

NCRAL CONVENTION 2004



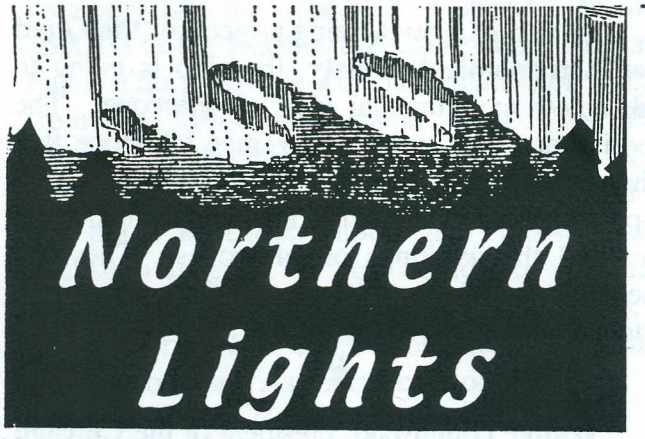
The members of the Southeastern Iowa Astronomy Club invite you to join them in celebration of their 20th Anniversary at the *Convention of the North Central Region of the Astronomical League* on Saturday, May 1, 2004.

Contact Vicki Philabaum, NCRAL Registration, P. O. Box 74, Burlington, IA 52601.



More information is inside





Newsletter of the North Central Region of the Astronomical League
Paul R. Castle, Editor
2535-45th Street, Rock Island, IL 61201





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NORTHERN LIGHTS
APRIL 2004

FROM THE EDITOR:

2004 may be remembered either with fondness or frustration by the amateur community, because of one single event that occurs this coming June. The Transit of Venus.

Some of you may have been fortunate enough to see the transit of Mercury late in the afternoon of November 15, 1999. Venus' passage will be even more spectacular and due to its angular size it is even a naked eye object. (Venus is almost 2-1/2 times larger than Mercury, and much closer to us.) Despite all the hoopla surrounding the near approach of Mars last year, Mars is NOT the closest planet to us. Venus is (on the average).

The last time our nearest planetary neighbor glided across the solar disk was in 1882. Venus does not generate the excitement of Mars for several reasons, not the least of which is it is entirely covered by a dense cloud deck which obscures all surface features visually. Also, when it is closest to us, it is invisible, for we are looking in the same direction as the Sun. But in past centuries there was great excitement in the astronomical community over the transit.

Why? All we see is a silhouette. We actually have learned from this phenomenon. For example, we found that Venus has an atmosphere, and with transit timings we also acquired a better idea of the scale of the solar system.

What about 2004? We no longer need to time the transit, since radar has provided much more accurate information on solar system scale. It is now simply a matter of esthetics and the desire to witness or photograph a rather rare event.

Even though the entire transit lasts more then six hours, unless you are Africa or Asia you will only see a partial transit.

First Contact 5:13:29 UT
Second Contact 5:32:55
Halfway across the solar disk occurs at 8:19:44, 3:19:44 AM CDT (Sunrise in our area is around 5:28 at about 60 degrees azimuth or about east, northeast.)
Third Contact 11:06:33, 6:06:33 CDT
Fourth Contact 11:25:59, 6:25:59 CDT

So dust off your solar filters. Even though first and second contacts cannot be seen from the United States and the Sun will rise with the transit already in progress, at our longitude there will still be about 38 minutes of transit viewable and it will be about 5 degrees up in the sky (about ten sun diameters) when the whole thing is over. I'm looking forward to it.
PRC

Send copies of your newsletters to:
Paul R. Castle
NCRAL Sec/Treas.
2535-45 Street
Rock Island, IL 61201
Or electronic communication to:
prc29@aol.com
(If you use E-mail, be certain to state in the subject line what it is so I don't assume it's junk mail. amd delete it.)
Deadlines for publication are March 1st, June 1st, September 1st and December 1st.
PRC

AROUND THE REGION

As part of a revitalizing project for **the Quad Cities Astronomical Society**, the club is going to build a new experimental type of telescope. The scope is not going to be the average telescope that we have all come to know, and will challenge them all, pushing their knowledge and understanding of optics and the workings of telescopes. They are gathering materials for it now with the construction due to start sometime in the spring.

Walter Glogowski, president of the **Chicago Astronomical Society** has been chosen by NASA as one of 14 highly skilled Educator Ambassadors who will attend a ten day intensive seminar at Stanford University. There he will work on the Gamma-Ray Large Area Space Telescope. This observatory is designed to probe the super-high-energy emission from black holes and exploding stars and gravitational wave astronomy during July of 2004. The Ambassadors will test the material in their classes then disseminate it to other teachers.

