

IN THIS ISSUE:

A NOTE FROM PRESIDENT TOM WEILAND	1
THIRD 2013 POS MAY 11 TH	1
PSO AND MEO UPDATES	1
EDUCATION/PUBLIC OUTREACH REPORT FOR APRIL	2
MAGAZINE SUBSCRIPTIONS	2
NCRAL 2013 REPORT	3
CONSTELLATION OF THE MONTH: URSA MINOR—THE LESSER BEAR	3
ASTROBITS	4
MINUTES FROM APRIL 4, 2013 BOARD MEETING	4
TREASURER'S REPORT	5
HOW TIME FLIES	5

A NOTE FROM PRESIDENT TOM WEILAND

Some might say that warmer weather brings with it an opportunity for a greater variety of outdoor activities. That is perhaps arguable, but the warmer temperatures do provide for more comfortable night time astronomical viewing. Colder temperatures are certainly one of the reasons we don't have public observation sessions November through February, and although our spring and late fall events are occasionally nippy, we usually avoid the bone chilling temperatures of winter.

Besides the warmer viewing, summer also provides us with one of my favorite "objects," for viewing, the Milky Way! The sun is in the constellation Sagittarius in December so the months of November, December and January make for lousy views of the richest part of the Milky Way. The optimum viewing time is generally in the summer when the sun is on the opposite side of the sky.

Unfortunately summer in the Northern Hemisphere is also when hot, stormy, cloudy weather is doing its worst and also when the nights are the shortest. Using a planisphere, it is easy to predict when and where to look for the dense part of the Milky Way. But what must also be factored in is the location and phase of the moon. The time of year and the direction of the least light pollution will also frame the parameters for getting the best view of the Milky Way.

Generally the dense part of the Milky Way is best viewed when it is as high as possible in the Southern sky. Facing south during May and June the pre-dawn hours are best. From late June to early August the best time is near midnight. From Mid August through September the best time is soon after the sun has set and the sky has grown dark. Whatever time of day works best for you during these warmer months, I encourage you to spend some time enjoying the wondrous views as you look toward the center of our own galaxy. Hope to see you at our next Public Observation Session on May 11. Clear Skies!

THIRD 2013 POS MAY 11TH

The following is a list of public observing programs for this year. The next event is on Saturday evening, May 11th. The event will be held cloudy or clear, and will be cancelled only in the event of active rain. For detailed information about these family friendly sky viewing session, download the program brochure at http://www.tcaa.us/Download/POS_2013.pdf

Date	Time	Topic	Coordinator
May 11	8:30 pm – 10:30 pm	<i>The Expanding Universe</i>	John Werner
June 8	9:00 pm – 11:00 pm	<i>Astronomical Curiosities of Saturn</i>	Tom Weiland
July 6	9:00 pm – 11:00 pm	<i>The World's Great Telescopes</i>	Tom Weiland
Aug 10	8:30 pm – 10:30 pm	<i>Meteors, Space Rocks, and Comets</i>	Carl Wenning
Sep 7	8:00 pm – 10:00 pm	<i>Births and Deaths of Stars</i>	Lee Green
Oct 5	7:00 pm – 9:00 pm	<i>Our Galaxy, the Milky Way</i>	Lee Green

PSO AND MEO UPDATES

On Thursday, April 4th, Tom Weiland, Dave Osenga, Duane Yockey, Paul Pouliot, Carl Wenning, and Tony Cellini met at Duane's office to talk about revising terms in the draft RORO construction and observatories lease agreements. After about an hour, they devised new terms that would seem to satisfy the need for SGNC to avoid an interminable contract and for the club to be ensured a minimum period of time for using the proposed RORO. The revised contract was developed by Carl and turned over to Tom for communication to Linda Bristow. Hopefully we will hear back from them soon. There was a joint meeting of the Boards of SGNC and FGCA on April 23rd but Linda Bristow was not able to be there. We have been informed that we may move ahead with getting the construction plans sealed which signals that we probably are not far away from signing of the construction contract and lease agreement.

