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## A NOTE FROM PRESIDENT TOM WEILAND

Last evening (7/29) I participated in a teleconference sponsored by The Night Sky Network. The teleconference presenter was Dr. Thomas Guatier, Kepler Deputy Science Director. Dr Guatier shared a wealth of information regarding the Kepler Space Telescope's mission, its scientific results and the condition of the telescope after the recent failure of the second of its four reaction wheels.

Kepler is now in what they call Point Rest State. In this mode thrusters must be utilized to maintain attitude. The good news is that this mode is very fuel efficient and as such there is enough fuel for two or three years. This means the Kepler team has time to consider options since Kepler cannot point with precision with less than three reaction wheels.

As a planet hunter seeking smaller planets around stars in a patch of sky inside the Summer Triangle, Kepler is unequaled in performance. Kepler maintains a constant vigil, continuously monitoring the light output of about 150,000 stars for any change in brightness that might indicate a planetary transit.

Even if the reaction wheel issue is not resolved there is still an enormous amount of information to be gleaned from the data acquired by Kepler. And that's really what I am writing about today.....information. There is a huge amount of information available at your fingertips at the Night Sky Network site including astronomy activities, a night sky planner, and amateur resources. TCAA is a member of the network and as such information about our activities is also included on this site. I recommend you take a look at: [nightsky.jpl.nasa.gov](http://nightsky.jpl.nasa.gov).

Clear Skies!

P.S. Make sure you put the Annual TCAA Picnic on your calendar. The date is August 24<sup>th</sup>. More information about this event is located elsewhere in this month's Observer.

## PRAIRIE SKY OBSERVATORY COMPLETED!!

Following construction contract and lease agreement signings and an informal ground breaking ceremony on June 8<sup>th</sup>, construction of the new Prairie Sky Observatory began with foundation work on June 21<sup>st</sup> with the removal of the existing concrete corn crib foundation and trenching and pouring of footers to a depth of 40". Two 36" diameter piers were poured to a depth of 5' on June 23<sup>rd</sup> and telescope pier anchors embedded in their surfaces. After a period of rain, the floor slab – consisting of 4,000 $\psi$  fiber-reinforced concrete – was poured on June 27<sup>th</sup>. Bob Finnigan, Tom Weiland, and Tim Stone supervised the work and oversaw the installation of the anchors for the telescope mounts and east and west walls. Backfill was completed on July 3<sup>rd</sup>. John Stewart's K&G Excavating Company completed the concrete work.

BackYard Observatory's Scott Horstman and Don Cilibraise arrived at SGNC during the afternoon of Friday, July 19<sup>th</sup>, to begin construction of the observatory building. At about the same time, a truckload of construction material arrived from RP Lumber in Bloomington. Construction of Prairie Sky Observatory – BYO's 177<sup>th</sup> roll-off-roof observatory – began on July 20<sup>th</sup>. Tom Weiland, Larry Leetzow, Bob Finnigan, Carl Wenning, and Tim Stone "supervised" the earliest stage of construction. At the end of the first day all four walls were up, as well as the partition between the observing room and the telescope room.

Work continued on Sunday with the completion of the roof extension to the north. Completion of the roller wheel frame for the roof, installation of the roof trusses, and partial completion of the roof followed this.

On Monday, the roof was finished, including the gables at each end. Zack Prochnow, an electrician from Emmett-Scharf Electric Co., arrived on site at 10:20 a.m. and began work. By 3:00 p.m., the breaker box with 100-ampere service, and the observatory's outlets and switch receptacles were installed and wires pulled thanks to the able assistance of Tom. By the end of the day, the remaining roof panels and roof siding had been installed, insulation fitted in the observing room, and doors installed. At approximately 5:15 p.m. Scott handed over one of the keys to the building to Carl making it the end of yet another busy day at SGNC. Once again Tom and Bob were on site all day answering

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## **PRAIRIE SKY OBSERVATORY COMPLETED!! (CONT.)**

*(Continued from page 1)*

questions and assisting where needed.

The observatory construction was completed (with the exception of finishing touches on the electrical work and siding) on Tuesday, April 23<sup>rd</sup>. Don and Scott bid us a fond farewell and departed late that afternoon with thanks from Bob, Carl, Larry, and Tony. Even before Don and Scott departed the site, the 10" Takahashi telescope was mounted on the pier on the south end of the telescope room. Bob, Tony, and Larry continued work on installation afterward with Tim joining them later. It was too cloudy to begin alignment procedures.

