

"CLEAR SKIES"



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

June, 2005

PRESIDENT'S MESSAGE

Well I will once again miss the next meeting. My wife and I had planned a vacation and I didn't realize it fell on the second Thursday of the month. I have asked Guy to guide the meeting.

We were to have had the public reopening of the observatory this month (June) but I could not find anyone that would chair the event. I will be gone that weekend so I was trying to get someone to take charge and run with it. We will have it on July 9. If anyone would like to step up and take charge of the event please contact me (721-9500 or mikel@mchsi.com). At the last meeting we had talk of doing a number of things, one of them was a Sun viewing and having something like an "Astro 101" for people. If you have any more thoughts please come to the next meeting or give me a call or email.

I don't know how many of you have heard that NASA thinks they have found the wreckage of the Mars Polar Lander (and yes it was on Mars). They think they have found the parachute, a rocket blast zone and not far from the blast zone if the Mars Polar Lander. Did you realize it was to have landed on December 3, 1999 – in tack? I didn't think it had been that long ago.

Last month we had our public viewing and there were a few people that came out to visit the site. It was a very windy evening and I had canceled the event once and then we put it back on. I reason I bring this up is that if you have not been out to see the refurbished 16" I would highly recommend it. It may also be a good time to think about becoming a key holder at the dome. At the last meeting we voted to allow key holders to checkout equipment from the dome as long as it is back in time for the members and public viewings. I will have more about this in the next newsletter.

I hope to see you at one of the next outings or at the meeting. And speaking of meetings, if you would like to see something different in our monthly meetings please contact me. I want to provide the information that you want at the meetings but unless I know what it is I can't respond properly.

This month Guy Hampel is doing the program entitled "What If?" Interested?

Clear Skies

Mike



CUAS DIRECTORY:

Mike Matthews, President	721-9500
Mike Conron, Vice-prez.	355-5996
Guy Hampel, Secretary	352-3690
Phil Wall, Treasurer	352-5442
Jeff Bryant, 5 th Director	840-5251
Mike Rosenberger, Obs. Dir.	598-2254
Chris Pond, Webmaster	352-5426
Dave Leake, Newsletter Ed.	359-6644
Kevin Crump, CPD	398-2372

LOOKING UP THIS MONTH

All the action in June occurs in the west-northwest after sunset. Have you seen Venus yet? If not, get out and look at your next opportunity. A few of us found it at the May Skwatch at the dome, set against the orange of dusk. Venus now technically sets after the end of the twilight – roughly 10pm CDT at midmonth. Early in the month (June 8) you can see a thin crescent Moon just above Venus.

Venus will get some company this month. Saturn begins the month about two fists (20°) to the upper left of Venus, still in the constellation Gemini. On June 9, the day after the Moon is above Venus, the Moon is between Saturn and the heads of the twins, Pollux and Castor. Watch as Venus approaches Saturn.

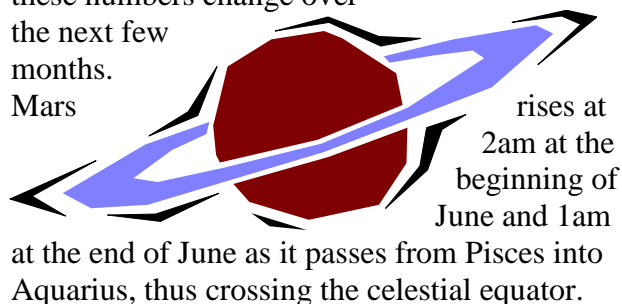
Now add Mercury. Mercury was in the morning sky for the months of April and May but now it rushes into the evening sky rising quickly from the twilight early in June. By mid-June, Mercury is already setting in the twilight (about 9:45pm), though it fades a little. So you have Venus approaching Saturn and Mercury catching up to the pair quickly. Between June 22nd and 29th the trio reside within a five degree circle, being closest on the 25th-26th. It's entirely possible to see all three planets in a very low magnification field of a telescope! Try picking out the phases of both Mercury & Venus. On June 27th, Venus and Mercury are only 0.1° apart with Saturn to the lower right. On the 27th, the pair will set just after 10pm, so check em out!

Jupiter is sort of off by itself, away from the action in the west-northwest. Still in Virgo, Jupiter stops it's retrograde (east to west) motion and resumes its eastward trek toward to Spica. A waxing gibbous Moon is just to the right of Jupiter on the 15th.

Mars is brightening as we approach it in our faster orbit. It's magnitude is still positive and it's only nine arc seconds across, but what

these numbers change over the next few months.

Mars



rises at 2am at the beginning of June and 1am

at the end of June as it passes from Pisces into Aquarius, thus crossing the celestial equator.

