

# THE PRAIRIE ASTRONOMER

The Official Newsletter Of The Prairie Astronomy Club, Inc.

November 2004

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## PROGRAM

### November programs:

#### What's Up In December - Bob Leavitt

Astronomical events, along with easy and challenging deep sky objects in the December night sky. Winter offers some great observing opportunities. This program features targets of interest to motivate your wintertime observing.

#### The NexStar GOTO System - Dave Knisely

Learn how the NexStar system works and see it in operation before it is installed on the deck at Hyde.

**PAC-LIST:** You may subscribe to the PAC listserv by sending an e-mail message to: [imalsrv@prairieastronomyclub.org](mailto:imalsrv@prairieastronomyclub.org). In the body of the message, write "Subscribe PAC-List your-email-address@your-domain.com"

For example:  
Subscribe pac-list stargazer@myISP.com

To post messages to the list, send to the address [pac-list@prairieastronomyclub.org](mailto:pac-list@prairieastronomyclub.org)

### READ THIS NEWSLETTER ONLINE

Those who wish to help with publishing and postage costs by receiving only the on-line version of the newsletter should contact Liz Bergstrom at 464-2038. Mark Dahmke can give you the logon account and password for access. You may receive both the mailed version and the on-line version if you wish. A printable PDF version of this newsletter is also available through the website.

## CLUB EVENTS

### PAC Meeting 7:30pm

Tuesday, November 30, 2004

### Club Star Party

Friday, December 10, 2004

### PAC Meeting 7:30pm

Tuesday, December 28, 2004

Speaker will be Larry Stepp

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The Prairie Astronomer is published monthly by the Prairie Astronomy Club, Inc. Membership expiration date is listed on the mailing label. Membership dues are: **Regular \$30/yr, Family \$35/yr.** Address all new memberships and renewals to: **The Prairie Astronomy Club, Inc., PO Box 5585, Lincoln, NE 68505-0585.** For other club information, please contact one of the club officers listed on the last page of this newsletter. Newsletter comments and articles should be submitted to: **Mark Dahmke, PO Box 80266, Lincoln, NE 68501 or [mdahmke@4w.com](mailto:mdahmke@4w.com),** no less than ten days prior to the club meeting. The Prairie Astronomy Club meets the last Tuesday of each month at Hyde Memorial Observatory in Lincoln, NE.

## Secretary's Report

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President Dave Knisely called the meeting to order, no new visitors.

The annual PAC/OAS banquet was held Oct. 8, 2004 at Mahoney State Park. A good time was had by all. At the banquet, OAS presented PAC with \$300.00 for expenses. The next PAC/OAS banquet is currently scheduled for Oct. 7, 2005.

The next PAC star parties are scheduled for November 5 and 12, 2004 at Olive Creek. The next PAC meeting will be Tuesday, Nov. 30, 2004 at Hyde Observatory. Next year's Mahoney Star Parties are scheduled for the following: May 15, June 10, July 15, August 12, and September 9. at Mahoney State Park.

Homestead National Monument has requested help at an event on Saturday Oct. 30. Lee Taylor, John Lammers and Liz Bergstrom have volunteered to help with this event.

The Astronomical League has several awards for observing accomplishments, including the well-known Messier award. If you're interested in starting a project, or have completed some, contact Club Observing Chair, Jeff King.

We are always looking for new ideas for programs. If you have an idea for a program, we'd love to hear it.

Hyde news: Hyde Observatory will be open on Oct. 27, for the total lunar eclipse. PAC members are welcome to bring their telescopes to help the public. We are also expecting a video feed of the eclipse, through Hyde's new NextStar 11-inch telescope, weather permitting, of course. If you'd like to help at Hyde, contact volunteer coordinator, Dave Churilla.

Treasurer's Report: Orders for the Royal Astronomical Society of Canada's (RASC) Observer's Handbook and Ottwell Calendars are being taken. The prices are: RASC: \$19.00 Ottwell: \$21. Orders are due by Dec. 1.

PAC Elections: Elections were held at the October meeting. The results are as follows:

President: Ron Veys

Vice President: Mark Dahmke

Secretary: Bob Leavitt

Treasurer: Lee Thomas

2nd VP(program chair): Lee Taylor

Motion to adjourn, seconded, adjourn to UNL astronomy student, Cece Hedrik's program on symbiotic binary stars.

Respectfully submitted by,

Lee Taylor

## Hyde Observatory Volunteer Schedule

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Date	Team Leader	Operators		Supervisor	Events
<b>December</b>					
12/4/04	Dan Delzell	Jared Delzell	Steve Lloyd	Dave Hamilton	
12/11/04	Bob Leavitt	Joey Churilla	Erica Block	Dave Churilla	
12/18/04	Bill Wells	Dave Brokofsky	AJ Benker	Rick Johnson	
12/25/04	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED
<b>January</b>					
1/1/05	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED
1/8/05	Jeff King	Bob Kacvinsky	Joey Churilla	Dave Churilla	
1/15/05	Dan Delzell	Cece Hedrick	Jared Delzell		
1/22/05	Bob Leavitt	Josh Machacek	Steve Lloyd		
1/29/05	Bill Wells	Erica Block	Dave Brokofsky		
<b>Summer Hours: April through September (Sundown to 11:00 PM)</b>					
<b>Winter Hours: October through March (7:00 PM to 10:00 PM)</b>					

## President's Observations – Ron Veys

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It's gonna feel a little funny standing up in front of the room and running the meeting again, instead of sitting in the audience and "going along for the ride". In case you don't remember (and if you've joined the club within the last twenty-three years, you won't), I served as President of the PAC from 1978 – 1981. In fact, the last time I was elected President of PAC:

- 1) Jimmy Carter was President of the USA.
- 2) Joey Churilla wasn't born yet (heck, his parents were probably still in high school!!)
- 3) Home computers, CD's, DVD's, and cell phones didn't exist.
- 4) Gasoline cost about 57 cents a gallon.
- 5) Everyone thought Rick Johnson would never get married.
- 6) The space shuttle had not yet flown.
- 7) Jack Dunn had hair.

My life has changed in the mean time, too. Since then I've:

- 1) Had four kids
  - a. Sent two to college (a third starts next year)
  - b. Married one off
- 2) Moved into a new house
- 3) Owned seventeen cars (by my count, plus or minus 3)
- 4) Worked at five different full time jobs (involving two career changes)
- 5) Had an artificial valve put in my heart

But some things haven't changed:

- 1) I'm still married to the same wonderful woman (Cindy, for 27 years now)
- 2) Lee Thomas still weighs around 120 lb. and still has the "golden voice"
- 3) Hyde Observatory is still open every Saturday night
- 4) Dave Knisely still isn't married (except to his telescope)
- 5) Rick Johnson still wears flannel shirts
- 6) I'm still as awed by the beauty of the stars as I have been since I was 10 years old. Astronomy is still my favorite hobby.

Someone once said that the only thing that never changes in life is the fact that things change. During my current term as President of the PAC, I hope that together we can make some positive changes to our club.

*Ron*

## An Absolutely Glorious Night! –Dave and Joey Churilla

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Sorry some of you couldn't make it out to Olive Creek last night (November 12). Those of us who were able to get out there were treated to one of the best nights of seeing I've experienced out there in a long time, if ever. The Milky Way was fantastic and I don't remember EVER being able to see so many stars (I don't know what the limiting naked eye magnitude was, but it had to be around 6-6.5).

Joey and I thought we'd be the first ones out there, as we usually are, so as soon as I got home from work we loaded up, stopped at Sonics for a quick dinner, then headed out there. We got there at 6:45 PM to find familiar faces already set up and observing. Dave Brokofsky and Neale Monks had come together and set up Neale's 8" LX90 and his TeleVue Rich Field Refractor, Erica Block and her parents were there and Erica had her 10" Dob all set up, and Jim Kavsnicka was there with his 6" Newtonian. Since we weren't worried about campers or fishermen with the cold air, we just circled around and set up by them. We were soon joined by Josh Machecek and a friend, Jack, & Bill Lohrberg with his Orion 10" XT.

As I said, the sky was just beautiful. We were treated to so many great views it would just make your mouth water. We played with the UHC and O-III filters with the Veil Nebula (a supernova remnant), being able to get several tendrils into Neale's refractor in one view using his 2" 35 mm Panoptic. In our scope, using the O-III and a 2" 40 MM eyepiece the individual tendrils stood out with a lot of wonderful detail. We then moved Neale's scope to the North American/Pelican Nebula and found it looked spectacular, especially with the UHC filter. Joey and I moved our scope NW of Deneb and followed a dark nebula, and I spent about 20 minutes just scanning Cygnus and the Milky Way with the 2" eyepiece....so many stars were visible that it looked as if someone had dropped millions of pearls of different sizes. It was stunning.

I think however my favorite sites of the night were of M31 (the Andromeda Galaxy), which easily showed its dust lane and gave up a great view of mottling, and the Sculptor Galaxy, NGC 253. I don't think I've seen this one in such glory. At first glance it had the appearance of looking out an airplane at the top of a billowing cloud. But in the 14 mm Meade Ultra Wide (83x) it showed great views of mottling with lots of detail (I thought my scope had learned to say ooh and ahh for a moment). Even more impressive (and an example of the seeing) it spanned the whole field of view, which I'd never seen it do before. At 129x (using the Nagler 9 mm) it was even more impressive showing detail I'd only dreamt of.

I think Dave B was having fun with Neale's LX90 and its GOTO capacity (Dave now wants a new job so he can buy a GOTO scope). I don't have to worry about that....I just use Joey (why spend thousands when you own the Human GOTO).

Some other sites viewed were the Helix Nebula, which came in quite well without a filter, and even better with our O-III, the Crescent Nebula, which again didn't need a filter to locate, the 37 cluster (NGC 2169), the double cluster (which showed so many stars it was breath taking). Some new stuff was found as well. Jim K added about 10 new Messiers to his list and Erica and Joey found Stephens Quintet, and group of 5 very dim galaxies in Pegasus in Erica's 10".

As things wound down Joey treated us all to views of Uranus and Neptune, and finally, just before Jim, Bill, Joey and I left we got a view of her majesty, Saturn, which had risen to about 15 degrees or so and we could see her rings in all its splendor. I think we pulled out of the parking lot at about 11:30 PM, having enjoyed 4 hours of the greatest skies I've seen around Lincoln in a long time.

But I have to say that the one thing that makes the evening, even more than the great skies, is the company of great friends. There is no doubt that Joey and I look forward to star parties like these for the views in our scope and binoculars. But I doubt we'd go out as often if it were not for the chance to see our club friends and enjoy their company.

The great skies and the hobby of astronomy give us the background and the setting, but all of you who come out with us definitely make the night.

Joey and I just wanted to say thanks.

## Aurora Reports

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### Dave Knisely:

As some of you know, I work evenings at the Beatrice State Developmental Center (BSDC) located on the northeastern side of our little town. I have been walking to and from work to try and "lighten the load", so right at 11:00 p.m., I walked out of our outpatient clinic's electric doors hoping to see a clear sky, as I like to stargaze as I walk home. I looked up and thought, "Darn clouds!". Then, I saw Polaris shining \*through\* those clouds quite plainly. Instantly, the word "Aurora" came to mind, but not just any aurora; a SUPER Aurora, the likes of which I have not seen in at least two years. BSDC has a lot of annoying Sodium vapor lights on its campus, but the auroral band was simply overpowering them, with its stunning bluish-green glow being painfully obvious all across the northern sky! I ran to the northwest exit of campus where Hoyt street runs in darkness for about half a mile, and was treated to a wide panorama of cold blue-green fire. Brilliant patches were seen moving around with sinuous arcs connecting them and hundreds of razor-thin rays streaking up towards the zenith. The auroral curtains forming were absolutely classic in their form. The arcs formed, broke up, and reformed constantly, with the rays now reaching to the zenith and the diffuse glow extending well past the zenith. Rays firing up in the eastern sky were starting to be red-tinged, and soon the red color was blazing out across the tops of the all rays. Some brilliant patches developed almost on the northern horizon, and these generated more bright rays that extended from the horizon well past Polaris. These things were as bright or perhaps brighter than almost any I can remember ever seeing. I recall a display in November a few years ago which had a little more red in it, but the rays on this one were definitely better defined. The display went from the northwestern horizon through north and on to due east, where the glow was even dimming some of the fainter stars in Orion. The top of the overall glow was definitely reddish, contrasting nicely with the greenish hue seen in the auroral bands. The brightest patches were so bright that even 2nd magnitude stars were hard to see through them. As I walked home (it was too cold to stand around in my light jacket), I noticed that I could see my own shadow dancing around on the ground! The rays were now forming vertical bands which on the eastern and western ends of the main auroral band were starting to curve slightly. The display began to calm down a bit towards 11:35 p.m., but rays continued to reach upward from most of the brighter spots in the auroral band. As I turned on a street to go north, one bright red ray lit up like a huge conical tower pointing almost straight up and through Polaris. I continued homeward and the display calmed down into a bright but low auroral band with a few brighter spots and the occasional ray. Its after midnight now, and the display is still going on as a dual-layer diffuse band with a few rays, but at its peak, this one was definitely in the top two or three displays in my lifetime.

**Jack Dunn:**

Liz Klimek, Cece Hedrick and I drove northwest of town on highway 34. We turned off north on a dirt road beyond the Kawasaki plant and got a tremendous show. We took photos on that old-fashioned film stuff and should have some developed by tomorrow afternoon. I'll post them on the planetarium site and give you the URL. We laughed at Martin's report about calculating location from knowing Rick's position - these suckers covered half of the sky! There was a tremendous "wall" of light extending in an arc from far northwest to extreme northeast. Liz compared it to a huge rainbow with its enhanced arc. And by that time we were starting to see color. The glow extended to straight overhead. There were two distinct bands in the north at times. The lower one also showed numerous flare-ups of bright sections. At one point there was a red "pillar" in the East extending some 60 or 70 degrees into the sky. I was wondering if we would hear any "sounds" for the aurora, but Cece correctly identified what we heard as some scared cows and a bunch of traffic noise from the highway.

In the morning I'll take the photos in for processing and do the scanning. Digital cameras are good, but this is something where 35 mm film should give some nice definition and richness to the colors.

All in all, the best aurora I've seen. I almost forgot that a county deputy sheriff stopped. He turned his big light on to destroy our night vision. He had gotten a report of potentially stranded motorists. We said "no" we were fine and when he asked what we were doing pointed to the sky. He turned off his lights and watched for a few minutes with us.

**Erica Block:**

WOW, this tops the other auroras i've seen the last few years... it was truly the best i've ever seen here in lincoln! well despite the fact that i should have been studying for my midterms tomorrow, i ended up driving out of lincoln and watched the auroras for a few hours. i was truly amazed by the brightness and detail displayed...they had some nice color to them too, mostly a greenish tint, with an occasional magenta or red pillar shooting up. it was really surprising how far up they were going too, some all the way stretching south past zenith! well i hope you all got to see it, it was more than AWESOME!!!

i took some pictures, hopefully some will turn out (unlike my last attempt to shoot auroras, wherein i didn't realize that the film in my camera was black and white until i went to pick up what i thought would be "colorful" aurora pictures from the developer...oops:))

**Martin Gaskell:**

If you're reading this soon after I send it (November 7), GO OUTSIDE RIGHT NOW! There is a HUGE auroral display!! It's as good as or better than the one a year ago. If you are in Lincoln, then God is doubling Lincoln's light pollution!

I first noticed it from at 8:00 when there was a bright greenish patch around the north to almost SOUTHWest (!) horizon. Between 9:00 and 9:20 the whole of the northern sky was covered with activity. I saw one impressive streamer about three times brighter than the Milky Way that went parallel to the line from due east through the zenith to due west but the streamer was 10 - 15 degrees SOUTH OF THE ZENITH! I've never seen a streamer go that direction before. There were, of course, lots more typical streamers rising straight up like search lights in the northern part of the sky.

The most impressive thing was when we stopped the car on a hill with a clear view down to the full northern horizon. Unfortunately I was now out of film in my camera. The aurorae looked like they were coming down like rain about 10-15 degrees above the horizon. There was an amazing amount of intricate detail. The aurora stopped abruptly about 5 degrees above the horizon and the bottom of the Big Dipper shone clearly through the dark sky down there. This would be looking below the earth's auroral arc.

I hope others on the list get to see some of the show. The sky is very bright in the city to the north, but to see all the fine detail you need to go out into the countryside.



# Events Calendar

December 2004						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 	2 	3 	4 
			Sun: 07:31 - 16:59	Sun: 07:32 - 16:59	Sun: 07:33 - 16:59	Sun: 07:34 - 16:58
						Hyde Observatory open to the public
5 	6 	7 	8 	9 	10 	11 
Sun: 07:35 - 16:58	Sun: 07:36 - 16:58	Sun: 07:37 - 16:58	Sun: 07:38 - 16:58	Sun: 07:39 - 16:58	Sun: 07:40 - 16:58	Sun: 07:41 - 16:59
Mars 1.25 deg from Venus		Moon occults Jupiter			Club Star Party	Hyde Observatory open to the public
12 	13 	14 	15 	16 	17 	18 
Sun: 07:41 - 16:59	Sun: 07:42 - 16:59	Sun: 07:43 - 16:59	Sun: 07:43 - 16:59	Sun: 07:44 - 17:00	Sun: 07:45 - 17:00	Sun: 07:45 - 17:00
						Hyde Observatory open to the public
19 	20 	21 	22 	23 	24 	25 
Sun: 07:46 - 17:01	Sun: 07:47 - 17:01	Sun: 07:47 - 17:02	Sun: 07:48 - 17:02	Sun: 07:48 - 17:03	Sun: 07:48 - 17:04	Sun: 07:49 - 17:04
		Winter begins				Hyde Observatory open to the public
26 	27 	28 	29 	30 	31 	
Sun: 07:49 - 17:05	Sun: 07:49 - 17:06	Sun: 07:50 - 17:06	Sun: 07:50 - 17:07	Sun: 07:50 - 17:08	Sun: 07:50 - 17:09	
	Mercury 1.25 deg from Venus	PAC Meeting 7:30pm	Mercury greatest elongation			

Moon phase images by: António Cidadão

**Directions to Olive Creek  
Observing Site**

Shorter:

Take Hwy 77 South out of Lincoln until you get to the Crete corner (junction Hwy 77 and Hwy 33). Go West on Hwy 33 (toward Crete) until you get to SW 72 St. Turn Left (South) on SW 72 St. and go about 5 miles until you get to SW Panama Rd. Turn right (West) until you get to SW 100 St. (SW 100 St does NOT go through to Hwy 33). Turn Left (South) on SW 100 St and go about 1 to 1 1/2 miles until you see the sign and entrance to Olive Creek (this is the West side of the Park). It's on your left (East) side of the road.

More Black Top:

Take Hwy 77 South out of Lincoln until you get to the Crete corner (junction Hwy 77 and Hwy 33). Go West on Hwy 33 (toward Crete) until you get to about SW 114 St. - the first intersection after SW 100 St. (forgot to look at this street sign, sorry - you'll see a sign for Olive Creek though at this road- but don't count on anymore signs after that, I didn't see any). Turn Left (South) on SW 114 St and go about 5 miles or so until you get to SW Panama Rd (you'll see a church and small school on your right). Turn Left (East) and go about a mile to SW 100 St, then turn Right (South) and go 1 to 1 1/2 miles until you see the Olive Creek entrance and sign (on your left hand side of the road).

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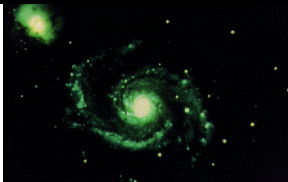
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**The Prairie Astronomer**  
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First Class Mail

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**Next PAC Meeting**  
**November 30, 2004**  
**7:30 PM**  
**Hyde Observatory**