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## A NOTE FROM PRESIDENT TOM WEILAND

If you regularly check your TCAA@yahoo.com email....and I hope you do...you will occasionally see some spectacular work done by some of our astrophotographers. These members spend hours accumulating the data required to create these images and then many more hours manipulating the data that results in the beautiful photographs that you see. If you enjoy viewing these photos and think that you might be interested in creating something similar, I would remind you that as a member of TCAA you have access to the same equipment as those who have shared their work with you online. Granted, there is training involved in the use of the 10 and 17 inch photographic scopes and mounts, and there is a learning curve as well in acquiring the processing skills, but if you have the time and the inclination there are members who would be willing to share their expertise.

If you are more of a visual astronomer and enjoy viewing the wonders of the evening sky through a quality telescope, this option is available to you also. The training for using our 20 inch visual scope is less intense than is required to do astro-imaging. We are in the process of working out the bugs for an online scheduling system that would allow members of TCAA to sign-up for time slots to use all of the equipment at Sugar Grove Nature Center (SGNC) under the supervision of one of our more experienced members. We'll keep you updated on the progress of this process.

All of this equipment is available in our two observatories located at SGNC. Both the Sugar Grove Observatory (SGO) and the newly constructed Prairie Sky Observatory (PSO) have exceptional equipment available for everyone's use as the result of the willingness and generosity of a few of our members. I would dare say that we have equipment that rivals 99% of the clubs in the US, as well as many universities.

If you haven't had a chance to inspect the equipment, you still have several opportunities this year. There are two remaining Public Observing Sessions (POS), September 7th and October 5th. An additional opportunity will also be available at the Grand Opening ceremony celebrating the completion of the previously mentioned PSO, the new roll of roof observatory. This event is scheduled for Saturday, September 28. Our Guest Speaker that evening is Vivian Hoette, an astronomy educator for the Lawrence Hall of Science who is based at the historic Yerkes Observatory in Williams Bay, Wisconsin. Check your email for reminders and information about this event.

This is an exciting time for TCAA members interested in both photographic and visual astronomy. I encourage you to take advantage of the opportunities that are available to you to further your interest in our "hobby" and hope you attend our remaining events this year.

Clear skies!

## FIRST IMPRESSIONS OF PRAIRIE SKY OBSERVATORY

"The PSO and related equipment is such an incredible opportunity for ANY astronomer. To have research-level equipment at our disposal as a member of the TCAA is such an amazing opportunity and beyond my own personal means. Well worth the cost of membership! The friends that my sons and I have made are simply icing on the cake. Great people, great equipment and great club!"

*Anonymous*

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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#### 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

## SUMMER PICNIC HELD AUGUST 24<sup>TH</sup>

Tom and Carolyn Weiland most graciously opened their rural Heyworth home to the membership of the TCAA once again for the club's summer picnic – a tradition that has gone on for most of the club's 53-year history. This was the second year for the event at the Weiland home. We couldn't have asked for a nicer evening. There was plenty of food, good weather, great camaraderie, and excellent hospitality. In attendance were Tom and Carolyn Weiland, Carl and Carolyn Wenning, Duane and Carolyn Yockey, Brian Barling, Kevin Brown, Tom Willmitch, Dave and Donna Osenga, Brian Barling, Tim Stone and wife, and Bob Finnigan. Thanks, Tom and Carolyn, for such a wonderful and memorable evening.

## SEVENTH 2013 POS SEPTEMBER 7<sup>TH</sup>

The following is a list of public observing programs for this year. The next event is on Saturday evening, August 10<sup>th</sup>. 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 sessions, download the program brochure at [http://www.tcaa.us/Download/POS\\_2013.pdf](http://www.tcaa.us/Download/POS_2013.pdf). The remaining programs for 2013 are as follows:

Date	Time	Topic	Coordinator
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

## TOPICS FOR 2014 POS SET

The 2014 public observing schedule has been worked out already so we can begin distributing the POS brochure at the remaining 2013 public observing sessions and at the Grand Opening of Prairie Sky Observatory on Saturday, September 28<sup>th</sup>. The dates, topics, and volunteer speakers are as follows:

Date	Topic	Coordinator
Mar 29	A Trip to the Sun	John Mori
April 26	Mars in All its Glory	John Mori
May 31	Star Birth and Open Clusters	Craig Prost
June 21	Ringed Worlds of the Solar System	Dave Osenga
July 26	Star Death	Tim Stone
August 30	From Earth to the Edge of the Universe	John Mori
September 27	Globular Clusters	Tom Weiland
October 25	The Andromeda Galaxy	Kevin Brown

President Tom Weiland will have 500 copies printed for distribution, and the brochure's PDF has been forwarded to webmaster Lee Green for posting on the TCAA web site.

## FUTURE E/PO EVENTS

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

- Friday, October 4 – Dickson Mounds – Master Naturalist Observing Session
- Friday, October 4 – PSO and SGO Open Houses – meeting of the Illinois Section of AAPT.
- Saturday October 12 - Penny Frehan's Church Group

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

## AUGUST 2013 PUBLIC OBSERVATION SESSION

Conditions were nearly perfect for the August Public Observation Session (POS) that was held last evening at the Sugar Grove Nature Center (SGNC). A crowd estimated at between 130 and 150 adults and children enjoyed the opportunity to view the night sky from our dark location. It was almost impossible to count everyone once it got dark, and more carloads of people continued to arrive as the evening progressed. The parking lot was full of cars and many had to park down the driveway leading up to the nature center. Clear skies, the Perseid Meteor shower, and an article in the *Pantagraph* aligned to bring the huge crowd to SGNC.

John Mori of Morton, one of our newer members, gave the presentation on "Meteors, Space Rocks and Comets." John's informative and detailed PowerPoint presentation was well received by the overflowing crowd in the picnic shelter. Upon completion, John introduced our youngest active member Bryce, who had brought a piece of a meteor to share with our guests.

The crowd was treated to views of the Moon and Saturn before they disappeared below the tree line, as well as globular and open clusters, binary stars, and other celestial wonders. Scopes in the parking lot were provided by Brian Barling, Paul Pouliot with able assistance from granddaughters Amber and Eve, Lee Green, and Tom Weiland. Lee gave a laser sky tour. Others also provided information about what our guests were viewing. Bob Finnigan, Tony Cellini, and Tim Stone were in the new Prairies Sky Observatory (PSO). And Craig Prost manned the Sugar Grove Observatory (SGO). People enjoyed some great objects from our large observatory equipment, both old and new. Everyone was impressed with our new facility and its capabilities. Carolyn Weiland was very helpful, sweeping out PSO before our guests arrived, assisting with parking, as well as clearing equipment in the shelter after the presentation. Many other TCAA members were present as well to share the evening with our guests.

Along with the views through the telescopes the public was treated to several very nice early Perseid meteors as well as what seemed to be a continuous stream of passing satellites which were pointed out by various members.

It was a great evening and we gained another member family who signed up and paid their dues on the spot. Thanks again to all who made this such a successful evening.