We don't mention Pluto very often here but it deserves a mention this month. Pluto reaches opposition on the 13th just west of the star Xi Serpentis. It's still pretty faint though!

The summer solstice occurs at 1:46am CDT on June 21st. This is the highest we'll see the Sun at noon . . . and note it's not straight up! Summer is a great time of the year . . . but that means it gets dark so late!

Lastly, I thought I'd mention something that really happens next month, but it's early next month. The *Deep Impact* mission reaches Comet Tempel 1 on the 4th of July. The probe will launch an 820-pound copper projectile at the comet and who knows what might happen when it hits. The explosion may make a nearly 700-foot wide crater and make the comet brighten considerably. How much will it brighten and how long will the brightening last (could be months)? Who knows. The last time we had an event similar to this (the Shoemaker-Levy comet impact on Jupiter), most of us in the club at that time thought that we probably wouldn't see anything but we had a special open house anyway . . . and, as we all now know, the spots were easily visible. Comet Tempel 1 will be a 10th magnitude comet about three degrees from Spica very low in the southwest. -DCL

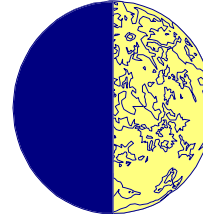
Planet	Date	Constellation	Magnitude	Distance*	Apparent Diameter
Mercury	6/21	Gemini	- 0.6	105.8	5.9"
Venus	6/15	Gemini	- 3.7	146.9	10.6
Mars	6/15	Pisces	+0.2	102.1	8.6
Jupiter	6/15	Virgo	- 2.1	475.9	38.5

Saturn	6/15	Gemini	+0.2	921.1	16.7
Uranus	6/15	Aquarius	+5.8	1840.7	3.5
Neptune	6/15	Capricornus	+7.9	2737.3	2.3
Pluto	6/15	Serpens	13.8	2786.2	0.1

* in millions of miles from Earth

Moon Phases:

New	June 6	July 6
1 st Quarter	June 14	July 14
Full	June 22	July 21
3 rd Quarter	June 28	July 27



CUAS NEWS

Construction Alert! . . . they are once again working on the perimeter drive at Parkland College. The drive approaching the planetarium from the south is currently *closed* but the planetarium’s main entrance is open. If you’re attending a CUAS meeting, considering coming to Parkland via the Duncan Road entrance and parking in the M-1 lot just north of the planetarium.

Junior Stargazers news . . . thanks to Phil Wall, JS now has a spot on the CUAS web page. There are three activities on there already with more to come. Dave Leake will be contacting our groups to tell them about the site and invite them to an upcoming open house. Phil would like to put more web links on the page to sites that are intended for kids into astronomy. Send any possibilities to Phil.

T-shirts . . . yes, we have them and an inventory was done. By size we have 15 XLs, 13 L, 8 M, 2 Youth Large and 3 Youth Mediums. By design we have 11 Hawking shirts, 10 Moonscape, 3 Eclipse, 3 ploychrome star chart, and 14 Mars shirts (including all the youth shirts). Each shirt is \$10 for members.

Phil Wall proposed an **amendment** to our by-laws. By the by-laws of the club, an amendment must appear in the newsletter for one month before it can be voted upon. We should vote on this at the June meeting. The proposed amendment reads:

Addition to ARTICLE VIII. THE TREASURY
 or the discretion of a CUAS member he so delegates, authorize spending 6. The President may, at his discretion of up to \$50.00 on a case-by-case basis. He will report any such expenditure to the treasurer who will then include it in his report at the next regular monthly meeting.

Star party! Guy Hampel and Mike Matthews will be making a trip down to Walnut Point State Park (or actually south of the park) to check out the site for the star party this year. After discussion, it was decided have the star party on the weekend before Halloween and not in August – please adjust your calendars! Oct. 27-30, 2005.

This month and next, Dave Leake will be looking for speakers for the 2005-2006 academic year’s **“World of Science” Lecture Series**. If you know of any speakers or any topics that you feel are

current, give Dave a holler at dleake@parkland.edu. Dave is looking at having people speak on the tsunamis, maybe Mt. St. Helens, the Florida hurricanes, bird flu, and maybe dark energy. Any other suggestions?

Yes, it's early for this, but put Sunday, November 6 on your calendar as a **CUAS Marswatch** just outside the planetarium at Parkland College. Many of you will remember the crowd at Meadowbrook Park! It will be chillier for this event, so we'll have the planetarium lobby for a warm room, plus we can sell Mars T-shirts.

The Staerkel Planetarium will once again offer their "**Backyard Astronomy**" workshop this fall, running for five weeks starting September 27th from 7-8:30pm. Look for the fall "Live & Learn" brochure (which should be mailed to every household in the district in early August) for registration information. The class is for beginners who would like to learn how to read a star chart and find the planets.