During early April, Carl W. asked Dr. Linda French to communicate directly with Bob F. and Tony C. to organize MEO training sessions because he was serving as little more than an unnecessary middleman. Word has it that the IWU students are now making regular use of the Celestron 11" on the CGE Pro mount and are loving it. It has been reported that this instrument far outperforms the 16" classical Cassegrain telescope that it replaced.

The *OBSERVER* is a monthly publication of the Twin City Amateur Astronomers, Inc., a registered 501 (c)(3) non-profit educational organization of amateur astronomers interested in studying astronomy and sharing their hobby with the public.

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Submission deadline is the first of each month.

Membership Dues

Individual Adult/Family \$40
Full-time Student/Senior \$25
Electronic Newsletter \$25

To join the TCAA, send your name, contact info and dues payment to
Duane Yockey
508 Normal Avenue
Normal, IL 61761

EDUCATION/PUBLIC OUTREACH REPORT FOR

With warmer weather the return of education/public outreach has begun. During the winter months the cold and cloudy conditions prevented much by way of observing sessions. Nearly four months have transpired with very little observing taking place during that time. Only with the end of April did we start seeing successive nights with moderately clear skies.

William Carney hosted Cub Scout Pack 55 at the Sugar Grove Nature Center on Tuesday April 2nd. The event had been rescheduled from March 8th when we had one of the biggest snowstorms of the year. Laresse Jeffries arranged the event and William provided a well-tailored presentation to the scouts that looked at the constellations and asterisms in the sky, the planets, asteroid and comets. He handed out sky maps and a build-your-own planisphere kit for each of the scouts as well as club schedules. Before the talk, Lee was able to show a daylight Jupiter, and afterward assisted with a tour of the observatory for the 4 scouts and 4 parents.

The club's second public observing session for the year was held on April 20th at SGNC. Carl Wenning was the coordinator of this event; he spoke about *Our Marvelous Moon*. Despite the hazy sky, scattered clouds, and temperatures in the 40s, some 40 members of the general public attended. In addition, the following TCAA members assisted or were otherwise present: Carl Wenning, Tom & Carolyn Weiland, Mike Starasta (new member), Bryce Heiniger and his father Mark, Duane Yockey, Tony Cellini, Dave Osenga, John Mori (new member), Paul & Amber Pouliot, William Carney, Brian Barling, Don Cooper, Craig Prost, Mark Cabaj, and Lee Green. There were six scopes present as well as two sets of binoculars on tripods. Tim and Bob used the SGO and allowed four youngsters (Bryce among them) to make photographs of the heavens. Bryce – who photographed M51 – was bubbling over with enthusiasm. ☺

On Saturday, April 27th, Lee Green coordinated an E/PO program at SGNC for a Scouting campout. In spite of rainy skies, 40 scouts and parents camped at the SGNC. Lee gave his *Introduction to Astronomy* presentation and, with Tim Stone's assistance, showed a telescope and explained how it works.

Future E/PO events, in addition to those already scheduled as part of public observing sessions, include the following:

- Saturday, May 4 – Location TBD – Aviation Merit Badge viewing
- Thursday May 30 – SGNC - 4-H Family Astronomy Night
- Saturday, June 1 - SGNC - Heyworth High School Alumni Reunion
- Friday June 28 – Lake Bloomington - Girl Scout Camporee
- Saturday June 29 – SGNC – Great American Campout
- Tuesday July 23 – Timber Pointe - Association of Horizon
- Friday, October 4 – Dickson Mounds – Master Naturalist Observing Session
- Saturday October 12 - Penny Frehan's Church Group

Lee Green is most graciously coordinating all these events, and assistance is needed by club members to help out. Please put these events in your calendar so that you can assist when Lee calls for help.

MAGAZINE SUBSCRIPTIONS

Both Astronomy Magazine and Sky and Telescope Magazine offer discounts to members of astronomy clubs. For information about this benefit of membership in the TCAA, contact our club treasurer, Duane Yockey

NCRAL 2013 REPORT

The 67th annual convention of the North Central Region of the Astronomical League was held April 12 & 13 in Rochester Minnesota. It was hosted by the Rochester Astronomy Club. Duane Yockey, ALCor, represented the Twin City Amateur Astronomers, Inc. at the convention, which was fairly well attended in spite of inclement weather (snow Friday and Saturday, ice on Sunday). All outdoor activities were cancelled, but the rocket group did bring their rockets in for display, rather than firing them off outdoors.

There were two showings at the Mayo High School Planetarium Friday afternoon and evening. The planetarium is one of the few situated in a high school setting. It had the old style equipment similar to the ISU planetarium, but had been updated with digital equipment. Therefore they could operate in either mode.

The theme of the conference was "Seeing is Believing". Many of the speakers were members of the Rochester Astronomy Club and also doctors associated with the Mayo Clinic. As a result, it sometimes felt like being at a medical convention.

Jay McLaren, PhD Ophthalmology, gave a talk on "The Eye". He discussed scotopic and photopic vision and their affects on seeing during day and/or night, sensitivity and acuity. Aspects of human vision relative to astronomical viewing included peripheral vision, and the fact that the human eye will see items better if they have sharp edges or are moving.

Jack Wiltsie, MD, gave a talk on "Seeing the Universe with New Eyes". Much of this talk was focused on NASA's use of biomimicry in the design of its latest generation of space telescopes. The Spitzer space telescope, which was designed for the infrared spectrum, was based upon snake eyes (which "see" in infrared). Snakes are cold blooded, so take on the temperature of their environment, which is what Spitzer did until its coolant was used up. The GALEX space telescope, which was designed for the ultraviolet spectrum, was based upon falcon and reindeer eyes. The Webb space telescope is of course based upon insect eyes (multiple lenses).

Denny Robertson, MD, gave a talk on "The Effect of Laser Pointers on the Retina". He presented the results of research studies in which human patients (who were going to have their eyes removed) looked at red lasers for varying lengths of time. The results were studied before and after removal of their eyes, and it was determined that red lasers does not cause damage to the eye. The same study was then done with green lasers with the result that green lasers can cause damage to the human eye. This is something that we need to be cognizant of when we are using our laser pointers during public viewing events..

William Sheehan, MD, gave the banquet speech on "Believing is Seeing". This talk focused on the fact that sometimes you see what you want to see or believe, rather than what is really there. This was most notable in the canals of Mars, which several famous astronomers were sure that they saw.

Other talks included "Building a 6" Refractor" (out of oak and the finished product weighed a ton, literally); "Atmospheric Optics and Unusual Weather"; "The Andromeda Galaxy and the Rise of Modern Astronomy"; and "Viewing ISS Transits" (with many great pictures of the International Space Station transiting in front of the moon or the sun).

During the business meeting, it was noted that NCRAL 2014 will be hosted by the Northern Cross Science Foundation (north of Milwaukee). NCRAL 2015 will be hosted by Fargo – Morehead. It was decided to investigate having a joint convention with the Mid States Region of the Astronomical League in 2016.



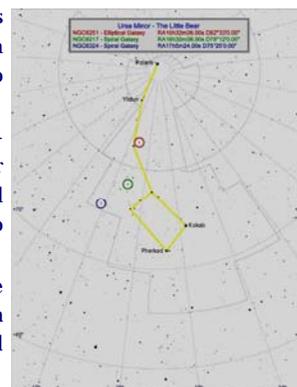
CONSTELLATION OF THE MONTH: URSA MINOR—THE LESSER BEAR

Ursa Minor is the northern-most constellation and contains North Celestial Pole. Ursa Minor, the Small Bear, is anatomically incorrect as its large brother since bears do not have long tails. However, Ursa Minor resembles Ursa Major in the general form of its brightest stars and the "Little Dipper" is a common alias for Ursa Minor. Polaris, also called the North Star or the Pole Star, is about 1° away from the North Celestial Pole.

In Mythology, Ursa Minor is said to be Arcas, son of Callisto, a beautiful maiden that Jupiter took as a lover. Enraged, Juno turned Callisto into a bear. One day, the bear encountered a young herdsman that turned out to be her son, Arcas, who was about to kill the bear when Jupiter intervened placing both in the sky as the Great and Small Bears. Juno was incensed at her rival's heavenly place and prevailed upon Oceania and Tethys, the ocean gods, to prevent the bears from ever entering the sea. Thus their place was set in the polar circle where they never set.

Ursa Minor is the 56th largest constellation covering 256 square degrees. It is the 38th brightest constellation. While it reaches opposition on May 9, Ursa Minor is a circumpolar constellation and can be viewed all year long. In addition to Polaris, two star are named. Kochab and Pherkad correspond to the Big Dipper's pointer stars and are often called the Dancers or the Guards of the Pole. Yildun is a name give the star next to Polaris.

Being far from the Milky Way, the main deep space objects found in Ursa Minor are galaxies and most of these are rather dim. NGC6251 is and elliptical galaxy, NGC6217 and NGC6324 are spiral galaxies.



ASTROBITS

- ★ New club member John Mori noted that we might want to check out the following web site as a source of good sunspot data: <http://www.raben.com/maps>
- ★ Tim Stone, Carl Wenning, Arif Hidayat, William Carney, and Bob Finnigan spent the evening of April 1st observing at SGNC. Carl and Arif saw Comet Panstarrs for the first time, and Tim and Bob photographed it. It was positioned just below M31, and was very near the horizon. According to Carl, he last observed it at 8:44 p.m. when the nucleus of the comet was only 6 degrees above the horizon. The tail was clearly visible in his CPC 11-inch telescope.
- ★ Recently, while moving items around in the SGO storage area, Bob F. came across a detailed set of architectural drawings by Donald F. Gronert dated October 16, 1998. The drawing detail what have might have been a \$250,000 (or more) Sugar Grove Observatory with circular concrete ramps, a classroom, restroom, storage area, and more. The club's efforts resulted in the present more modest SGO recently valued at \$55,000 by SGNC (minus equipment of course). The plans will be added to the club's historical materials bank maintained by the Historian.
- ★ Tim Stone similarly found a copy of the club's first insurance policy at SGO recently; this historical copy has be turned over to the Historian for safe keeping.
- ★ Tim, Bob, and Carl spend part of the evening on April 4th conducting photographs with the recently returned 10-inch "Tak" reflector resting atop a loaned Celestron CGE Pro mount. Using a Canon T1i camera to photograph various regions of the sky, they were able to determine that this new telescope is far superior to the Serial #2 issue provided more than a year ago.
- ★ Having completed his work at Illinois State University, Mr. Arif Hidayat returned to Indonesia on April 17th. He is looking forward to returning in January 2014 when he hopes to begin graduate studies at Illinois State University. Carl will be visiting with Arif in Bandung during June.
- ★ The club's effort to increase public awareness of this organization and its offerings has met with considerable success thus far. During August and September 2012, we picked up nearly 60 email addresses at our POS, and during April 2013 we picked up more than 160 at the Family Science Day event. Perhaps 20-30 more were collected at the April public observing session.
- ★ The following statement was inexplicably cut short in last month's issue of the newsletter: As many of you already know, Historian Carl Wenning writes some 80% to 90% of *The OBSERVER's* content every month to document the events of this club. He will, however, be unable to do so for the July issue due to international travel lasting more than two weeks. He will be in Indonesia from mid June through as late as early July. If you are willing to write much of the July issue, please contact Carl at carlwenning@gmail.com. Otherwise, the newsletter for July will be very thin indeed.

MINUTES FROM APRIL 4, 2013 BOARD MEETING

The TCAA Board met at the office of Duane Yockey on April 4, 2013.

President Tom Weiland called the meeting to order at 6:35pm. In attendance were Tom Weiland, Paul Pouliot, Tony Cellini, Carl Wenning, Duane Yockey, and David Osenga

Agenda:

1. The DRAFT lease agreement between TCAA, SGF, and FGCA
 - a. The wording of parts of this document were reviewed in preparation for a meeting with Linda Bristow
 - b. Carl will modify the document in preparation for that meeting
2. The DRAFT construction contract between TCAA, SGF, and FGCA
 - a. The wording of parts of this document were reviewed in preparation for a meeting with Linda Bristow
 - b. Carl will modify the document in preparation for that meeting
3. Tom will work with Linda to arrange a meeting based on the dates selected
4. Tom presented information about insurance quotes for coverage on both the current observatory and the proposed RORO. This came after several conversations and email exchanges with Connie Carstens from the Van Gundy Agency, the carrier for SGNC and FGCA.
5. Erin has agreed to continue editing, preparing, and distributing the TCAA newsletter, The Observer through 2013.
6. The ISU Science Day staffing and activities were discussed.

