

## IN THIS ISSUE:

PRESIDENT'S MESSAGE: OUR 50TH YEYAR	1
TCAAers ATTEND NCRAL 2009	1
2009 IYA SESSIONS @ BPL	2
APRIL E/PO	2
AL OBSERVING PROGRAM STANDINGS	3
APRIL OBSERVERS' LOG	3
2009 PUBLIC OBSERVING SESSIONS	4
2009 MEMBERS-ONLY OBSERVING SESSIONS	4
MAY SKY GUIDE	4
OPTIMIZING OBSERVATIONS OF DEEP SPACE OBJECTS IV	5
CONSTELLATION OF THE MONTH: CRATER—THE CUP	5
OUR SUN	6
TREASURER'S REPORT	7
JUNE SKY MAP	

## PRESIDENT'S MESSAGE: OUR 50TH YEAR

Oh my! How time flies! It seems like it was just last month when I spoke about the exciting events of our 49<sup>th</sup> year. In fact it was just last month. As one observant member pointed out, since the TCAA was formed in 1960 and we have observed 49 years since the club was established, we are already in our 50<sup>th</sup> year.

We've been continuing our busy pace this year with our public and individual observing sessions and in our celebration of the International Year of Astronomy. While the weather has not been kind to us and presented poor conditions for our first two public observing sessions, we look forward to insect-free springtime skies that we enjoy so much. We had a good meeting in Cedar Rapids at the 2009 NCRAL meeting and got to talk with many people who will be joining us next spring.

This month's IYA topic is Our Sun and you can find a brief article below that highlights some of NASA's current missions and points to some fascinating content on the internet.

We will hold our next Board meeting on Tuesday May 12 at the office of Treasurer Duane Yockey. All members are invited to attend the meeting which will include discussions about this year's meeting and further plans for our meeting next year.

Please come out, join in and help make this milestone year a truly memorable one for your club.

## TCAAers ATTEND NCRAL 2009

Five leading TCAAers attended the NCRAL 2009 convention in Cedar Rapids, Iowa, May 1-2. They were Lee Green, Duane Yockey, Carl Wenning, Dan Miller, and John Werner. The two-day event was hosted by the Cedar Amateur Astronomers (CAA), and they did an excellent job of hosting the meeting. More than 80 amateur astronomers were in attendance.

Friday field trips included a visit to see the 82-foot diameter VLBA radio telescope at North Liberty, the optical and machine shops of Optical Mechanics, Inc., and the Palisades-Dows Preserve where the CAA maintains a premiere interpretive center including three domes and a roll-off roof observatory. (See accompanying images submitted by Duane.) The CAA's largest telescope is a 24-inch Cassegrain telescope by Boller & Chivens. Using the club's large lecture hall and display center, TCAAers shared in a complimentary meal and heard four short talks that evening by amateur astronomers. Unfortunately, the sky was rather milky and telescopic views were limited to the moon and Saturn.

Saturday saw eight excellent speakers dealing with a wide range of astronomical topics. Interestingly, all but two of the speakers were astronomers or telescope makers from Iowa, which is indicative of



the high emphasis on observational astronomy by the scientific and industrial communities of that state. The day made for a very memorable event.

On Saturday morning Dan and John spoke with many attendees who stopped by the TCAA beautiful display that Dan prepared to promote the 2010 meeting that the TCAA will host next April. Colorful informational fliers provided by John were also hot items. During the Saturday afternoon NCRAL business meeting Dan and Carl had an opportunity to speak with about 50 attendees about the 2010 NCRAL gathering in Bloomington-Normal.

All tolled, the CAA hosted an excellent meeting that will be a hard act to follow. The 2010 NCRAL planning team learned lots about holding the Region's meeting, and will have to redouble their efforts to ensure that we have a similar event worth remembering.