Treasurer's Report: As of May 23, Treasurer Phil Wall reports: Income May 2005:

\$13.00 prorated renewal and key fee
\$20.00 for 2 T-shirts
\$15.00 new membership
\$48.00 Total

Financial resources
\$47.00 checks and cash to be deposited
\$101.00 in petty cash envelope
\$2301.33 in checking account
=====

Expenditures May 2005
\$97.19 to State Farm for additional insurance

\$2449.33 Total

For Sale: 10" F/6.8 homemade truss-tube Dobsonian telescope. The primary (recoated in late 2003) is plate glass, 1.25" thick, and cools quickly. The secondary cage stores in the mirror box. The scope has a tube shroud. Has won multiple awards. Price is \$1600. (New scopes of this size sell for \$2500+.)

I'm willing to help/advise with minor modifications. Pictures can be seen at: http://bi-staff.beckman.uiuc.edu/~melockwo/telescopes/10in_F6p8/10inF68.html Contact: Mike Lockwood, email: melockwo@uiuc.edu, Phone: 398-9778

If you want to get your club news fast, please subscribe to the **Cuas-l email list**. Sometimes people will email and say they will be observing that night and will ask for people to join them. There is also news of new comets and possible auroral displays. To subscribe, just go to the Cuas-l web page at <https://mail.prairienet.org/mailman/listinfo/cuas-l> and follow the subscription directions. Email cuas-l@lists.prairienet.org to post.

OBSERVATORY NEWS!

The Grand (Re)Opening for the CUAS Observatory has our Skywatch in July, the date being July 9. If possible, CUAS try to get out to the dome early (while the Sun is still up . . . maybe some solar observing and T-shirts will also be available. get a look at the refurbished telescope in the daylight if they to be able to paint the base of the mount the same color as the fork. Hopefully we'll get some TV coverage. We also need someone to chair this event . . . which doesn't mean do all the work, but coordinate efforts. Might YOU be interested?



been planned for members should 7:30pm) for People can also wish. We hope

The scope is doing great, though it does seem to lose fine collimation easily. Mike Conron put a stiffer spring in the declination axis to put more friction in the motion. He also put some light oil in the

RA bearings to free them up a bit. Mike Matthews has a friend who will look at the RA shaft and bearings soon.

The club voted unanimously at the May meeting to spend funds (about \$200) on a Hobo unit to remotely measure temperature and humidity inside the observatory.

Another note on insurance . . . if you're a dome keyholder, the club voted to allow you to take any of the portable instruments at the observatory (including the two 8-inch Dobs, the Meade SCT and the 16-inch truss tube Dob) off site for personal use BUT YOU MUST obtain permission from the president AND the instrument must be returned by the next open house date. Know that by borrowing a telescope, the instrument and all accessories are now *your responsibility!* Any breakage must be covered by you.

There was talk of doing a possible fundraiser to eventually drive the telescope. We will need to show need and demonstrate use (who and how many use the telescope).

Thanks to Mike Matthews for obtaining a cloth tarp to go over the telescope to replace the old one that had been chewed up a bit. The cloth will allow the instrument to "breathe."

The Mow List returns! If you want to be on (or removed) from the list, email Dave Leake. When you mow, contact the next person immediately so they can plan when to go out and check the lawn. Thank you!

- | | | | |
|---------------------|-----------------|-------------------|----------------------|
| 1) Mike Rosenberger | 4) Mark Prather | 7) Wayne James | 10) Willard Brinegar |
| 2) Dave Leake | 5) Jeff Bryant | 8) Bob Rubendunst | |
| 3) Mike Matthews | 6) Guy Hampel | 9) Audrey Ishii | |



LOOKING AHEAD

June 4 New Moon Observing 8pm-? Observatory
Grab some mosquito spray and join us for some (relatively) dark sky observing!

June 9 CUAS Club Meeting 7-8:30pm Staerkel Planetarium
Guy Hampel will talk about "What If?" entertaining questions like "what if the speed of light isn't constant?" We'll vote on the amendment to our by-laws and talk about the upcoming open house. Maybe we'll have some October star party news, too.

June 11 CUAS Family Skywatch 8:30-10:30pm Observatory
Join us for a night under the prairie sky! The observatory can be found by taking I-57 south of Champaign to the Monticello Exit. Go 1.4 miles west and turn left on County Road 700E. The observatory is 0.8 miles down this road on your left. Call 351-2567 for more directions and cancellation notices. All observing events are weather permitting.

June 17 Summer Prairie Skies opens 7pm Staerkel Planetarium

July 2 New Moon Observing 9pm-? Observatory

July 4 Deep Impact/Tempel 1 Observing? Midnight Observatory

July 9 CUAS Family Skywatch 7:30-11pm Observatory
Our public event for the month and also the Grand (Re)Opening for the observatory instrument. Come early and join the festivities, plus see the telescope.

