location as the planetarium dome will be unavailable. Typically, we look at the sky for the year, but that may have to wait until February! Note there is no Skywatch at the observatory in January

January 16 New Moon Observing 7-10pm Observatory
For those who want to brave the cold

February 5	“World of Science” talk	7pm	Staerkel Planetarium
Physicists Tony Liss and Mark Neugebauer will be on hand to introduce us to the Large Hadron Collider in Switzerland. Admission is \$1 at the door.			
February 13	New Moon Observing	7pm-??	Observatory
February 20	CUAS Family Skywatch	7-9pm	Observatory
Our first Skywatch of the year, weather permitting. Take I-57 south to the Monticello Exit, go west (turn right) 1.4 miles and then turn left on County Road 700E. The dome is 0.8 miles to the south on your left.			
March 5	“World of Science” talk	7pm	Staerkel Planetarium
The man who published the genome of the cow, Dr. Harris Lewin, will be in the planetarium dome to talk genetics. Admission is \$1 at the door.			
March 6	Science Fair Regionals	9am	Parkland College
Anyone who may want to try their hand at judging the posters, contact Dave Leake at dleake@parkland.edu . We need judges!			
March 11	CUAS Club Meeting	7-8:30pm	Staerkel Planetarium
March 13	New Moon Observing		Observatory
March 20	CUAS Family Skywatch	7-9pm	Observatory
April 2	“World of Science” talk	7pm	Staerkel Planetarium
Parkland’s own Julie Angel will talk about “Exploring Caves and Karst” in Illinois. This is one for your closet spelunkers out there! Admission is \$1 at the door.			
April 8	CUAS Club Meeting	7-8:30pm	Staerkel Planetarium
April 10	Middle Fork Observing	8pm	Forest Preserve
We’ll set up telescopes at the water fowl area for some nice dark skies. Weather permitting.			
April 16-17	NCRAL meeting		Bloomington-Normal
See www.ncral2010.org for details. This is open to CUAS members.			



Astronomy Club Resources

BY BILL MARBLE EDITOR

MARS ROVERS

Poor Spirit, it seems to be having more and more troubles. First it broke a wheel, then it runs into things, and now it's stuck in a sand trap. And it can't even get out, no matter how many strokes it takes. So in this situation, you make lemonade. NASA now thinks that if it can get Spirit's solar panels turned toward the sun, they may be able to do more research right where it is stuck. It seems that the sand has a plethora of minerals that can be looked at. It seems that Spirit has discovered a steamy and violent past of Mars, unlike Opportunity, which has found evidence of water on the opposite side of the planet.

NASA is working on a fix for the Spirit. What they are trying to do is tilt the solar panels toward the sun so the Rover will have ample power to survive the harsh Martian winter which begins in May, earth time. If they can get the panel arrayed, then Spirit has a chance to last out the winter and hopefully begin operations again when the winter is over. Although, it won't be able to move, there is a lot of digging and analyzing right where it is. So Spirit will then become a Lander rather than a Rover. The difference being a Lander is stationary. Let's hope NASA can get things working up there on Mars.

LIGHT POLLUTION

BY BILL MARBLE, EDITOR

This is from a website authored by Kirk Korista, <http://homepages.wmich.edu/~korista/> a University of Illinois graduate in Astronomy. He went on to get his PHD in Astronomy from Ohio State. He is presently living in southwest Michigan. He has done some research on light pollution and I wanted to share with you some of the things he says.

I'm sure you have all seen the satellite photos of the amount of lights just on the North American continent, but here is the web site for that it is a NOAA composite, look on the NOAA website for it. It is estimated that 30% of all light generated on earth is beamed toward the sky. That is really too bad, if this keeps up we won't be able to see the sky at all. Mr. Korista apparently has done a lot of research on this subject, and has highlighted a number of websites to look at.

On a typical U.S. street one can see a street light up to a mile away. None of that light helps us to see in the dark, because it appears as a glare in our eyes. And this light pollution is getting worse. In the area I live in there is a "safety" light high on a telephone pole which shines right onto my backyard and beyond, not my light, there is one across the street, and all the neighbors think they have to have the brightest porch light on the street. So my viewing of the night sky is pretty limited.

So I think Mr. Korista is probably knows a thing or two about light pollution. Check out his website. I don't have any answers as to what can be done to educate the public about the pollution. I don't even know what or how to approach my neighbors and educate them about this.

CHECK OUT ALL CLUB EVENTS ON THE CUAS HOME PAGE: <http://www.prairienet.org/cuas>
or <http://www.cuas.org>

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<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 & 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
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