The first four days of the construction process were documented with a time-lapse movie created by Tony Cellini. Some 6,500 individual shots – one taken every 30 seconds over four days – were used to create a movie of about 4.5 minutes running at 24 frames per second. The movie can be found at the following URL: <http://www.youtube.com/watch?v=K76JIEuIBOI&feature=youtu.be>

On Wednesday, July 24<sup>th</sup>, Zack from Emmett-Scharf returned by 8:30 a.m. to complete the electrical work and install the data cable conduit near the front door. By that evening the Takahashi 5" refractor was placed on the Astro-Physics mount to the north joining the Takahashi 10" astrograph located on the Paramount ME to the south. "First light" for the observatory occurred on this evening. Bob Finnigan and Tim Stone photographed M27 with the 10" an SLR camera, while Carl Wenning and Troy Berg viewed Messier objects with the 5".

On Thursday, July 25<sup>th</sup>, the new 20" PlaneWave Dall-Kirkham telescope arrived from California at around 12:30pm. It was hoisted atop the new Astro-Physics 1600 mount around 6:15 p.m. that evening with the able assistance of Bob, Tom, Tony, Troy Berg, and Dave Osenga.

Saturday, July 27<sup>th</sup>, saw the Prairie Sky Observatory ¾ way sided by three members of the Bow Hunters' club led by Tom Huffington. They installed stained "rough sawn" hardwood siding – provided by SGNC – on the sides of the observatory. 2 by 4 and 2 by 6 pressure treated lumber was attached at the top of the walls to provide a level trim piece for the rough sawn oak siding to butt up to. This was done to minimize any potential interference with the tight tolerances necessary for free movement of the roll of roof. The bow hunters worked from early morning to late afternoon. Tom supervised the work assisted them with their efforts. They did a great job ensuring the minimum tolerance between the siding and the sliding roof. Once this work is completed and the window installed between the telescope and observing rooms, the facility will be complete. The Bow Hunters' club commits to work at SGNC in exchange for privileges to hunt at SGNC.

Also on the evening of July 27<sup>th</sup>, Howard Hedlund, President of Astro-Physics, arrived from Rockford, IL, to conduct final set-up operations on the 20" telescope mount, and run those present through the regular operation of the mount with the hand paddle. He was able to show such things a daytime polar alignment, and how to reset the park position if/when the mount clutches are loosened for balancing or other reasons. According to Tim, "He was very informative and great to work with, very interested in our program, and an active astronomer himself. After he left, we did experiment with using the Canon EOS MII for unguided photography, and produced a photograph of Messier 20."

The observing room window arrived on July 29<sup>th</sup>, and Carl picked it up for installation. While dropping off the window (and Bob continued working on networking the observatory computers), Carl installed the weather stripping along the southern bottom edge of the roll off roof as directed by Scott. After installing the window (scheduled for August 1<sup>st</sup>), the only major remaining thing to do will be to move the 17" from SGO to PSO and reinstall the Takahashi 250mm CCA in SGO. The club will then have 3 functioning, permanently mounted telescopes.

The PSO passed two tests on July 30<sup>th</sup>. Tom reported that even with substantial rain at SGNC, the new observatory remained dry. Bob reported that architect Russell Arbuckle approved the construction work of the observatory and gave us our occupancy permit. We may now bring members of the general public into the observatory.

On Wednesday, July 31<sup>st</sup>, Bob met representatives of the McLean County Zoning Commission who visited PSO for their final inspection. They gave tentative approval for occupancy allowing for our August 3<sup>rd</sup> visits by the Peoria and Champaign/Urbana astronomy club, but said that the siding has to be finished – which it will be very soon. After they are informed that the siding has been completed, the Zoning Commission will issue a formal occupancy permit.

We should all be tremendously proud of the fact that the TCAA is now right up there with the astronomy clubs that have professional capabilities in quality observatories. The total cost of our facility along (to say nothing about the telescopes and mounts) was approximately \$25,500. None of this would have been possible without the very generous donations and dedicated hard work of a select few among the TCAA membership. We are now looking forward to the days to come when we will hold our grand opening for the general public.

# PSO GALLERY



## TCAA ANNUAL PICNIC—ALL THE DETAILS!

We have finalized the plans for the annual summer get together of our TCAA family!

This will be a rain or shine event held at our home in rural Heyworth on Saturday, August 24<sup>th</sup>. We'll plan on everyone arriving around 6:00. As this is a potluck we ask that you bring a dish to pass (be creative) as well as your own meat. A grill will be available for your use. Please bring lawn chairs. Drinks, table service, and a variety of chips will be provided.

This is a social event, so even if you are a casual TCAA member, I encourage you to attend so that we can get to know each other. I would also like to make this a family event, so I am encouraging members to bring spouses/significant others, members or not. My wife Carolyn and I are looking forward to seeing all of you on the 24<sup>th</sup>.