July 14	CUAS Club Meeting	7-9:30pm	Staerkel Planetarium
July 30	Family Camp at Allerton	6-8pm	Allerton Park
<p>The culmination of camp at Allerton is a night hike and cookout. Afterward, they're looking for a few telescopes to share the sky. The theme for the day is . . .ah . . ."night!" About 60 people (families with all ages) are expected, though many of the younger ones may not stay. Give Mike Matthews a yell if you can help out! Allerton Park is on the other west side of Monticello. Note this is not like the typical Allerton sessions we have had in the past. The observing will obviously not start right at 6pm!</p>			
August 6	New Moon Observing	8-?	Observatory
August 11	CUAS Club Meeting	7-8:30pm	Staerkel Planetarium
August 11-12	Perseid Party	10pm-?	Observatory
<p>Wanna watch meteors at the Observatory? Rates will pick up after midnight. Be sure to dress warm (it gets cold in the country in August at night), comfy chair and mosquito spray.</p>			
August 13	CUAS Family Skywatch	8-10pm	Observatory
August 20	DAAC Astronomy Jamboree	7-11pm	Friends Creek Park
September 3	New Moon Observing		Observatory
September 8	CUAS Club Meeting	7-8:30pm	Staerkel Planetarium
September 10	CUAS Family Skywatch	7-10pm	Observatory
September 20	Registration deadline for workshop		
<p>The planetarium's "Basic Astronomy" workshop for beginners will start a week from tonight, but this is the deadline for registration. See the fall "Live & Learn" brochure for registration information.</p>			
September 23	Fall Prairie Skies Opens	7pm	Staerkel Planetarium

CHECK OUT ALL CLUB EVENTS ON THE CUAS HOME PAGE:

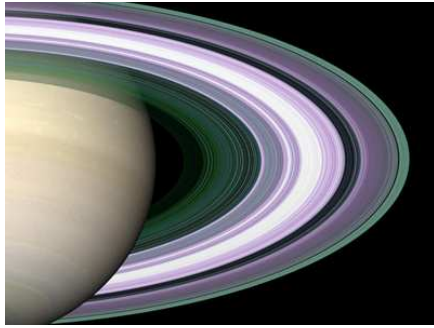
<http://www.prairienet.org/cuas>

ODDZ & ENDZ FROM THE COSMOS

Item: *Voyager 1*, launched 26 years ago, appears to have found the termination shock where the solar wind from our Sun slows down and becomes hotter and denser. This alters the magnetic field, which is detectable. The probe is 8.7 billion miles from the Sun. It blows my mind that we can still track something that far away! Charged particles from the Sun are still cruising along at around a billion miles per hour, but they slow when they meet the thin interstellar gas lurking between the stars.

Item: We had a solar flare in January that created a shower of protons. While this is fairly normal, the effects of the flare usually take several hours to cross space and get to the Earth. The flare in January took 15 minutes to get here. Oops! The flare itself was one of the largest seen in the last 50 years! This is significant if we want to warn astronauts in the space station or space shuttle.

Item: The *Cassini* probe crept behind Saturn's rings and sent radio signals towards the Earth. We can determine a lot by see how the rings affect the signals. The B-ring appears to be lacking particles less then 2-inches in diameter, but these particles are common in the C and outer A-rings. Part of the B-ring is about four times as dense as the A-ring.



Item: In other Saturn news, the picture at right was taken on April 5 of the moon Enceledas (314 miles

in diameter) and the rings. The rings are interesting here as the amount of dust in the icy rings affect their color but particle size can affect their apparent brightness. The 7th satellite discovered by *Cassini* was just found in the Keeler ring gap. It's about 4-miles in diameter and its mass causes some ripples in the nearby rings. The total number of moons at Saturn now equals 50! Jupiter still leads the way at 63 moons.



Item: The first solar sail, *Cosmos 1*, will be launched by a Russian submarine in the Barents Sea. Sponsored by the Planetary Society, the test satellite will

deploy eight triangular sails 15-meters long in it's nearly circular and nearly polar 800-km high orbit. In theory, radiation pressure from the sun will "push" the sails. Here's the cool part . . . we should be able to see this. Can't say just where yet, but consult www.heavens-above.com after launch and search for "*Cosmos 1*."

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*	\$29
<i>Sky & Telescope</i> renewal*	\$33
Donation	\$ _____
Total Enclosed	\$ _____

*enclose mailing label

Detach and mail to:

C.U.A.S.
 C/o Phil Wall
 607 West Healey #11
 Champaign, IL 61820

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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
C/O William M. Staerke Planetarium
Parkland College
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