John Varn of the **Cedar Amateur Astronomers** has earned the Astronomical League's *Caldwell Observing Award.*

Anthony Kroes of the **Neville Public Museum Astronomical Society** has earned his *Meteor Observing Club Certificate*, **Jim Vareka**, also of the **NPMAS**, has received his *Caldwell Observing Award*, **Dick Francini** has completed his *Honorary Messier Observing Award* and the *Lunar Observing Club Award.* **Amy Hannon-Drew**, also of the NPMAS, has also completed the *Lunar Observing Award.*

✸

Sharon Stauffer, president of the **Rockford Amateur Astronomers**, announced that the format of their normal meetings has been changed to allow for more member participation. Business meetings will now be every other month and will be followed by observing, socializing or other astronomically related activities. The other months will be dedicated to formal programs and presentations. The new format will put the emphasis on fun instead of business..

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At a recent meeting of the Board of the Peoria Academy of Science, the directors of the Geology Section approved a motion to donate $500.00 to the North-Moor Observatory Restoration Fund. This follows a previous donation of $1,200.00 from the Academy's general fund. The **Peoria Astronomical Society** reminds us that science education is critical in our society and that astronomy education should not consist solely of television specials. If you would like to donate to this worthwhile project, send your donations to:

North-Moor Observatory Restoration Fund
c/o Peoria Astronomical Society
P.O. Box 10111
Peoria, IL 61612-0111
Their web site is
http://www.astronomical.org

✸

For the first time, two local astronomical societies have joined together to co-host an NCRAL convention. The **Neville Public Museum Astronomical Society** and the **Door Peninsula Astronomical Society** have agreed to co-host the 2005 NCRAL convention. The convention will be held in Sturgeon Bay, Wisconsin April 29-30, 2005. **Ray Nancoz** is the convention chair.

✸

The move and restoration of the 24-inch Boller & Chivens Cassegrain telescope that the **Cedar Amateur Astronomers** acquired from the University of Iowa continues to progress along. Mirror silvering needs to be done, but otherwise the scope is ready to be used as it was before the University decommissioned it. The 4400 pound instrument has a cassegrain focal ratio of f/16.

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In the newsletter of the **Popular Astronomy Club** it was reported that 3,374 people have had the opportunity of using the club's unique Mobile Observatory. The club recently added an Astrovid Stellacam EX to the mobile observatory's equipment inventory.

✸

February 19th was the anniversary of the issuing of the Charter in 1867 establishing the **Chicago Astronomical Society** as a permanently tax-exempt Illinois, Not-for-Profit Corporation. **The Observer**, newsletter of the CAS also noted that on that same date in 1600 Giordano Bruno was burned at the stake in Rome because he refused to recant that "...all the stars are other suns."

The NCRAL has received a nice thank-you card from **Richard Schmude, Jr.**, Secretary of the Astronomical League. "I would like to thank you for your generous donation of $900.00 towards the ISS-AT project. As you probably know the ISS-AT telescope was recently moved and everything seems to be moving along nicely."

ALPHA CENTAURI

Some interesting news is in order about our nearest star neighbor at just 4.3 light-years distance- or 52 light-months, the Alpha-Centauri system.

A-C is actually three stars, Alpha, Beta, and Proxima. The first two are G-types similar to Sol, orbiting each other in 80 years time at a distance apart the equivalent of Uranus from our Sun. However, tiny Proxima is immensely farther away from the other two, actually a whole two light-months away. By comparison, Pluto is only 0.008 a light-month away from Sol. Proxima is so far away

from the other two that it takes millions of years to orbit them, the total orbit time still is undeter-mined.

Proxima is actually the nearest star to us, being those two light-months closer than the other pair in its current orbital position. Recent measurements now reveal that Alpha is .23 times Sol's diameter, and Beta is 0.87 times. Proxima is a tiny red dwarf, so small that it is only one-and-a-half times the diameter of Jupiter, but with 150 times its mass. As such, it is just above the threshold of being a brown dwarf, meaning that it was barely massive enough to initiate a feeble nuclear fusion.

There is a possibility that the A-C system harbors even more stars such as Proxima, or brown dwarfs. It is also a probable candidate for containing planets, and Hubble will soon be programed to look for all three types. However, any planets orbiting the two larger stars would be poor prospects for harboring any Earth-type characteristics. With the companion star only the distance of Uranus away from any rocky inner planets of the other, the tremendous mass of the opposing star would be constantly bombarding the other's planets with a blizzard of space debris and asteroidal chunks from the equivalent of their two Asteroidal Belts. When we consider how Jupiter's (in comparison) feeble gravity is continually flinging asteroids and comets at Mars and even Earth one can imagine what would be going on in exchange between Alpha and Beta. Moreover, the closeness of the two stars could cause the planet(s) of one to be snatched away regularly by the other in a cosmic game of juggling that could send one's planets soaring far away into a multi-century elliptical orbit.