**Directions:** Go three miles south of Heyworth on US 51. Turn west on Bucks Rd. Proceed to the "T". At the "T" turn north (right) and continue for a quarter mile until you see Alexander Rd. Turn west (left) and proceed to 7645 Alexander Road. We are the second home on the right, a tan house with a half circle drive and skylights among large oak trees)

Several reminders will be sent via email. RSVPs will help us in our planning. You may RSVP now at [tca52@yahoo.com](mailto:tca52@yahoo.com).

Hope to see many of you at this event.

## MEO UPDATE

On Thursday, July 18<sup>th</sup>, Bob Finnigan conducted his 7<sup>th</sup> training session at Mark Evans Observatory. Dr. French along with 3 students completed a 5-star alignment followed by a polar align using a cross-hair eyepiece under Bob's watchful eyes. After focusing, the group took three shots of M27, the Dumbbell Nebula in Vulpecula. These images were processed using Maxim DL but showed considerable tracking errors. Periodic error correction was turned on and this helped quite a bit to produce better images. They then got the guider turned on and took a 20-second exposure with the guide scope after finding a good guide star. The star was used to perform a calibration. Unfortunately, the guide scope would not track possibly due to a bad cable.



After all was said and done, the three students used the equipment to locate and photograph several asteroids. A digital blink comparator was used to show the motion of the asteroids taken only minutes apart. Bob left at 12:30 a.m. but the next morning got an email asking for additional help. He again went out at 3:00 p.m. The group then put together a order for a two-inch visual back (to overcome vignetting in the camera's image plane), two sets of guider cables, a connecting cable from the mount to the computer, and counter weights for the front of the 11-inch Celestron telescope. These will replace the ones temporarily loaned by TCAA. Bob called Farrah at Woolland Hills and she put all of those parts on order for Dr. French.

## SIXTH 2013 POS AUGUST 10<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
Aug 10	8:30 pm – 10:30 pm	<i>Meteors, Space Rocks, and Comets</i>	Lee Green
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

## SPACE CAMP

### By Nataya Boulware

Editor's note: *Nataya is daughter of members Mark and Dede Boulware. She has attended the club's public observing sessions recently along with her parents.*

What I did at Space Camp was so amazing I couldn't believe my eyes. So here are some things I can remember doing at Space Camp. First I had lunch with a shuttle astronaut, Bob Springer. Second, we went back to our habitat (where we slept) and met as a group. Our crew trainer's name was Maggie and our team name was Titan.

We had 4 simulator mission sessions and the names of our missions were Alpha, Orion, Bravo, and Charlie. Also, there were 3 training simulators and 2 rides. The simulators were Multi Axis Trainer (MAT), 5 Degrees of Freedom (you are in control) and 1/6 Gravity Chair, with the rides being Space Shot and G-Force.

Some of the movies we saw include *Hubble*, *Fighter Pilot*, and *Strange Science*. There were also some museums and one had a real Saturn V Apollo spacecraft they didn't launch. They also built a replica of a Saturn V that was in outside of the museum.

Furthermore, there is also a black hole exhibit where you can get a card and play games! Oh, did I forget you can make two great friends like Rebecca and Jaden. By the way you can find Space Camp in Huntsville, Alabama at U.S. Space and Rocket Center and I don't think you will miss it! So if you like this article I hope to see you at Space Camp!!!!!!!!!!!!

## EDUCATION/PUBLIC OUTREACH REPORT FOR JULY

Cloudy conditions once again conspired to keep members and guests from viewing at our July 6<sup>th</sup> public observing session. With a pleasant 75° degree temperature and dry but overcast conditions, 35 members of the club and general public turned out. The program began at 9:00 p.m. with Tom Weiland welcoming the group, and then soliciting email addresses for the telescope drawing (another 12 new email addresses being obtained). He then spoke briefly about the TCAA and ran the 6-minute light pollution program from the International Dark Sky Association titled "Losing the Dark." This video focuses on the issue of light pollution and the many ways this problem impacts humans and wildlife. It also suggests how individuals can use lighting appropriately to reduce its effects on our night skies while still providing adequate lighting for security and safety. This was followed by a 35-minute talk titled *The World's Greatest Telescopes*. Bob Finnigan and Tim Stone provided tours of the SGO afterward. In attendance from the TCAA were the following: Mark & Bryce Heineger, Mark & Dede Boulware along with their daughter Nataya, John & Joyce Mori, Tom & Carolyn Weiland, Lee Green, Mike Starasta, Brian Barling, William Carney, Tim Stone, Carl Wenning, Brown, Bob Finnigan, and Tony Cellini. This was more than 50% of those in attendance.

The Inali North District of the Cub Scouts designed Thursday, July 11<sup>th</sup>, as Astronomy Day. They held day camps throughout the week, and Lee traveled to Big John's Conservation Camp east of Galesburg and helped many of the 150 scouts to receive their Astronomy Belt Loop. He led 8 packs through the requirements using presentations and observing equipment. He also used the club's solar telescope on a crystal clear day and was able to demonstrate the beauty of the Sun.

From July 15-17 the Challenger Learning Center at Heartland Community College held their Young Astronomers Camp for second and third graders. Carl Wenning provided views of the sun at the Challenger Learning Center on the morning of Monday, July 15<sup>th</sup> and the afternoon of Wednesday, July 17<sup>th</sup>. All told, 29 students were served, and a number of parents viewed the sun as well.

On Tuesday July 23<sup>rd</sup>, Lee Green presented a talk to Association of Horizon campers. Association of Horizon (<http://associationofhorizon.org>) is a group of people with and without physical disabilities that provides opportunities for individuals to challenge themselves, develop responsibility, and grow through interacting and working together. Their week-long summer camp experience consists of adults with physical disabilities teaming up, usually one on one, with able-bodied volunteers for a week of recreation, learning and fun. Their 2013 camp was held at Timber Pointe Outdoor Center at Lake Bloomington. Lee and presented the wonders of astronomy to the campers, their attendants and staff. According to Lee, "While it was a challenge for many of the campers to maneuver their wheelchairs into position, most were successful and had a clear view of Saturn and two moons. It was rewarding to be able to share the view with them. The attendants did such a wonderful job of caring for and assisting the campers".

**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.

## MINUTES OF THE JULY 9<sup>TH</sup> BOARD MEETING

The TCAA Board met on July 9, 2013 at the Coffee House and Deli in Normal. At the meeting were Board members Tom Weiland, Tony Cellini, Lee Green and Paul Pouliot, and members Bob Finnigan and Carl Wenning. The meeting was called to order at 6:30pm.

The minutes of the previous meeting and the Treasurer's report were approved unanimously. The reports from officers included Lee who indicated that non-public events are now stored on the web site but not displayed to the public, and Tim who sent a report that he has been organizing the storage areas and obsolete equipment.

We discussed the upcoming build of the Prairie Sky Observatory (PSO) and Carl indicated that the builders were scheduled to arrive on July 15 to begin their work. Pictures and email reports showing the site and its preparations have been sent to the Board and the members by various people.

The scheduled August 3 joint session with the Peoria and the Champaign-Urbana astronomy clubs was discussed. We are excited that they will be joining us and it will give us a great opportunity to discuss our efforts as astronomy clubs. Lee agreed to contact the clubs to raise the question of whether to hold the event in case of cloudy weather.

A number of previous topics were tabled. These included a visit and talk by Vivian Hoette, preparations for Comet ISON, disposition of obsolete club equipment, improvements on the club's 6" refractor, a class teaching astrophotography, and a proposal to pursue a National Science Foundation grant.

Carl reported that the repair of the giveaway telescope would soon be attempted and that Jim Dunham would be engaged on the effort. Carl also reported that he had entered all the collected names into an Excel spreadsheet for easier use. He and Lee discussed using the list to send email announcements to the list.

Duane reported that he would be unavailable for the September 17 Board meeting, and it was agreed to again meet at the Coffee House in downtown Normal.

Turning to new business, it was reported that all the permits for the PSO had been obtained and that a verbal agreement was reached with the SGNC for the electrical work to be installed. Carl and Tony discussed the idea of making a movie of the construction activities. Carl also noted that several documents, including an electronic copy of the PSO Lease Agreement would be scanned and made Lee promised to make these available on the web site.

We discussed the 5-year plan and noted that we had completed most of the items on the list. Carl indicated that we would review and edit the list and submit it for discussion at a later time, and would perhaps write an article about the plan.

The Board discussed some unauthorized activities by a member who had performed some maintenance that had not been approved. The Board discussed and approved a letter to raise and address the issue so that future misunderstandings could be avoided.

We turned to a discussion about announcing the opening of the PSO and agreed that we should wait until the facility was fully built and deemed completely operational. It was generally agreed that the invitees would include members of the TCAA, the SGNC and FGCA boards, and The Pantagraph. Bob indicated that he may have a visitor from Astro-Physics at the event.

We further discussed the question of scheduling observing time at the new facility. It was suggested that members be allowed to sign up to use the telescopes so that other members would be aware of the schedule. Lee agreed to build the feature into the club's web site.

Carl reported that Linda French expressed an interest in addressing the club. We all were pleased at this prospect and suggested that she would be an excellent candidate for our speaker at our Annual Meeting. We recalled her excellent talk at that meeting a few years ago.

Bob raised the possibility of making a donation in the club's name to the radio airplane club for the purpose of assisting them to build a wheelchair accessible parking. He will investigate the terms of the donation, which could result in permission for the TCAA to use the site as an alternate observing location, and may make a proposal to the Board at a later date.

The meeting adjourned at 7:45pm.

Respectfully submitted,

Lee Green

TCAA Secretary

## PROFILES IN AMATEUR ASTRONOMY: TIM STONE

Tim Stone was a member of the TCAA during his youth. Very active in the late 1970s and early 1980s, Tim's growing family and work drew him away from the club for many years. He returned with a "vengeance" in the past year, and now on almost any clear night can be found working in one of the club's observatories. As Tim tells it, "I became interested in amateur astronomy as a boy when my parents got me a little department store telescope for Christmas. My first encounter with a real telescope was at a TCAA public observing session sometime in the late 60's. Bob Finnigan had his 14" Celestron out in the schoolyard at Oakland School, and I made my dad take me to the session. After one look through the scope, I was hooked and wanted to join the club on the spot."

Tim continued, "My first "real" telescope was a 6" f/8 Newtonian from Criterion. I wanted it so badly, I saved my summer earnings and my dad said he'd match my savings. I remember to this day the agony of trying to decide exactly which telescope I wanted that I could afford, the excitement of finally making the order, the agony of waiting for it to arrive, and the thrill of that first look through it and seeing Jupiter's equatorial belts so clearly."

After a hiatus from the club lasting nearly 30 years, Tim returned stating, "I was aware that an observatory had been built at Sugar Grove Nature Center, but I didn't know how it was outfitted or if it was even active. Three or four years ago I was out there on a fall day, and Bob Finnigan, whom I hadn't seen for thirty years at that point, was there and encouraged me to rejoin the club. My life at that point didn't have room for that kind of involvement, but then a year ago I ran into Carl Wenning who encouraged me to go down there some clear night and see what was going on. Eventually I did that, and one look at the operation there convinced me that I should get involved again. After all these years, I'm right back where I started, overjoyed to see what the sky has to show me."

Regarding his years-long absence from the club, Tim stated, "I'd rekindled my interest in astronomy a few years before rejoining. I'd bought a couple of telescopes and was trying to learn to take pictures through them with my DSLR. I'd gotten fairly good at lunar pictures, but with no ability to guide and relatively inexpensive equipment, my deep sky shots were dismal. That night I went down to the SGO and watched Bob take a picture that was far and away better than anything I'd ever accomplished convinced me that my future as an astrophotographer was with the TCAA. Through the years I've always maintained an interest in astronomy, but I enjoyed it from a distance. I would watch the Hubble Space Telescope releases and marvel at their powerful majesty. I would see the incredible results of pioneers like Rob Gendler, and I'd long to do that kind of astrophotography. I'd discuss astronomy with friends from time to time, but my situation didn't permit a hands-on practice. My interest never waned, but my direct involvement was non-existent for about 30 years!"

Looking back as his early involvement with the club Tim remarked, "I remember so many people in the club. As a boy, I was in awe of those people who seemed to know so much about astronomy. Of course, I thought I knew a whole lot, too, and they were all so patient and accepting of me. Like today, they were an eclectic collection of people from so many different backgrounds, all sharing a common love of things astronomical. I know that even then there were tensions and competing agendas, but when it all came down to it, we were all part of a single community bound by the beauty of the universe."

"Astronomy for me is more than just a pursuit of beauty. It keeps my life in perspective for me. All of us sometimes have situations and circumstances that produce stress and distress, and an astronomical image can almost instantly put it all in the right context for me. It's not that my problems are nothing. It's that they are not everything. In January I wrote a short piece to describe what I'm talking about. You can read it here: <http://moonshot.timsworlds.com/2013/02/02/the-comfort-of-the-astronomer/>".

Tim was born in Bloomington, IL, and though he's traveled all over America and to a number of places in the world, he has always returned home. This is where he lives, and where he'll probably stay. Currently, he is a director in the information technology (IT) area at COUNTRY Financial. He has been in IT for his whole career, beginning as a developer and moving into system architecture. He made the shift into management in 2008 and is now in Senior Management.

Tim's astronomy goals for now are as follows:

- Improve his imaging skills to the point where one of his images is accepted as an APOD and for publication in *Sky and Telescope*.
- As property manager, to maintain the growing facilities of the TCAA to make them available to and usable by the largest audience possible.
- Give children the same opportunity he was given as a child, to learn about and develop a lifelong passion for astronomy, in particular, and the Sciences, in general.



## TCAA 5-YEAR PLAN IN REVIEW

During September 2007, the TCAA Board of Directors approved a 5-year plan which had four key components: (1) improving professional capacity, (2) changing the club's *image* from "amateur" to "professional", (3) increasing our visibility to the general public, and (4) improving membership services with the goal of increasing membership and participation. Now, six years after the creation of that plan, Carl Wenning suggested a review of our efforts. At the July Board of Directors meeting, Carl was asked to review this plan in an effort to objectively determine which goals have been met, which have not, and suggest new goals as he deems appropriate. What follows are Carl's analysis and recommendations.

**Improve professional capacity.** We have met the following goals in whole or in part: teach membership to used telescope (s), hold an amateur astronomy (adult education) course, purchase a club laptop computer and video projector, and develop a cash reserve of \$5k-\$10k.

**Change TCAA *image* from "amateur" to "professional".** We have met the following goals in whole or in part: drastically improve our web site content and appearance, develop a professional-looking logo, promote amateur astronomy as a "prestigious" hobby, do a great job hosting the 2010 NCRA meeting, and offer a speakers' bureau.

**Increase our visibility to the general public.** We have met the following goals either in whole or in part: better distribution system for promotion and publicity, heavily promote 2010 NCRA locally and get media coverage when it happens, put our new logo on clothing and other items (caps, banners, stickers, appliques, and patches), provide a focus for public outreach to a worldwide audience via our website, participate in an "Astronomy Day" event (replaced by participation in Family Science Day at ISU), provide online registration to club-sponsored events, host adult education programs and field trips, and professionally produce a 50-year history of the TCAA.

**Improve membership services with the goal of increasing membership and participation.** We have met the following goals either in whole or in part: develop a "TCAA Observing Page", build a roll-off-roof observatory with "advanced" capabilities, establish a database for operations, prepare a website with individualized accounts, receive reminders when dues are due, and give access to calendar of events, observers logs, etc.

Many of these objectives have been achieved without making regular reference to the 5-year plan. Nonetheless, the plan did give direction to the TCAA leadership's thinking over the years because by its very creation the leadership's attention was focused on many of these activities. Using organizing categories as a guide, and in addition to the things that we are already doing, Carl now makes the following suggestions about what might be included in a new 5-year plan covering the time period September 2013 to September 2018. It is expected that the Board of Directors will formalize a new 5-year plan at the next Board of Director's meeting in September.

### **Improve our professional capacity:**

- Present a 10-session astronomy laboratory course with a focus on observational astronomy
- Teach more of the club's membership to deliver good presentations in the public forum
- Begin serious observing programs (e.g., photometry, spectroscopy, search for supernovas and asteroids, color magnitude diagrams, etc.)

### **Change TCAA *image* from "amateur" to "professional":**

- Professionally produce a membership brochure
- Host higher profile events to which we invite high-caliber public speakers
- Offer several levels of photography courses to novice, advanced, and professional photographers
- Increase membership from among a wider variety of population types

### **Increase our visibility to the general public:**

- Implement sidewalk amateur astronomy
- Include a variety of presentations, white papers, and other content on website
- Produce press releases for important astronomical events
- Assist with observations of major astronomical events such as the November 2013 apparition of Comet ISON

*(Continued on page 9)*

## TCAA 5-YEAR PLAN IN REVIEW (CONT.)

(Continued from page 8)

- Sponsor a group field trip to southern Illinois to observe the August 21, 2017 total solar eclipse

### Improve membership services with the goal of increasing membership and participation:

- Meet regularly at some location or over a meal to improve camaraderie
- Restart the reading group if there is sufficient interest
- Create a “guide” to amateur astronomy by revising and shortening observer’s packet

### Sustain our observatories:

- Generate \$750 in annual income (e.g., substantial key holder fee or surrogate payments through offering of course work the fees to which got to the TCAA) to pay for the upkeep of club observatories including insurance coverage and a required annual contribution to the SGNC required by our lease agreement.
- Host “professional” social events (wine and hors d’oeuvres) as fund raisers
- Create a new set of key holder policies for key holders, including consideration for a two-tiered membership fee structure.
- Create a set of procedural guidelines and policies for operation of club observatories

Should any TCAA member have one or more ideas to include in this draft five-year plan, please contact Carl at [carlwenning@gmail.com](mailto:carlwenning@gmail.com) with your suggestion(s) prior to the next TCAA Board meeting on September 17<sup>th</sup>.