## ASTROBITS

- ★ The quarterly update of Astronomical League observing club progress will be published in the next issue of *The OBSERVER*. Be certain to get you observing club counts in to Carl Wenning so he can update this listing. If you have recently completed an observing program, get your records to ALCor Duane Yockey so you can be duly recognized at the Annual Meeting in February.
- ★ On August 5<sup>th</sup> the Duane Yockey received from the IRS an "affirmation letter" indicating our 501(c)(3) not-for-profit status first obtained nearly 30 years ago. Both he and Carl will maintain copies of this letter for financial and historical purposes, and Lee Green will maintain a copy in the TCAA repository on his server.
- ★ On Friday, August 9<sup>th</sup>, the *Pantagraph* carried a nice article on page A3 about the pending Perseid meteor shower. It mentioned the TCAA and included a quote from our own Lee Green. As a result of this article and its mention of the club's POS that weekend, we had a huge turnout estimated to be between 130 and 150 according to President Tom Weiland.
- ★ Errata from last newsletter: It was mentioned that the TCAA was recognized as a 501(c)(3) educational, non-profit corporation in 1994. That was incorrect. The TCAA was so recognized in October 1984. It was also mentioned that the construction of Prairie Sky Observatory was completed on Tuesday, April 23<sup>rd</sup>. That, too, was incorrect. The observatory was completed in July 23<sup>rd</sup>. Lastly, John Mori gave the August POS talk in lieu of Lee Green who had earlier agreed to substitute for Carl Wenning who was out of town on August 10<sup>th</sup>.
- ★ If you have recently observed through the 20" telescope housed in Prairie Sky Observatory and wondered why the views don't seem all that different from those obtained with, say, an 11" telescope, this is as would be expected on a typical summer night. Though a 20" telescope gathers more than 3 times the starlight of an 11", it also gathers 3X the sky glow. Only on especially dark and clear nights when the contrast between the sky and celestial objects is high will the larger telescope "shine" in relation to a smaller telescope. And then, the differences will be acute. As autumn turns to winter and clear, dark evening skies return, be prepared to be amazed.
- ★ Nova Delphini 2013... First observed on August 14, a nova has appeared in the constellation Delphinus, and club members have observed it both visually and photographically. The nova reached magnitude +4.5 a day or two later meaning that for the first time in years, there was a nova visible to the naked eye.
- ★ FOR SALE: John Mori is selling his three-volume set of *Burnham's Celestial Handbook*, revised and enlarged edition. New condition. He is also selling *The Astronomical Companion*, also in new condition. \$37.00 for all. If interested, contact: johnmori@icloud.com.
- ★ In the last step of the construction phase, the TCAA received its occupancy permit for Prairie Sky Observatory from the McLean County Zoning Board on Monday, August 19<sup>th</sup>. A few days before, the Bow Hunters' Club finished up attaching the rough sawn siding to the north and under the roofline. The only things yet in need of completion are painting of the door, installation of new tables or benches in the observing room, and installation of the window blind between the observing and telescope rooms.
- ★ Prairie Sky Observatory is not the first roll-off-roof observatory the club has owned. A small observatory of this type, Praesepe Observatory (Beehive Observatory), was built by the club in the 1960s on the Fissel farm north-northeast of Normal, not far from where I-55 now runs. It housed Bob Mayo's homebuilt 8" telescope. Built of scrap wood from a torn-down chicken coop, the facility was rapidly made useless by light pollution and encroachment of the new interstate highway. Fissel, it appears, was a beekeeper; hence, the name of the observatory. Read more about this in the club's history.
- ★ Tom Weiland, with the approval of the Board, installed shelving in the club's locker in the storage barn at SGNC on Tuesday, August 20<sup>th</sup>. Thanks, Tom!
- ★ Accounting for the PSO construction has been completed. The total actual cost of permits, architectural drawings, application fees, building construction, concrete work, electrical work, and miscellaneous materials was \$25,725. We now must arrange for insurance coverage through the SGNC, and pay our promised annual friends membership to cover our costs to the Nature Center.
- ★ William Carney continues photographing the moon and near earth asteroids. He recently began the Herschel II observing program.
- ★ Following some advice from Jim Dunham, Carl Wenning was able to repair to telescope donated by Bob Hoy that will be given away in a drawing at the October public observing session.

## CONSTELLATION OF THE MONTH: CEPHEUS—THE KING

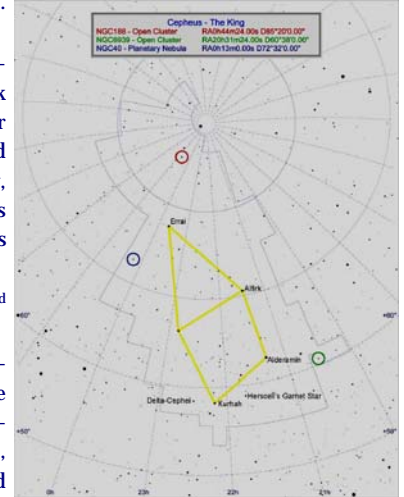
Cepheus is a northern constellation that is high in the sky during the autumn. Cepheus extends nearly to the North Celestial Pole.

In mythology, Cepheus was the king of Aethiopia who was married to the beautiful Cassiopeia. After Cassiopeia compared her beauty to the Sea-Nymphs, they took offence and beseeched Neptune for satisfaction. Neptune unleashed the sea-monster Cetus who wrecked havoc along the coast. Cepheus consulted an oracle who directed that he chain his daughter, Andromeda, to a rock as a sacrifice to Cetus. Reluctantly, Cepheus did this, but before the monster could claim his prize, the champion Perseus arrives, bearing the head of Medusa, and saves Andromeda and claims her as his wife.

Cepheus is the 27<sup>th</sup> largest constellation covering 588 square degrees. It is the 33<sup>rd</sup> brightest and reaches opposition on August 20.

The Milky Way passes through the southern end of Cepheus which contain a sampling of almost every type of celestial object. NGC40, NGC7139 and NGC7354 are planetary nebulae. NGC188, NGC6939 and NGC7142 are splendid, bright open clusters with NGC188 having over 100 very old stars. Emission nebulae include IC1396, NGC7380 and NGC7538. Reflection nebulae include NGC7023, NGC7129 and NGC7133. Dark nebulae Barnard 171 and 173 along with galaxies NGC6951, NGC2276 and NGC2300 round out the rich variety of objects found in Cepheus.

Mu-Cephei, also known as Kurhah, and beta-Cephei, called Alfirk, are double stars. Delta-Cephei is the prototype for a class of variable stars. Cepheid variables change their luminosity in a period that is related to their mass. From this, astronomers are able to infer the absolute magnitude of the star and from that their distance. So Cepheid variables have been instrumental to helping us understand the distance to various objects in our galaxy and beyond.



## CUAS/PAS ASTRONOMY CLUBS VISIT

On Saturday, August 3<sup>rd</sup>, 28 individuals attended the first TCAA/PAS/CUAS joint observing session at SGNC. The cool evening couldn't have been more inviting. The sky was dark and clear, and observing lasted until after midnight despite the fact that most people had to drive at least an hour to get home. By all reports, the visitors were immensely impressed by the Sugar Grove and Prairie Sky observatories. As Eric Clifton, past president of the PAS noted, "You guys are light years ahead of us." Everyone appeared to have a great time. Many declared the event an astronomical success. We can only hope for a repeat next year.

From about 7:00 until 8:00, we held an open house at both SGO and PSO. At 8:00 Tom gathered everyone in the picnic shelter for introductions that lasted until about 8:45 p.m. Eight members of the PAS were present under the leadership of Rich Theoness and, of course, Eric. Eight members of the CUAS were present under the leadership of Dave Leak. Eight members of the TCAA were also present including Tom Weiland, Dave Osenga, Carl Wenning, Lee Green, Tony Cellini, Bob Finnigan, Tim Stone, and Kevin Brown. Four additional unaffiliated individuals were present by invitation. Following introductions, members enjoyed the treats brought by Tom and Dave, and the lemonade brought by Carl. Serious observing then commenced and many continued viewing up until around midnight.

As Bob wrote via email the next morning, "There were several large telescopes including a 20-inch f/3.3 and a 13.1-inch from the CUAS, as well as Lee's 14-inch and Carl's 11-inch. Dave showed the Ring Nebula and several M objects using the 20-inch PlaneWave and the hand controller of the 1600 Astro-Physics mount. Tim ran the 17-inch, photographing the Veil Nebula with our Apogee 16u camera." Bob was kept busy demonstrating the use of 250mm Takahashi CCA employing the recently modified Cannon Mark II camera as well as Maxim DL and SkyX.

Many non-TCCAers who attended had no idea that the TCAA had built Prairie Sky Observatory. They appeared to be remarkably impressed by how much has been accomplished by the TCAA during the past two years. As one visitor mentioned, "You guys undoubtedly have one of the best amateur observatories in the nation if not on the planet." Without a doubt, that statement is true thanks to the generosity and hard work of our membership.

# TCAA Treasurer's Report – August 2013

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OPERATING FUND BALANCE – July 31, 2013 - \$ 1,783.94

Income

Alan & Wendy Bates (Dues) -	\$ 41.00
Kevin Brown (Elect. Dues) -	\$ 25.00
James Ryan (Dues) -	\$ 41.00
Lendel Panzier, Jr. (Dues) -	\$ 80.00

Expenses

LYB Inc. (Observer copies & postage) -	\$ 40.62
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OPERATING FUND BALANCE – August 31, 2013 - \$ 1,930.32

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OBSERVATORY FUND BALANCE – July 31, 2013 - \$ 4,614.73

Income

None -	\$ 0.00
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Expenses

None -	\$ 0.00
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OBSERVATORY FUND BALANCE – August 31, 2013 - \$ 4,614.73

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TOTAL TCAA FUNDS – August 31, 2013 - \$ 6,545.05

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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

September 1963 – Club members are excited by the fact that member Bob Mayo will be bringing his 8-inch home-built telescope to the next observing session. Up to this date in time 2.4-inch refractors and 4.25-inch reflectors have been most popular, and the club had enjoyed views through John Kieviet's recently completed 6-inch reflecting telescope.

### 25 Years Ago

September 1988 – The monthly meeting featured the talk *How to Buy a Telescope*. The club presented an adult education program running September 7, 14, and 21. ISU student Mike Starasta joined the club for the first time; he recently rejoined! Welcome back Mike!

### 10 Years Ago

September 2003 – William Carney writes an article for publication in **The OBSERVER** dealing with observing programs of the Astronomical League. He fires up the membership, and many take William's lead by earning numerous certificates and pins over the following years. Carl Wenning experiences "power observing" for the first time with the club's 12" LX200 telescope and returns to active participation in the TCAA after a several-year hiatus.

## 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](mailto:TCAA-subscribe@yahoogroups.com). Unsubscribing is just as easy. To unsubscribe, just send a blank email to [TCAA-unsubscribe@yahoogroups.com](mailto: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](http://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.

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### 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**