As for any planets circling Proxima, although they would be much safer from the gravity effects of Alpha and Beta, they would still get, over eons of time, an accumulated onslaught of Alpha's and Beta's space debris from their star wars, and the feeble dim glow from the tiny red dwarf would do little to encourage any evolution of life-even if that could survive the bombardments.

Jay Wichmann

An apology to Mr. Wichmann, I have misplaced the newsletter with Mr. Wichmann's article and cannot give his club affiliation. E-mail me and I will give the club's name in the next issue. (Ed.)

OF SIGNS AND BABIES

"I'm a Leo, can you help me find my sign in the sky?" How often have you heard a similar remark? A while back our club was one of many local organizations invited to set up a booth at a local festival. Always eager to promote astronomy we made ready a display. As part of our display we gave away astronomy literature which included lunar maps and all-sky maps. It was when people picked up the all-sky maps that I often heard the question, "Is my sign on here?"

Astrology has always been a pet peeve of mine. It goes against everything I know and believe in. I have never understood how people can believe in something so unscientific, illogical, irrational and anti-biblical. Yet you have probably heard it said, "There are more traumas in the emergency room when there is a Full Moon." Or perhaps, "There are more babies born during a Full Moon than at any other time." Hold it! Did they say, "There are more babies born..?" Now there, I thought to myself, was something I could investigate.

Birth announcements are listed in the newspaper every day. So, in April of 1993 I began recording every daily birth announcement from my local newspaper. After a period of one year I plotted the numbers of births alongside each lunar phase.

Since the general public does not keep track of lunar phases, they simply decide visually whether or not the moon is full. It is difficult to tell exactly when the Full Moon occurs. To most people it appears to be a Full Moon if it is a day on either side of the actual full phase. Therefore I picked a three day period centered on Full Moon and called this period Full Moon. This would give the followers of astrology an even greater possibility for having their beliefs confirmed.

What were my findings?

Out of twelve lunar months the highest birthrates occurred during Full Moon only four times. The highest birthrates occurred during the First Quarter phase four times, during the New Moon phase twice and during the Third Quarter phase five times. I should explain that these high birthrate times add up to more than twelve because there were some ties. For example, in February of 1994 both New Moon and First Quarter tied with a high of eleven births.

Obviously throughout the year, births occur at random intervals and are not tied to any lunar phase. Followers of astrology take note!

Paul R. Castle, Popular Astronomy Club

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REGIONAL REP.

David Bachtell (Same as Julia)

If you as a NCRAL member have anything astronomically related that you want to buy, sell or trade, why not **advertise it in *Northern Lights***? Simply send the information to:

Paul Castle
Editor, Northern Lights
2535-45th Street
Rock Island, IL 61201

I believe this is a service the newsletter should provide for our region. If this becomes a big success we might have to come up with some guidelines and/or fees, but for right now it is simply up to me to insure that the ads are appropriate. Keep in mind that *NL* is only a quarterly, so it might take a while for the ad to appear. **Your ad has the potential of reaching 2,330 fellow enthusiasts right in our own midwest.**

THE UNIVERSE AT WARP SPEED

It is impossible for us to realize just how large the universe is. It is equally difficult to comprehend the distances involved between astronomical objects, even those with which we think we are familiar.

Here is something I have used in my astronomy classes when trying to convey these distances. I think some of them will confound even those of us who are "old hands" in dealing with astronomical objects.

Most of my students are familiar with the popular *Star Trek* television series and movies. In that genre the starship *Enterprise NCC 1701-D* of *The Next Generation* fame has a cruising speed of Warp 6. When you look into the *Star Trek Technical Manual* you discover that Warp 6 translates into the equivalent of 392 times the speed of light. Fast! OK. So how long would it take to get to various objects at 392C? Let's take a look.

Object	Distance in Light Years	Time
Alpha Centauri	4.5	4.2 days
Sirius	8.7	8.1 days
Altair	17.0	15.8 days
Vega	26.5	24.7 days
Mizar	88	82.0 days
Not bad so far, eh?		
Helix Nebula	350	10.6 months
Deneb	540	1.4 years
Betelgeuse	640	1.7 years
Rigel	900	2.3 years
Dumbell Planetary	1,000	2.5 years
Horsehead Nebula	1,200	3 years
Ring Planetary	1,350	3.4 years
Orion Nebula	1,800	4.6 years
Lagoon Nebula	4,850	12.4 years
Double Cluster	7,000	17.9 years
M-13 Globular	25,000	63.8 years
Andromeda Galaxy	2,200,000	5,612 years
Whirlpool Galaxy	37,000,000	94,387 years

By now I think you get the idea. SPACE IS BIG!