Submitted by Dave Osenga

TCAA Treasurer's Report – April 2013

OPERATING FUND BALANCE – March 31, 2013 - \$ 2,163.57

Income

Bob & Lynn Fearneyhough (Dues) - \$ 40.00

Duane Yockey (Astronomy Mag.) - \$ 60.00

Dave Osenga (Astronomy Mag.) - \$ 60.00

Expenses

LYB Inc. (Observer copies & postage) - \$ 33.66

Kalmbach Publishing Co. (Astr. Mag.) - \$ 120.00

Grinnell Mutual (Liab. Insurance) - \$ 162.00

OPERATING FUND BALANCE – April 30, 2013 - \$ 2,007.91

OBSERVATORY FUND BALANCE – March 31, 2013 - \$ 4,114.37

Income

Interest (1st quarter) - \$ 0.15

Expenses

None - \$ 0.00

OBSERVATORY FUND BALANCE – April 30, 2013 - \$ 4,114.52

TOTAL TCAA FUNDS – April 30, 2013 - \$ 6,122.43

Respectfully submitted,

L. Duane Yockey, Treasurer

HOW TIME FLIES

TCAA Historian Carl Wenning provides monthly updates about the history of the club going back to intervals of 50, 25, and 10 years. Details about all mentioned events will be found in either the club history (<http://www.tcaa.us/History.aspx>) or in *The OBSERVER* archive found on the club's web site (<http://www.tcaa.us/Observer.aspx>).

50 Years Ago

May 1963 – Despite “few items of astronomical interest” in the sky, members reported observations of Comet Alcock, Nova Herculis, and an aurora. The club is meeting twice monthly, and members are giving one or two talks of astronomical interest each month. Group observing project #3 consisted of observations of variable star beta Lyrae.

25 Years Ago

May 1988 – The club held a successful Astronomy Day event on May 14th. Following this event, members adjourned to the home of Sharon and Dave MacDonald for a cookout. The May meeting of the club dealt with the somber jobs of having to return the V. M. Slipper Fund's \$500 grant and disposing of the aluminum dome we had purchased with it following failure to secure appropriate conditions for a public observatory at Comlara Park.

10 Years Ago

May 2003 – The club's newsletter featured a number of longer articles for and by amateur astronomers. Sandy McNara and Jim Swindler are key writers for *The OBSERVER*. Carl Wenning wrote a lengthy article about the soon-to-open Challenger Learning Center in the former terminal building of Central Illinois Regional Airport.

MISSING OUT ON TCAA ACTIVITIES & EVENTS?

If you are missing out on club activities or celestial events, be certain to join the TCAA listserv. Many activities are planned at the last minute, and announced only hours in advance through the club's listserv. Reminders about celestial events are also broadcast to the membership through the club's listserv. To join this free service by Yahoo, send a blank email to TCAA-subscribe@yahoogroups.com. Unsubscribing is just as easy. To unsubscribe, just send a blank email to TCAA-unsubscribe@yahoogroups.com.

To keep up to date on celestial events not described in *The OBSERVER* or addressed in the listserv, visit Carl Wenning's observing page at www.phy.ilstu.edu/~wenning/observing_page.htm. It has been recently updated to include an extended sky calendar of events as well as additional space weather and satellite viewing links.

The OBSERVER

Newsletter of the TCAA, Inc.

Erin Estabrook, Editor
314 Covey Court
Normal, IL 61761

Are your dues due?



The Dues Blues?

If you see a check in the box above, it means your dues are due. To retain membership, please send your dues renewal to our esteemed Treasurer:

**Duane Yockey
508 Normal Avenue
Normal, IL 61761**