TWIN CITY AMATEUR ASTRONOMERS, INC.

The OBSERVER

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PRESIDENT'S MESSAGE: NASA SERIES—FORWARD

As amateur astronomers we all try to keep up on the developments that affect our understanding of the universe around us. If you're like me, it is sometime confusing to keep track of the various missions that are in progress and where they fit in the larger scheme of science, technology, politics and the world.

In order to help myself better understand these issues, I am starting a new series of articles for *The OBSERVER* that will try to address these questions. In the first article, I try to re-introduce you to NASA and describe its basic organization. In future articles, I will look at recent, current and future missions so that we can stay better informed about the many exciting activities that are expanding our knowledge and our view of the cosmos.

I would be very interested to hear about any comments, questions or suggestion you have about the series so that we can improve it to provide you with information that is interesting and relevant. And I hope you will enjoy this series as much as I will.

ANNUAL MEETING DATE SET

TCAAers, mark your schedules now for the club's 2009 Annual Meeting. The event will take place on Saturday, February 7th. At this meeting there will be an election of a Board of Directors, and presentation of lots of awards. In addition, we will hear from Dr. Linda French from Illinois Wesleyan University who has agreed to honor us with her presence.

As has been the tradition for about a decade now, the club will meet in ISU's Turner Hall at 6:00 p.m. for a social mixer, and at 6:30 p.m. a banquet will be served. At about 7:15 p.m. we will hold our annual business meeting, and Dr. French will follow at around 8 p.m.

This event is the club's "high water mark" of the year, and you'll not want to miss it. In addition to the business that regularly comes before the membership, this year there will be an unusually high number of service and observing awards. You'll not want to miss this event. Again, pencil us into your calendar should you like to join us. Details will be provided as the event draws near.

CALL FOR NOMINATIONS

Each year at the club's Annual Meeting, the membership elects a board of directors to serve for the next 12 months, and members are recognized for their service to the club. This year will be no different.

Nominations are need for the Board. Five nominees are needed to "take the reins" of the club. As the TCAA is a legally incorporated body, it's business is formally run by our Board of Directors under Illinois law. Its members elect the head of the Board; this person becomes president of the club. The Board then appoints members to the positions of vice president, secretary, treasurer, historian, property manager, and so on. These appointees need not be members of the Board, but are expected to attend Board meetings every other month.

Nominations are needed for the G. Weldon Schuette Society of Outstanding Amateur Astronomers. This award recognizes a TCAA member who has demonstrated great skill in observing, dedication to the club's education and public outreach efforts, and commitment to providing service to the membership. While holding the AL's Messier Award is recommended, it is not required by the Standing Rule that established this award in 1987. Dan Miller was our winner last February.

Nominations are needed for the John and Bertha Kieviet Founders Award. This award is conferred upon a TCAA member to recognize demonstrated leadership to the club. Those so recognized need not have been a president of the club. If leadership is interpreted in terms of service to the membership, this is as close as the TCAA comes to having a distinguished service citation. Duane Yockey was our award winner at the last Annual Meeting.

Nominations are needed for the Eugene and Donna Miller Family Award. This award acknowledges the strong efforts by a family to participate in the club as a unit. One or more parents are recognized for their efforts to instill within their children interest in and dedication to amateur astronomy. Michael Rogers and Jean Memken were our winners last February.

Please e-mail your nomination(s) for the TCAA Board of Directors to either President Lee Green at lee@starlightsoftware.com or Secretary Carl Wenning at wenning@phy.ilstu.edu. If recommending candidates for the Schuette, Kieviet, or Miller awards, also send your nomination(s) to either Lee or Carl. If you are recommending a candidate for one of the awards, however, a short description explaining why you feel the nominee(s) deserve(s) the award(s) is required. The current Board of Directors will make decisions about the awards after the award deadline sometime in January.

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.

TCCA SEMICENTENNIAL HISTORY BOOK

Club Historian Carl Wenning will be preparing a limited printing edition of *History of the TCAA: 1960-2010* during the club's 50th anniversary year. The book will be a hard back with impressed silver foil lettering on the cover and spine – much like a doctoral dissertation. It will likely be 50-75 pages in length with a series of color plates containing important photographs, and a number of tables and vignettes. This collector's edition will be put on file with the local historical society and Twin City libraries, and would be a great addition to the home libraries of club members. It is estimated that the price of this volume will be on the order of $40 each at the time of printing.

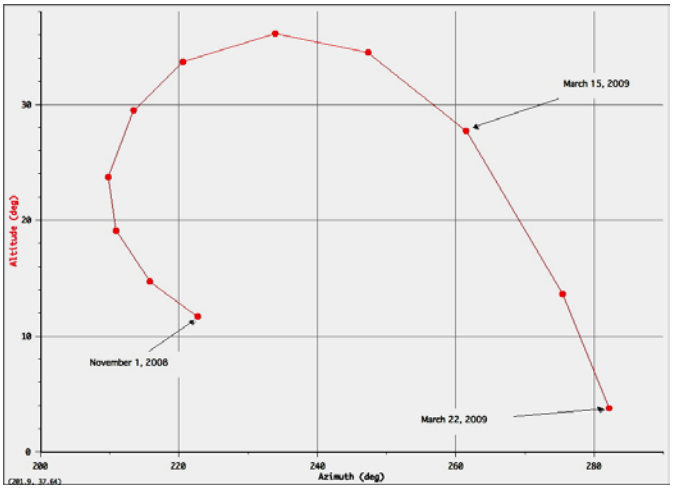
To get an idea of the membership's interest in seeing such a book published, Carl is asking that members with an interest in acquiring this historical volume contact him either by phone at (309) 830-4085 or e-mail wenning@phy.ilstu.edu. A statement of interest does not constitute an agreement to buy this volume. Club members are reminded that this will be a one-time printing, and that once the copies of the first printing are gone, there won't likely be additional copies for sale.

In addition, Carl is asking members to contribute recommendations for improvements in the club's history as it has appeared in *The OBSERVER* on a near monthly basis since May 2007. This includes corrections of errors and omissions. Contact Carl with any concerns and questions.

STARGEEZER MARKING TIME

By Carl J. Wenning

There are many ways I have marked time in an astronomical sense. The longest approach uses the motion of Saturn. When I was in college in the early 1970s, I observed the position of Saturn between the horns of Taurus the Bull. I noted that if I was lucky and lived long enough, I'd see Saturn pass through those horns two more times. Well, I've seen it one additional time. Will I be lucky enough to see it a second time? Each interval is 30 years.



The shortest astronomical counter for me is Orion the Hunter. Each winter I watch him climb up in the east after sunset, climb across the southern sky, and watch him disappear into the glare of the western setting sun. That interval takes the whole winter season.

Another way of marking time for me has been the apparitions of Venus. While Venus orbits the sun in 225 days (its sidereal period), it *appears* to circle the Sun as seen from the Earth's moving perspective in 584 days. Half of the time Venus is seen in the morning and the other half in the evening sky. During time of superior conjunction (in conjunction with the Sun but on the far side of the solar system), it is hidden in the Sun's glare for about 50 days. During inferior conjunction (when Venus passes roughly between the Earth and Sun), the planet is typically invisible for about 8 days. This leaves the planet visible in the evening and morning sky for about 263 days average during each apparition.

During the current evening apparition (see the accompanying chart), Venus will make a nice clockwise loop in the western evening sky. The planet emerged from the glare of the Sun during late summer, and now will be with us in the evening sky though the end of winter. In the accompanying diagram its position relative to the horizon is shown on the 1st and 15th of each month from November 1st onwards. Note that an azimuth of 270° corresponds to the direction west. The diagram was drawn for the end civil twilight, when the Sun is 6° below the horizon. This corresponds to approximately a half hour after sunset on average.

NASA—A RE-INTRODUCTION

By Lee Green

NASA - National Aeronautics and Space Administration

NASA's mission is to pioneer the future in space exploration, scientific discovery and aeronautics research.

NASA conducts its work in four principle organizations, called mission directorates:

- Aeronautics: pioneers and proves new flight technologies that improve our ability to explore and which have practical applications on Earth.
- Exploration Systems: creates new capabilities and spacecraft for affordable, sustainable human and robotic exploration.
- Science: explores the Earth, moon, Mars and beyond; charts the best route of discovery; and reaps the benefits of Earth and space exploration for society.
- Space Operations: provides critical enabling technologies for much of the rest of NASA through the space shuttle, the International Space Station and flight support.

NASA Directorates

Aeronautics Research - http://www.aeronautics.nasa.gov/index.htm

NASA conducts cutting-edge, fundamental research in traditional and emerging disciplines to help transform the nation's air transportation system, and to support future air and space vehicles.

Our goals are to improve airspace capacity and mobility, improve aviation safety, and improve aircraft performance while reducing noise, emissions and fuel burn.

Our world-class capability is built on a tradition of expertise in aeronautical engineering and its core research areas, including aerodynamics, aeroacoustics, materials and structures, propulsion, dynamics and control, sensor and actuator technologies, advanced computational and mathematical techniques, and experimental measurement techniques.

Exploration - http://www.nasa.gov/directorates/esmd/home/index.html

The Exploration Systems Mission Directorate (ESMD) Mission: To develop a sustained human presence on the moon; to promote exploration, commerce, and U.S. preeminence in space; and to serve as a stepping stone for the future exploration of Mars and other destinations.

Specifically, ESMD develops capabilities and supporting research and technology that will make human and robotic exploration possible. It also makes sure that our astronaut explorers are safe, healthy, and can perform their work during long-duration space exploration. In the near-term, ESMD does this by developing robotic precursor missions, human transportation elements, and life-support systems.

The ESMD mission is derived from the Vision for Space Exploration first initiated in January 2004, which commits the United States to implement a sustained and affordable human and robotic program to:

- Explore the solar system and beyond
- Extend human presence across the solar system, starting with a human return to the moon by the year 2020, in preparation for human exploration of Mars and other destinations
- Develop the innovative technologies, knowledge, and infrastructures both to explore and to support decisions about future destinations for human exploration
- Promote international and commercial exploration participation to further U.S. scientific, security, and economic interests

Science - http://nasascience.nasa.gov/

The Science Mission Directorate (SMD) engages the Nation's science community, sponsors scientific research, and develops and deploys satellites and probes in collaboration with NASA's partners around the world to answer fundamental questions requiring the view from and into space. SMD seeks to understand the origins, evolution, and destiny of the universe and to understand the nature of the strange phenomena that shape it. SMD also seeks to understand:

- the nature of life in the universe and what kinds of life may exist beyond Earth;
- the solar system, both scientifically and in preparation for human exploration; and
- the Sun and Earth, changes in the Earth-Sun system, and the consequences of the Earth-Sun relationship for life on Earth.

Space Operations - http://spaceoperations.nasa.gov/

The Space Operations Mission Directorate provides the Agency with leadership and management of NASA space operations related to human exploration in and beyond low-Earth orbit. Space Operations also oversees low-level requirements development, policy, and programmatic oversight. Current exploration activities in low-Earth orbit are the Space Shuttle and International Space Station programs. The directorate is similarly responsible for Agency leadership and management of NASA space operations related to Launch Services, Space Transportation, and Space Communications in support of both human and robotic exploration programs.

TCAA-RELATED INTERNET RESOURCES

If you want to be kept up to date about last-minute observing sessions and other club events and are not currently subscribed to the TCAA's listserv, you can do so easily. Join our e-mail list by sending a blank e-mail message to TCAA-subscribe@yahoogroups.com. Joining the listserv will help you receive last-minute announcements and reminders, and avoid missing those all-important events for which you joined the club.

Carl Wenning has developed a "TCAA Observing Page" making use of RSS programming that keeps the web page updated automatically. The web page gives up-to-the minute weather reports, forecasts, moon phase, hyperlinks to important web sites that can provide detailed local data, and a day-by-day calendar of astronomical and meteorological events provided respectively by the authors of the *Abrams Planetarium Sky Calendar* and *Clear Sky Clock*. You can access Carl's observing page at http://www.phy.ilstu.edu/~wenning/observing_page.htm. Be certain to bookmark this site.

Sugar Grove Nature Center now has an official web site that references the TCAA and can be reached at http://www.sugargrovenaturecenter.org. Of course, don't forget to take a periodic look at the TCAA's website a http://twincityamateurastronomers.org.

NOVEMBER SKY GUIDE

01	The Moon passes 3° south of Venus, 3 A.M.
03	The Moon passes 1.9° south of Jupiter, 4 P.M.
06	The Moon passes 1.1° north of Neptune, 1 P.M.
08	The Moon passes 4° north of Uranus, 7 P.M.
17	Leonid meteor shower peaks
21	The Moon passes 6° south of
25	Mercury is in superior conjunction, 11 A.M.
30	Venus passes 2° south of Jupiter, 7 P.M.

OCTOBER OBSERVERS' LOG

William Carney was out at SGNC on October 8th for an early evening observing session. He set up his equipment at the north end of the grassy area, by the tree line, to get good views of the south and west. Once it got dark, he spotted comet C2008/A1 McNaught. William reported that it was "dim and diffuse, but visible despite Moonlight."

Lee was also out on October 8th, but he observed from home. He added four Messier objects and two from the Lunar Observing club, including Rupes Recta. On October 10th he went out to his back yard at 4 a.m. with his binoculars. He found 15 objects in the Binocular Messier list. He reported that the limit seemed to be about 6.5 magnitude. His AL observing club totals can be found in the next article.