Paul R. Castle, Popular Astronomy Club

WINTER THOUGHTS

❄

I hate the cold!
I hate the cold!
It freezes my bones
And makes me feel old!

❄

I hate the cold!
I hate the cold!
I know it sounds
obsessively bold
But I truly believe
if the world were polled
I bet they'd vote
against the cold!

Marrietta Castle, Popular Astronomy Club

BOOKS AND MAGAZINES FOR SALE

Making Your Own Telescope by Allyn J. Thompson, c1951

Telescope Making by N.E. Howard, c1959

Amateur Telescope Making by Scientific American, c1928

Descriptive Astronomy by Forest R. Moulton, c1921

Amateur Telescope Making by Scientific American I, c1966

Amateur Telescope Making by Scientific American II, c1965

Amateur Telescope Making by Scientific American III, c1964

Six soft-cover books from American Scientific, c1955-1966 (Covering telescopes, astronomy, optics, spectroscopes, etc.)

One kit to grind a 4-1/4-inch Newtonian reflector (already started) for an f/5 rich-field design.

The books are $6.00 each or all eight for $40.00. The mirror grinding kit, $10.00.

Fred J. Wallace
5803-Taylor Street
Davenport, IA 52806
(563) 386-2646

NCRAL CONVENTION 2004

The members of the **Southeastern Iowa Astronomy Club** are celebrating their 20th Anniversary by hosting the North Central Region of the Astronomical League's 2004 Convention.

Activities will begin on Friday the 30th of April with viewing at the Southeastern Iowa Observatory Complex. 7PM until midnight. Electrical power is available. The Complex began in 1985, dedicated in 1987. The main dome houses a 12-inch Alvan Clark and Sons refractor. In the mid 1990's a second building with a roll off roof was added which houses an 8-inch Fecker triplet and the scopes of various club members. A third building contains a 16-inch classic Cassegrain.

The convention itself will be held on Saturday, May 1st from 7PM until 10PM at the Southeastern Community College, 1500 West Agency Road, West Burlington, Iowa in Building 400.

A block of rooms has been made available at the AmericInn Motel near the college campus at 628 South Gear Avenue in West Burlington.

One to two persons: $65.95

Three persons: $71.95

Four persons: $77.95

The AmericInn may be contacted at 319-758-9000 or toll free at 1-866-758-9854 or by e-mail at americinn@mchsi.com.

There are other motels in the area.

The convention will feature an Astro Art and Photo Contest and a Vendors and Display area.

The Banquet Speaker will be Dr. Donald Gurnett. He is the Carver/J.A. Van Allen Professor of Physics and Astronomy at the University of Iowa. Professor Gurnett specializes in the study of space plasma physics and has participated in 25 spacecraft projects.

Paid registration mailed before April 1st is $25.00/person. Postmarked after April 1st, $40.00/person. The Banquet Buffet is $15.00/person. Souvenir T-shirts and group photographs may also be ordered.

Registration forms can be obtained from Vicki Philabaum, NCRAL Registration, P. O. Box 74, Burlington, IA 5260. Or by e-mail at dpphilabaum@mchsi.com.

LAST MINITE ADDITION: CHECK OUT THIS VENUS TRANSIT WEB-SITE HTTP://WWW.TRANSITOFVENUS.ORG

REGISTRATION FORM

Please complete each section below.

List the name(s) of registrants as they are to appear on the nametags: PLEASE PRINT CLEARLY

_____

_____

_____

ADDRESS :_____

_____

PHONE NUMBER :_____

_____

ASSOCIATION: _____

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+

REGISTRATION FEE INCLUDES LUNCH AND REFRESHMENTS DURING THE DAY.

REGISTRATION FEE:

Mailed before April 1 $25 x _____ (NUMBER REGISTERED) = $ _____

OR

Mailed after April 1 $40 x _____ (NUMBER REGISTERED) = $ _____

BANQUET BUFFET $15 x _____ (NUMBER DINING) = $ _____

Note: People not registered for the convention are welcome to dine at the banquet.

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+

T-SHIRTS: Please indicate number of T-shirts in sizes desired. The T-shirt design is shown in the center at the bottom of this form. The color of the shirt is midnight blue with the logo in white.

SMALL MEDIUM LARGE X-LARGE XX-LARGE

_____ _____ _____ _____ _____ TOTAL x $15 = $_____

GROUP PHOTOGRAPH 8 x 10 NUMBER DESIRED _____ x $10 = $_____

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+ MAIL TO: VICKI PHILABAUM, NCRAL REGISTRATION, P.O. BOX 74, BURLINGTON, IA 52601

GRAND TOTAL $ _____

MAKE CHECKS PAYABLE TO: NCRAL CONVENTION
SEND REGISTRATION FORM WITH PAYMENT TO:



