SPECTRUM

Northern Cross Science Foundation Newsletter January 2008

LOOKING UP

January 3 Thursday
General Meeting
7:00 p.m. Astronomy 101
7:30 p.m. Business Meeting
January 5 Saturday
Candlelight Hike/Ski
6:00—9:00 p.m.
Harrington Beach State Park
January 7 Monday
NCRAL Planning Meeting
7:00 p.m.
Home of Jeff & Becca Setzer
January 11 & 12 Friday & Sat.
Mars Opposition Viewing
8—11 p.m.
Harrington Beach State Park
January 17 Thursday
Board Meeting
7:30 p.m.
Home of Joyce Jentges

February 2 Saturday
Candlelight Hike/Ski
6:00—9:00 p.m.
Harrington Beach State Park
February 7 Thursday
Annual Banquet
6:00 p.m. Cash bar
7:00 p.m. Dinner
No No's in Newburg
February 9 Saturday
Candlelight Hike/Ski
6:00—9:00 p.m.
Pike Lake State Park

President's Corner

By Joyce Jentges

The Board of Directors met in December for their meeting and to elect officers. Most officers are staying the same, except that there are several changes. This will be my last newsletter as the editor, because I am taking over as president of the Northern Cross Science Foundation. The newsletter will be put out by Rick and Mickey Kazmierski. I would like to thank them for coming forward to take on this challenge. Jeff Setzer has accepted the vice president's position which works out well, being that he is an advisor to the president now. I would like to thank Jeff for his commitment over the last few years for getting our observatory completed and up and running. I look forward to working with our new board as we have an exciting, yet challenging year ahead.

As many of you know, we are just four short months away from hosting the 2008 NCRAL convention on April 18 and 19. The next few months will be busy ones for the committee members, and we will certainly need more hands to help get the job done. Please, be open to assisting in any way possible.

I am optimistic about 2008 being a great year for our club. Last year, we saw increased attendance at observatory due in part to the great publicity done by Gene and Charlotte DuPree (and Vince Condella). It is my hope that we will get the cassigrain secondary mirror this year, and can make the cassigrain focus functional. We have many great things going for us in 2008. I hope that you will be a part of this in any way possible.

Shooting The Sky

By Jack Kraemer

(reprinted from: http://www.lcas-astronomy.org/)

So often we talk about astrophotography in terms of taking images through a telescope. But that's not how most of us actually begin. Our first adventures in astrophotography usually involve placing a camera on a tripod and taking a picture of the night sky. While this "Astrophotography 101" may not seem as engaging as telescopic images, it can yield some very impressive photos of the sky. So for those just starting out, here are some thoughts on this simple, but effective, technique.

First of all, a camera-on-tripod setup is not going to be able to follow the diurnal motion, so an exposure longer than about 10 seconds is going to show elongated star images. The closer your target lies to the north celestial pole, the less pronounced would be this star trailing. That's because objects nearer the pole move a smaller distance in a given time increment compared to objects nearer the horizon. Obviously, this star trailing becomes more pronounced if you use a zoom or telephoto lens, since you've now magnified everything.

On the other hand, there are times when you may want to purposely show star trails. Many of us have taken a long exposure aimed at Polaris in order to show how the stars rotate about the pole. We knew it all along, but it's as if we want to prove it anyhow! Also, stars show

(Shooting on page 3)

December Meeting Minutes

By Kevin Bert

The December business meeting of the Northern Cross Science Foundation was held at the Unitarian Church North in Mequon. President Jeff Setzer opened the meeting at 7:35 pm and welcomed 23 members and guests. He then asked for standard reports.

Treasurer Gene DuPree reported 1832.27 in the checking account. A $500 check was forwarded to the club from the Astronomical League to assist in organizing the upcoming NCRAL that the NCSF will host. Gene said that he would be accepting membership dues that evening.

Secretary Kevin Bert recognized new members Thomas Hudson; Peter, Terry and Terrence Knudsen; Marvin Olsen. Kevin had nothing to report from the Astronomical League. He told the membership that the treasurer had the latest membership roster.

Under old business Kevin Bert wanted to clarify the dates for two special planetary viewing events. Two nights for Mars, on January 11 & 12. Another two nights for Saturn, on March 7 & 8. Leaders to be announced in the newsletter's Looking Up section.

Under new business Jeff explained that our bylaws required us to have elections to replace board members whose term had expired. He opened nominations for the three board of directors positions that were open. Presently there were three names willing to run from last months meeting. Al Steinberg, Gene DuPree & Rick Kazmierski. After a moment of silence, Charlotte DuPree made a motion to close nominations. Chris Grenda seconded the motion. The majorities of members were in favor and responded by saying aye. Charlotte again made a motion that a unanimous ballot be cast for all three candidates and be affirmed by acclimation. Paul Gruener seconded the motion. All members were in favor by saying aye.

Ballots were available to vote on dinner selections for the NCSF annual banquet held on February 7th in place of the normal monthly meeting. The top 3 meals would then be available for the event. Details would be posted in the next newsletter.

A special thank you to Ernie Mastroianni for displaying some of his astrophotos and making some of his astronomy photos free for the taking to members.

With no further new business, Jeff closed the business meeting at 8:20 p.m.

Respectfully submitted,

Kevin Bert, secretary

January Things to See

By Don Miles

Mercury: Look low in the Southwest (about ½ hr behind the setting sun) mid thru late-month.

Venus/Jupiter: Venus will be high in the East early in the morning, and Jupiter will be rising just ahead of the sun. Early in the month, they will be separated by ~30deg. (a little larger than the distance between the Big Dipper's end handle star and the furthest star in the bucket). As the month progresses, Venus will move towards the Sun, and Jupiter will move away from the sun. The two will "cross" around the end of January with Jupiter continuing away from the Sun, and Venus sliding towards the Sun.

***Mars*:** Is high in the sky all month, and is highest around midnight, so is visible most all night long. Look for Mars in the western twin of Gemini and begins moving back towards the "horn tips" of Taurus.

***Neptune*:** Very low on the western horizon, as it sets soon after the Sun.

***Uranus*:** Still visible after evening twilight, but will set by about 9pm early in the month, but by around 7pm later in the month. Look for Uranus in Eastern Aquarius. Use a finder chart and a small telescope or even steadily held binoculars for Uranus. (One place for the finder charts for Neptune & Uranus is the July 2007 Issue of *Sky & Telescope* magazine (page 60). If you would be interested in a copy of this chart, please contact a board member, or ask at the next meeting).

***Saturn*:** Saturn is still below and to the left of Regulus (the bottom star of the "backwards question mark" that forms the head of Leo. Rises about 10:30pm early in the month, but by about 8:00pm later in the month. The planet will continue to tilt its rings from flat after its minimum in December.

Notes:

-Comet Tuttle- Watch the rapid movement over the course of the month as it moves from the "tip" of Triangulum constellation, thru Cetus and Fornax, and continues on to the "bottom" of Eridanus.

-Another Meteor Shower- Watch for the Quadrantid meteor showers thru the night of the 3rd into the morning of the 4th, with the predicted peak (possibly as many as 100/hr) being about 12:40am the morning of the 4th. Look in the general direction of the handle-end of the Big Dipper. Remember…the darker skies the better,

(January on page 4)

January Meeting

By Kevin Bert

The January 101 class is entitled "Dealing with Dew," by Kevin Bert. At one time or another a stargazer has run into the problems of dew or frost. At times it can be so bad that an otherwise good evening is cut short. Get a better understanding of this common problem and find out things that you can do to minimize dew.

The featured constellation will be Taurus.
The program will be a DVD titled *Seeing In The Dark*

CURRENT CLACK

Leaders for Public Viewings

January 5th—Gene and Charlotte DuPree

January 11th—Ernie Mastroianni and Paul Gruener

January 12th—Kevin and Dan Bert

Feb. 2—Gene and Charlotte DuPree

Feb. 9—Gene and Charlotte DuPree

March 7 & 8 need 2 leaders

See page 4 for an important reminder about registering for NCRAL 2008.

(Shooting continued from page 1)

color more prominently when they appear as a line than as a pinpoint. Thus if you want to demonstrate how wonderfully colorful the night sky can be, allow the stars to trail on your exposure. Finally, if you leave the shutter open for a long period during a meteor shower, you're likely to record some meteors as streaks of light cutting across the uniform arcs formed by the stars.

A northern lights display is probably the one case where we really don't care whether we get star trailing. Here the main focus is a colorful, shifting aurora, and no one will pay much attention to the background stars. To record an aurora well, you need a minimum exposure of about ten seconds, depending on the strength of the aurora and the speed of your film. Digital cameras are more sensitive than film, so they can yield good results with shorter exposures. Obviously, try various settings to find out which works best for your camera. Typically we tend to go overboard on exposures of the northern lights. To achieve more dramatic shots, we burn in the aurora, along with the sky background. It's a temptation I find hard to resist! This gives bright, detailed images of auroral streamers, but against an almost day-like sky. A camera can capture more detail than the human eye can discern, but we need to use this capability to end up with images that still look reasonably natural.

Long exposures with just a camera can yield some especially impressive images. You've no doubt marveled over the incredible richness of the summer Milky Way in the direction of Scorpius or Cygnus. But here we do want pinpoint star images. The secret is to use an equatorially mounted telescope as a platform for the camera to carry it along with the apparent motion of the sky - better known simply as "piggyback photography". A four or five minute exposure can reveal a profusion of stars. A piggyback adapter to fit a camera on top of your telescope is a pretty easy do-it-yourself project, or you can buy a commercially-made adapter.

If your telescope is reasonably well polar aligned, you need only aim it and turn on the drive motor when doing wide field photography. However, with a telephoto or zoom camera lens, you will need to also guide the telescope in order to make the minute corrections that will keep the stars from trailing. Here a guiding eyepiece with a crosshair reticle is invaluable to help keep the telescope platform tightly aimed at a chosen guide star. If you are imaging a comet, then it's best to guide on the head of the comet, rather than a field star. That's because comets move quickly with respect to background stars; it's common to see nice sharp images of comets with the stars showing as short trails.

While piggyback photography is much easier with a motor-driven scope, it's also possible to manually guide and move a non-driven scope, provided you don't use a telephoto lens on the camera. Speaking from personal experience, this "armstrong guiding" method is exhausting once exposures run longer than about three minutes. Nonetheless, the results can be very satisfying.

Finally, longer exposures raise the issue of "fogging" or burning in the background. A black sky is what we like to see, but in using long exposures to capture more detail, you start to get a bright sky background that detracts from the overall image. At some point, loss of contrast with the target object negates the benefit of a long exposure. That point, of course, is determined by the degree of sky glow. If the sky was light-polluted, there's not much you can do about the background if you hope to capture an object. So take lots of images at different settings to get the most pleasing rendition, balancing target image quality against sky fogging.

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Monthly Meeting Location
Unitarian Church North
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(January continued from page 2)

dress warmer than you think you need, get comfortable, enjoy.

Moon:

January 8th: New Moon
January 15th: First Quarter
January 22nd: Full Moon
January 30th: Last Quarter

Registration For NCRAL 2008

By Rick Kazmierski

The North Central Region Astronomical League 2008 Conference will soon be upon us. This is our Club's first chance at hosting this event and the Conference Committee is quite excited about the program currently in place. The Conference is being held at the Lakeview Conference Center in Port Washington on April 18th & 19th. Details regarding the speaker agenda and other Conference activities are available on the NCSF Website at www.NCSF.info.

We are asking that Club members planning to attend the Conference sign up as soon as possible. This will allow us a chance to estimate Club attendance and provide needed funds to pay for speaker arrangements. Registration forms can be obtained at the monthly membership meetings or can be downloaded off the NCSF Website.

This is another exciting year for our Club and we hope to receive your Conference Registration soon.

SPECTRUM

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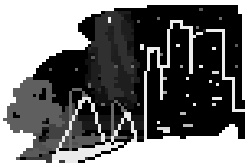

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http://www.ncsf.info