## CONSTELLATION OF THE MONTH: LYRA—THE LYRE

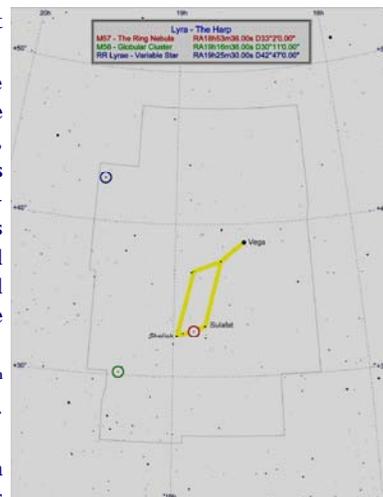
Lyra is a small constellation located between Hercules and Cygnus, north of Vulpecula. It lies at the edge of the Milky Way.

In mythology, the god Hermes built a stringed instrument from a tortoise shell and called it the lyre. He gave the instrument to his brother Apollo who in turn gave it to his son with the muse Calliope, Orpheus. Orpheus learned to play the lyre so beautifully that all who heard were soothed, including people, wild animals, even the trees and the rocks. When his wife Eurydice died, Orpheus travelled to the underworld to reclaim her and played his music for the ghosts, furies. Pluto relented and allowed Eurydice to follow Orpheus back to the world under the condition that Orpheus not look at her until they reached the open air. Just before their escape, Orpheus glanced behind and Eurydice was immediately borne back to the underworld. Orpheus was inconsolable and died at the edge of the underworld finally reunited with his beloved wife. Jupiter placed the Lyre in the heavens in his honor.

Astronomically, Lyra is the 52<sup>nd</sup> largest constellation covering 286 square degrees yet is the 17<sup>th</sup> brightest due to the presence of the brightest star Vega which is the 5<sup>th</sup> brightest star in the sky. Lyra reaches opposition on July 1.

Two other stars in Lyra are named, Sheliak and Sulafat. Sheliak, also known as beta Lyrae, is a double star system where the stars are rotating so closely around each other that their shape has been distorted from spherical to ovoid. Beta Lyrae is the prototype for this class of variable stars. As these stars rotate every 12 days, their visible surface area is never constant so their light curve is more complex than other eclipsing binaries that have a more linear light curve. Epsilon Lyrae is a famous double-double star that is used to test the quality of telescope optics. RR Lyrae, another prototype variable star which has a fast period and lower luminosities, has a 13 hour period.

Among the deep space objects in Lyra are M57 the Ring Nebula and M56, a globular cluster. Several galaxies are visible in the western portion of Lyra where it lies away from the Milky Way.