Six TCAAers using four telescopes participated in the MOOS on Saturday, October 25th. In attendance were John Littlefield and his friend Linda, Josh Lindsey and his friend Melissa, Carl Wenning, Lee Green, William Carney, and Brian Barling. While this was intended to be a members-only observing session, TCAAers were surprised to have stumbled upon a retirement party taking place for one of the Funk family members in the picnic shelter. TCAAers were invited to take a share in some of the cookout treats, and Funk family members were similarly invited to partake in some viewing. Some especially interested members of the Funk family, about 10, stayed to observe with club members until 9:30 p.m. Lee, Brian, and William continued to observe under the extremely good observing conditions until about 11:30 p.m. Brian reported that he found five more Herschel objects that evening using his 12-inch Dobsonian telescope. (Keep in mind the Brian is finding each of these objects the old fashioned way – by star hopping.) Objects observed were NGC 6946, a dim galaxy near a star cluster; NGC 488 and NGC 524 which are two galaxies with bright bulges in Pisces; and NGC 584 and NGC 596, two elliptical galaxies located in Cetus. Brian also observed NGC 1070, which is not a Herschel object. This brings his total of 221 Herschel objects.

Early in the October MOOS, William used the SGO to observe and show Comet McNaught. During the session, Lee spent the first two hours teaching John how to use an 8-inch loaner telescope. Also during this time, Carl spent time showing Josh, Melissa, and Linda the importance of filters for viewing planetary nebula and supernova remnants (e.g., Saturn, Helix, and Veil nebulas, etc.). For his AL observing programs, Lee was able view three Binocular Messier objects, one telescope Messier object, and his remaining two Herschel objects. His 400 Herschel Club observations are now complete making Lee only the third TCAA member to have completed this feat. Congratulations Lee!

In support of the Great World Wide Star Count going on during October, William Carney has submitted data for four observation locations – three in Bloomington-Normal and one at SGO.

Carl made a solitary observation, that of NGC 2539, at 5:52 a.m. on the morning of October 29th. This was the last of the required 100 observations required for the AL's Urban Club viewing program. Carl has completed five observing projects so far this year. After one more binary star observation, that of N Hydrae, he will have completed six. He also has completed the first and second levels of the AL's Outreach Award.

SGO UPDATE

By Property Manager William Carney

The GPS on the SGO's LX200 is not working currently – no matter how one rotates the dome. Hopefully we can get a software fix running that will help. Observers can still do a manual alignment, but it's hard to get a precise alignment for asteroids or comets. Sync in *Cartes du Ciel* does not help much because the LX200 is at fault. I will update you later on any changes. The scope currently has no maintenance warranty and Meade won't allow any more, so, we are stuck with any problems.

Continue to rotate the dome to the W-NW when finished observing. It does reduce the water (including blowing snow) coming into the observatory. With all the rains that occurred in the last month or so, there was considerable erosion of the soil around the north and west sides of SGO. I have filled this in with dirt and put tree mulch on top of it. The mulch helps to deflect the water off the roof to reduce the erosion.

The new laptop is running just fine. *Cartes du Ciel* does control the scope. We are able to update the software in the scopes hand controller so long as Internet stays connected, but there have been some issues with the Internet connection at SGO. It seems that after the lightning strike and replacement of the SGNC's satellite dish, the signal has become very weak in the dome and often cuts off. Also, the connection speed is actually worse than dial up. The SGNC staff are aware of this, but the problem probably won't be fixed soon. The best answer for now is to run a direct cable to the main building. This would cost us to have someone lay the cable. My suggestion right now is not to download any large files at SGO till this is resolved. I spent many hours just doing updates on the laptop; the process is very, very slow. It actually tested slower than AOL dial-up.

NOVEMBER/DECEMBER MOOS

For the record, here is the list of the remaining 2008 Members-Only Observing Sessions at Sugar Grove Nature Center. Two coordinators (one of whom should be an SGNC key holder unless they have their own telescope they can bring along) are desired for these Saturday sessions. Please sign up with Carl Wenning (309-830-4085, wenning@phy.ilstu.edu) if you are willing to assist with coordinating any of these events. Note that the observing sessions will be held only if the sky is reasonably clear; the December 20th club party will take place regardless of cloud cover.

2008 MOOS Dates, Themes and Starting Times	Coordinator(s)
November 22nd (7:00 p.m. start, no theme)	TBD
December 20th (Saturnalia holiday party & observing) 7:00 p.m.	Carl

AL OBSERVING PROGRAM STANDINGS

Below is a listing of the status of observers pursuing AL observing programs reported as of October 31st. If you would like to have your information included in next month's listing, be certain to forward your observing totals to Carl Wenning before the end of the month.

	Brian Barling	William Carney	Lee Green	David Hahn	Dave Osenga	Carl Wenning	Sandy Wolford	Duane Yockey
S. Sky Binocular 50						50*		50*
S. Sky Telescope 50						52*		50*
Telescope Messier Prov70/Hon110	(110)	(110)	82*	82*	48	(110)	(110)	31
Binocular Messier 50		(100)	42			71*		16
Herschel Club 400	221	352	400*			400*	(400)	
Urban Club 100		(100)	89			100*		
Comet Club Silver12/ Gold30		(22)						
Arp Galaxy CCD Club 100							53	
Dbl. Star Club 100	17		7			99	(100)	
Planetary Nebula Club 100						37		
Globular Cluster Club 100						47		
Lunar Club 100	98	(100)	87			70		
Asteroid Club Reg25/ Gold100		24						
Outreach Award Basic10/Stellar60/ Master160 hours						31h-'06* 26h-'07 42h-'08**		

- Program or first award level now complete. ** Second award level now complete. Both * and ** will receive AL recognition (certificate and pin) at the next TCAA Annual Meeting on February 7th, 2009. Numbers in parentheses (#) indicate that award has been both earned and received.

WINTER ADULT EDUCATION COURSE

The TCAA will offer a "part 2" adult education course following on the heels of this autumn's *Night Sky Watch*. The new course, *Exploring the Milky Way,* will be held on Thursdays from 7 to 9 p.m. at Heartland Community College beginning January 29th and concluding with an optional observing session on or shortly after February 19th.

Join us as we move beyond solar system objects and the constellation to explore the denizens of the Milky Way. During this course we will take an in-depth look at stars and star clusters, their births, lives and deaths. Learn about nebulae, main sequence stars, white dwarfs, neutron stars, and black holes. Learn about the role of astronomical theory in the study of astronomy, and examine the amazing photographic results of the Hubble Space Telescope. During an optional fourth session at Sugar Grove Observatory, we will focus telescopes on a wide variety of representative deep space objects and more. Presented by the Twin City Amateur Astronomers.

The registration fee for these four sessions will be $60 per person, and will include an array of materials to help participants better understand the Milky Way and things found in it. Details about registering for this course will be provided as they become available.

NIGHT SKY WATCH REPORT

The TCAA's adult education course at Heartland Community College – *Night Sky Watch* – turned a very slight profit. $360 was collected from the six participating individuals, and there was an HCC administrative fee of $90 leaving $270 for materials. The cost of books (*NightWatch*), planispheres, planetarium fee, and printing came in at $251.70. Because *Night Sky Watch* is a expenses-only, non-profit generating course, this resulted in a $18.30 "profit" for the TCAA. The biggest payoff in any course (and the reason this course is taught) is an increased TCAA membership. There were good prospects enrolled in the autumn course, and we hope to see an increased membership as a result.

Because enrollments in this adult education course are uncertain up to the last minute, the TCAA has left over inventory consisting of two copies of *NightWatch: A Practical Guide to Viewing the Universe*. These are really nice 4th edition books, revised and expanded for use through 2018. The club will gladly sell them at cost, which was $23.10 For only $27, Carl will send your copy by mail. Let him know if you are interested (wenning@phy.ilstu.edu or 309-830-4085). These are excellent books and would make great holiday gifts! The retail cost of these convenient spiral-bound editions is $35. Money received for these books in excess of shipping costs will be turned over to the club.

Failing to sell these books, we'll hold them over until next autumn's adult education course. The club's winter adult education course will have a different focus, and these books will not be needed.

CONSTELLATION OF THE MONTH: CETUS—THE WHALE

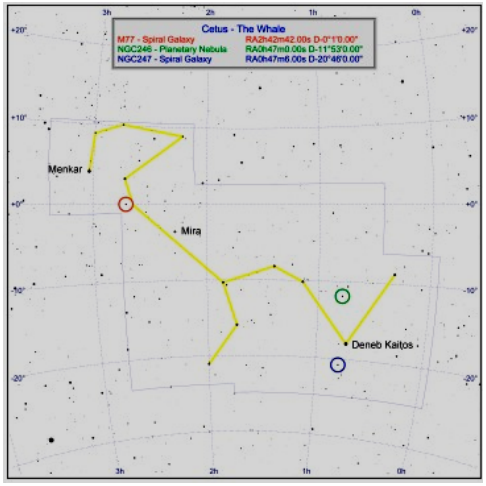
Cetus is a large constellation that south of Pisces between Aquarius and Eridanus.

Cetus is most often identified as the monster that was bedeviling Ethiopia and to whom the princess Andromeda was to be sacrificed. The monster was turned to stone by the heroic actions of Perseus who was carrying the severed head of the Medusa.

Cetus is the 4th largest constellation covering 1231 square degrees and is the 31st brightest. Cetus reaches opposition on October 21.

The named stars in Cetus include Menkar, the nose, Al Kaff al Jidmah, the head, and Deneb Kaitos, the tail of the whale. Also prominent is the variable star Mira, the Wonderful One, which is the prototype star of a class of long period variable stars which changes from the 2nd magnitude to the 10th over a period of 331 days. When at its maximum brightness, Mira is thought to extend in size nearly 2 AU, or larger than the orbit of Mars.

Several notable deep-space objects lie within Cetus. NGC157, NGC247, NGC1087 and Messier 77 all bright galaxies. IC1613 is a dwarf galaxy that is a member of our local galaxy group. NGC246 is a large, bright planetary nebula.



OCTOBER EDUCATION/PUBLIC OUTREACH

Carl Wenning and Lee Green were joined by former TCAA President Sharon MacDonald at SGNC on Thursday, October 2nd, as members of Carl's HCC adult education course *Night Sky Watch* and Lee's BPL *Conversations with Amateur Astronomers* series observed the night sky. Also in attendance were Frank and Shanan Holtz (HCC) and Kaushal Bhatt (BPL). The group observed under ideal sky conditions from approximately 7:30 to 9:30 p.m. They viewed the common celestial objects, but also the more difficult Veil and North American nebulas using an OIII filter. All three non-members showed a tremendous interest in amateur astronomy, and they had all previously purchased large-aperture binoculars to begin their studies of the sky. We can only hope that all these dynamic individuals will consider membership in the TCAA. (Kaushal, subsequent to the writing of this article, has joined the TCAA. Welcome, Kaushal!)

The next night, Friday, October 3rd, Lee and Carl gave a presentation to about 15 individuals at the SGNC's annual family campout. While the sky was mostly cloudy, it was possible to view Jupiter as the clouds passed by. Lee gave a very well received NSN talk *Our Galaxy, Our Universe*. Lee and Carl remained after the program to talk with center director Angela Smith about residing the observatory and other such manner of things, including the new lodge nearing completion near the south branch of Timber Creek in the northernmost section of the nature center.

On the following night, Saturday, October 4th, we held the last regularly scheduled public observing session of the year at SGNC. The event featured Carl delivering a 25-minute presentation called *Andromeda and her "Rock"* as well as a 10-minute sky lecture. Twenty-one members of the general public were in attendance, including Boy Scout Troop 20 from St. Mary's parish in Bloomington. TCAA members assisting with observing were Brian Barling, Lee Green, Dave Osenga, William Carney, and Duane Yockey. Observing ran from approximately 8:00 to 9:30 p.m. with lots of interest shown by those in attendance. Due to the excellent sky conditions, several TCAAers remained on site observing until after 10 p.m.

Carl joined PAS's Randy Byland to host an observing session for the youth group from St. Patrick's Catholic Church of Bloomington on Saturday night, October 11th. Some 25 kids and 5 adults were in attendance for the hour-long observing session that was located at the northernmost section of the Lily Nature Preserve and just southwest of Goodfield. Even though the near full moon dominated the sky, many celestial objects were observed with the aid of appropriate sky filters.

SGNC held Autumn Celebration on Saturday, October 18th. Assisting with the SGO open house were Carl Wenning, Lee Green, Duane Yockey, Dan Miller, John Littlefield, and Josh Lindsey. About 400 individuals took the opportunity to look over our display, observe Venus, the moon, and the sun through Carl's CPC1100 and Dan's solar binoculars between 10 a.m. and 5 p.m. The SGO's Meade 12-inch was relegated to viewing the local treeline as the LX200 base was not operational despite best efforts to make it so. Late in the day, a former TCAA member from the early 1960s, Warren Light, showed up with his wife Linda. They had just driven in from Houston, TX, to visit with Warren's family.

We held our third installment of the Bloomington Public Library series *Starlight Nights: Conversations with Amateur Astronomers,* on Tuesday, October 21st. Lee delivered the NASA Night Sky Network presentation *Search for Another Earth* that illustrated the techniques that astronomers use to detect planets orbiting stars. This was followed by wide ranging discussions about a variety of topics including how life might exist under extreme conditions, why Pluto was "demoted" to a dwarf planet, how the planets and moons were named, and several other topics. While the event was lightly attended with seven audience members including Duane Yockey, the discussion was lively and interesting.

The October 25th MOOS became an unintended E/PO outreach event when TCAAers arrived at SGNC only to find about 50 people present for a retirement party of one of the Funk family. Perhaps about 7-8 individuals spent about 30 minutes with observers looking at objects in the night sky.

On October 29th, Dan and Chris Miller, Mike Rogers, and Carl Wenning hosted Ed Duran's youth group from Christ Lutheran Church in Normal for a brief observing session at SGNC. Michael pointed out the constellations; Dan and Chris used an 8-inch SCT and a small refractor, and Carl used his CPC1100 to give the 10 students and 3 adults tours of the heavens. The session ran from about 7:15 to 8:15 p.m.

Bobby Arn, who often works with Dan Miller, reported that they have been very active during October. They participated in the *Millennium Girls* program at State Farm HQ on October 4th (250 attendees) and later that same night at the DAAC Jamboree at Friend's Creek Regional Park (175 attendees). They also hosted four observation nights at Millikin University with a combined attendance of about 240 individuals during October. Since Bobby started keeping personal E/PO records in May 2007, he has "touched" over 3,800 people through 33 outreach events. He has contributed some 113 hours in doing so. Dan's record is much the same. Thanks and a "tip 'o the hat" to both for their outstanding efforts.

HISTORY OF THE TCAA

Beginning with the article, "The Origin of the Twin City Amateur Astronomers" in the May 2007 issue of The OBSERVER, TCAA Historian Carl J. Wenning began chronicling the history of the club. He will continue this series, culminating with the 50th anniversary of the club in 2010.

Construction of Sugar Grove Observatory
1998-2002: Part B

Over the course of the next year, Avo, Bob, Mike, Dan, and Allan Timke were at the core of the building activity, as was former club member Jim Baker. Taking a strong lead was Vice President Vince Burdette (owner of Holder Construction Company), who was a project manager at the time for a large development at State Farm. Vince obtained the assistance of several trade unions before he left to head up a construction project in Argentina. He also was able to get lots of material donations, as well as many of his crew to volunteer hours for the framing of the building including bringing in scaffolding for the initial framing of the building.

Construction of the SGO began in a snowstorm on March 11, 2000, with just over $1,000 in the club's treasury. The placement and style of the observatory were dictated by solutions to requirements set by the SGNC Board. The TCAA initially had originally planned a shorter building – a ground-level dome with attached warm up room, or even a roll off attachment – but this was not consistent with the SGNC's vision. The TCAA Board had other expansion plans for the field to the north of the SGO; we also needed to blend observatory appearance with the "farm" look of the Nature Center for which they were looking. Our final SGO is a compromise that was finally reached: a silo effect that would blend in with "the look", placement where it is to eventually interface with an instructional area they were planning to remodel the old outbuilding next to it to be, and the height because of the problem seeing over the adjoining building since it was so close to them. It still had a computer room, storage room, and observatory areas that were wanted, but they were stacked instead of being spread out into a larger all ground level complex.

Avo Vill, Bob Cuberly, Mike Rogers, William Carney, and Duane Yockey were there for a lot of the beginning foundation work. With the departure of Vince, Jim Baker took over the leadership on the project, and immediately worked to install the stairs. Evidently, there was disagreement about the stability of the column put in place to hold the telescope at this time. The pier was a narrow, 20-foot high, unsupported vertical column prone to vibration. This disagreement led to two members departing the project. Dan and Michael took care of supervising and doing much of the remaining construction. They donated their weekends, evenings, and often their personal funds to finish the structure. They spent most of the summer of 2000 doing the interior work. They, along with their families, laid the flooring and smoothed and sanded the walls and then painted them. Sandy McNamara and Jean Memken did much of the plastering and painting in the building. They, along with Brian Barling, helped Mike and Dan put up interior paneling. Roy Lawry helped out with painting, and paid for the Tyvek for the outside. Other members contributed time and energy as well. SGNC provided for the hardwood exterior covering to give the SGO a consistent look with the rest of the Nature Center buildings.

The construction job was completed the next January, but the opening was delayed until the February Annual Meeting which would be held at SNGC. The first telescope housed under the SGO's 10-foot Ash dome was Mike Roger's 1978 vintage 14-inch Celestron Schmidt-Cassegrain that had been in place at the Marie Antoinette Observatory at Downs. The observatory saw "first light" during the February 20, 2001, Annual Meeting. The night was clear and cold, and the guest speaker for the evening – astronomer Dr. James Brown from Millikin University – adapted an imaging camera to the telescope.

From start to finish, the construction job took only about ten months, and hardly affected the balance of the club treasury, so fiscally responsible and generous (in time, talent, and treasure) were those who constructed the observatory. From the time of its inception to completion, the time involved in the negotiations for and construction of the SGO took three years of concerted effort. Duane Yockey was the first official key holder.

By August 2001, it was clear that trouble was brewing with the telescope's declination motor. A suggestion was made to replace the 14-inch with a 12-inch Meade "goto" telescope. It was agreed that this route should be followed given the ease of using such telescopes. Fund raising began during December 2001 to provide for the new telescope. Within a month $1,000 had been raised, and within two months a total of $2,000 had been raised from the membership toward the $4,250 purchase price. A short-term loan was secured from Dan Miller to provide for the rest of the purchase price as fund raising continued. The new telescope was ordered in February 2002 and arrived in March. It was installed in the SGO during June 2002, and was returned to Meade the next month due to a problem with the focuser. The C-14 was reinstalled temporarily so it could be used with the summer public observing sessions. The 12-inch came back from Meade in August and was reinstalled in September 2002. Due to continuous fund raising and a very generous membership, the loan note was paid off by November of that year. All tolled, 13 members of the TCAA contributed at grand total of $2,975 to the purchase of the telescope. The rest of the funding came from the club treasury.

TCAA Treasurer's Report – October 2008

OPERATING FUND BALANCE – September 30, 2008 -	$ 2,544.34
Income	
Heartland Comm. College (adult ed. cse.) -	$ 270.00
Kaushel Bhatt (dues) -	$ 40.00
Orlyn Edge (sen. dues) -	$ 25.00
Expenses	
LYB Inc. (October Observer) -	$ 14.70
Carl Wenning (books for adult ed. Cse.) -	$ 161.70
Illinois State University (supplies for cse.) -	$ 90.00
LYB Inc. (postage) -	$ 2.25
OPERATING FUND BALANCE – October 31, 2008 -	$ 2,610.69

OBSERVATORY FUND BALANCE – September 30, 2008 -	$ 1,917.53
Income	
Interest -	$ 1.37
Expenses	
None -	$ 0.00
OBSERVATORY FUND BALANCE – October 31, 2008 -	$ 1,918.90

TOTAL TCAA FUNDS – October 31, 2008 - $ 4,529.59

Respectfully submitted,
L. Duane Yockey, Treasurer

Sugar Grove Observatory

Listing of Official Keyholders (Paid $10 deposit/$5 renewal)

Duane Yockey (renewed through 2008)
Michael Rogers (renewed through 2008)
William Carney (renewed through 2008)
Carl Wenning (renewed through 2008)
Brian Barling (renewed through 2008)
Christopher Franklin (renewed through 2008)
David Osenga (renewed through 2008)
Josh Lindsey (renewed through 2008)
Andrew Morrison (February 2008)
Dan Miller (renewed through 2008)
Lee Green (April 2007, renewed through 2008)

UPCOMING EVENTS

October 21—*The Search for Another Earth*, BPL

November 22—MOOS

December 20—Saturnalia party & MOOS

February 7, 2009—Annual Meeting

WELCOME NEW MEMBER

Kaushal Bhatt

YEAR END CHARITABLE GIVING

At the end of each year many of us give donations to our favorite charities. This year be certain not to forget the TCAA. The TCAA is an officially recognized 501(c)3 non-profit educational organization incorporated in Illinois. As such, donations made to the club are tax deducible to the extent permitted by Federal law.

One component of the club's 5-year plan is to develop a $5,000 reserve fund for supporting the 2010 NCRAL convention that the TCAA will be hosting. If these funds are not needed to support NCRAL events, the money will support future club activities identified in the club's five-year plan. Donations by the membership will go a long way toward generating the additional sum needed to reach this goal.

If you should like to donate to this reserve fund (and we hope everyone will help achieve this goal), send your contribution to our esteemed Treasurer Duane Yockey at 508 Normal Avenue, Normal, IL 61761. Contributions in excess of $250 will be acknowledged with an official letter for tax purposes.

The OBSERVER
Newletter 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

Visit the Twin City Amateur Astronomers on the web at www.twincityamateurastronomers.org/