## ASTROBITS

- ★ On Saturday, July 13<sup>th</sup>, Brian Barling completed the last of 400 observations required to earn his Herschel 400 certificate and pin from the Astronomical League. This culminates several years of hard work. Only four other club members have ever award this award: Sandy McNamara, 2001; Carl Wenning, 2008; William Carney, 2009; and Lee Green, 2009. Congratulations Brian!
- ★ The Illinois Dark Skies Star Party will take place October 3-6, 2013 at the Jim Edgar Panther Creek State Fish & Wildlife Area. This is an observer-oriented event with a limited number of daytime talks. Features dark skies, great facilities, and fantastic food. Registration is now open. You may download a registration form on the Sangamon Astronomical Society website: <http://sas-sky.org>
- ★ A word of “thanks” and a “tip o’ the hat” to those who wrote much of the content of the July issue of *The OBSERVER* while Carl Wenning was away in Indonesia. By the way, he returned safely (but very tired) on July 1.
- ★ A note of recognition for those who worked diligently to assist with the construction of the Prairie Sky Observatory and the follow-up installation of telescopes. Each of these individuals was present for part of one or more days... Tom Weiland, Bob Finnigan, Larry Leetzow, Carl Wenning, Tony Cellini, and Tim Stone. An extra word of thanks, too, for Tony Cellini who documented the work by making a time-lapse movie and to Tom Weiland for providing daily updates through the club listserv.
- ★ The club leadership is looking at Saturday during October as the date for the grand opening of the new Prairie Sky Observatory. Our keynote speaker has tentatively been identified as Vivian Hoette, director of education and community outreach at Yerkes Observatory in Williams Bay, Wisconsin.
- ★ U of I observatory renovation update: By now, the University of Illinois’ 12-inch refracting telescope has been refurbished and should have been returned to Urbana. Weather permitting, the big lift took place on July 31<sup>st</sup> or shortly thereafter. We are awaiting a final project report from Mike Svec who is overseeing this project.
- ★ The TCAA became a federally recognized 501(c)(3) educational not-for-profit corporation in the autumn of 1994. We have for the past few years been unable to find the IRS-provided status determination letter. After a bit of sleuthing, Carl Wenning was able to talk with someone in the IRS who said that she would send an affirmation letter to Duane Yockey with all the required information verifying our Federal non-profit status.
- ★ Through the intercession of Tom Weiland, Carl Wenning has been asked to write a book chapter for the Illinois Master Naturalists program. The focus of the chapter will be on why and how Master Naturalists should interpret the night sky being as it is part of the world’s tableau. The book – consisting of about 20 chapters – will be published in 2014 if all goes well.
- ★ Carl has entered all email addresses obtained from the TCAA Telescope Giveaway registration process into a database. Added to the addresses obtained last September and October and at this year’s Family Science Day, the TCAA is now sending out monthly POS reminders about public observing sessions to 239 addresses. The registration forms will be used in a drawing to give away a telescope at the October 5 public observing session.
- ★ No progress yet upon “updating” the telescope to be given away as part of the drawing. Recent observatory work has taken precedence. It is fully hoped, however, that the telescope will be repaired by the end of August at the latest.
- ★ Peoria and Champaign/Urbana Astronomical Societies will be visiting us Saturday, August 3<sup>rd</sup>. Treats and refreshments will be provided by the TCAA membership. Some of our guests will be arriving around 7:00 pm. They are coming to see our facilities, check out our dark sky location, and discuss a variety of astronomy related topics. All members are welcome to attend.... Bring your scopes!
- ★ Lee Green has most graciously agreed to substitute for Carl Wenning by giving the talk at the August 10<sup>th</sup> public observing session. Carl had a schedule conflict on that date, and wanted to return to Ohio for his 42<sup>nd</sup> high school class reunion, the first such reunion in 17 years.
- ★ William Carney has been making some very nice movies from still images he has been obtaining with the use of a variety of digital SLR cameras using wide-angle lenses. One movie show the constellation Sagittarius rising and moving across the sky southeastern sky; the Milky Way is clearly discernable. A recent composite of 5 images captured with his 8” telescope reveals a beautiful image of Messier 17 – the Omega Nebula. Congratulations, William, on a job well done!
- ★ A new staff member has been hired by Sugar Grove Nature Center to replace Randall Carriger who departed a few months back. His replacement is Janet Rasmussen. She has been a volunteer at SGNC for the past four years, so some of our members have already met her. Welcome here when you see her.
- ★ The TCAA’s new Prairie Sky Observatory (as well as the new Maple Sirup and Honey House) were featured in two articles in this quarter’s *The Nature of the Grove* newsletter, a publication of SGNC. When you next stop in the nature center, ask for a copy. Of course, you could also become a member of the Friends of SGNC and have a copy delivered to your mailbox quarterly.

# TCAA Treasurer's Report – July 2013

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OPERATING FUND BALANCE – June 30, 2013 - \$ 1,614.24

Income

David Pace (Dues) - \$ 41.00

Brad Welch (Dues) - \$ 41.00

Carrie Hymer (Dues) - \$ 41.00

Dan Moudy (Dues) - \$ 41.00

Craig Prost (Dues) - \$ 41.00

Expenses

LYB Inc. (Observer copies & postage) - \$ 30.50

PayPal (David Pace) - \$ 1.20

PayPal (Brad Welch) - \$ 1.20

PayPal (Carrie Hymer) - \$ 1.20

PayPal (Dan Moudy) - \$ 1.20

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

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

Income

Interest (2<sup>nd</sup> Quarter) - \$ 0.21

State Farm Good Neighbor Grant (Osenga) \$ 500.00

Expenses

None - \$ 0.00

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

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TOTAL TCAA FUNDS – July 31, 2013 - \$ 6,398.67

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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

August 1963 – Hank Janeczek, Bill Blunk, Lyle Rich, Mike Ryder, Warren Light, and David Williams made hourly counts of the Perseid meteor shower. The results were disappointing with very low hour-to-hour counts occurring.

### 25 Years Ago

August 1988 – The TCAA's second annual *Astronomy Rendezvous and Conference* went very well, with the club profiting over \$400. Amateurs from as far away as Kirkwood, Missouri and Detroit, Michigan were in attendance. Eleven TCAAers and twenty-seven other amateurs were in attendance.

### 10 Years Ago

August 2003 – Club members visited the observatory at Millikin Observatory in Decatur as guests of club member Dan Miller. Later in the month the club hosted a 3-speaker extravaganza at Sugar Grove Nature Center. The special topic was Mars Watch that featured the opposition of Mars. If the Historian's memory serves correctly, some 300 individuals were in attendance.

## 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**