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

## 2009 IYA SESSIONS @ BPL

The TCAA's saga into astronomy in recognition of the International Year of Astronomy continues. Family astronomy workshops for those aged 10 years and above will take place from 1:30 to 3:00 p.m. on the 4<sup>th</sup> Saturday of each month at Bloomington Public Library throughout 2009. The tentative dates and topics for the remainder of the year are as follows:

Date	Topic	Possible Activity	Coordinator(s)
May 23	Our Sun	Eclipses, seeing sunspots.	Dan Miller
June 27	Clusters of Stars	The color-magnitude dia-	Carl Wenning (tentative)
July 25	Black Holes	Building a black hole	Carl Wenning (tentative)
August 22	Rocks and Ice in our Solar	Making a comet	
September 26	Planets and Moons	CLC goo activity	
October 24	What is the Fate of the Uni-	Study an explosion	
November 28?	The Lives of Stars	Light and spectra	
December 26?	Discovering Other Worlds		

These events are all intended to include hands-on, minds-on activities. Coordinators are needed for the majority of these events. Please inform Carl Wenning at [wenning@phy.ilstu.edu](mailto:wenning@phy.ilstu.edu) if you are willing to coordinate one or more of these events.

## APRIL E/PO

On Friday evening, April 3<sup>rd</sup>, Lee Green and Dan Miller met with Dr. Linda French to provide a viewing session on the IWU campus near the Mark Evans Observatory. This was scheduled as part of the Illinois Section of the American Association of Physics Teachers held at IWU. Lee brought his 14-inch telescope and Dan set up his Sky Scout. In addition to the conference of physics teachers were invited to attend, quite a few students just happened along and took the opportunity to view a few objects, including Saturn that was a hit for some. Estimates ranged from 50-75 people in total who were able to enjoy viewing a variety of celestial objects and touring the observatory during the three-hour session.

The following day, Dan, Lee, and Paul Pouliot had a good session at the Pontiac Junior High School. Our astronomical trio set up a variety of activities to introduce the students to telescopes. Approximately 65 students came through the area to learn about how lenses and mirrors are used to collect light and magnify images. After they saw how the theory worked, they were invited to build a telescope using the kits that the TCAA purchased. They also examined the telescope that Paul

brought to view a daylight scene through the scope. Then they viewed the Sun using Dan's solar binoculars. It was a fun session that lasted about two and one half hours. These events constituted the club's contributions to the 2009 IYA "100 Hours of Astronomy." The school donated \$30 to the TCAA in recognition of our efforts.

April 25<sup>th</sup> saw two education/public outreach events for the general public. From 1:30-3:00 p.m., Carl, Lee, and Duane Yockey continued with the "Classroom for Kids" series at BPL in celebration of 2009 as the International Year of Astronomy. The focus of their activity was *Galaxies and the Distant Universe*. Eight guests attended the session that included a hands-on water platter activity dealing with the origin of the universe. The skies were mostly overcast for the April Public Observing Session scheduled that evening. Nonetheless, Lee and William Carney were at the Nature Center to greet guests but did not bring telescopes. According to Lee, "We had three people stop by and they got a tour of the observatory, an informal computer presentation, and a sky tour during the 1/2 hour of clear skies before the haze returned. We left at 10:15 p.m."

## AL OBSERVING PROGRAM STANDINGS

Below is a listing of the status of observers pursuing AL observing programs reported as of March 31<sup>st</sup>. 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.

AL Award	Brian Barling	William Carney	Lee Green	David Hahn	Dave Osenga	Carl J. Wenning	Duane Yockey
S. Skies Binocular 50						50*	50*
S. Sky Telescope 50						(52)	(50)
Telescope Messier Prov70/Hon110	(110)	(110)	103*	101*	72*	(110)	31
Binocular Messier 50		(100)	42			78*	16
Deep Sky Binocular 60		16					
Herschel 400 Club	249	400*	400*			(400)	
Urban Club 100		(100)	95			100*	
Comet Club Silver12/Gold30		31*				4	
Double Star Club 100	17		0			100*	
Planetary Neb Club Bas60/Adv110		1				59	
Globular Cluster Club 50						56*	
Lunar Club 100	(100)	(100)	93			100*	
Lunar II Club 100		6					
Asteroid Club Reg25/Gold100		(44)					
Outreach Bas10/ Stellar60/ Master160			60 <sup>h+</sup> *, **			31 <sup>h</sup> -06* 26 <sup>h</sup> -07 44 <sup>h</sup> -08** 17.5 <sup>h</sup> -09	

\* Program or first award level now complete. \*\* Second award level now complete. Both \* and \*\* will receive AL recognition (certificate and pin) at the next general membership meeting if available. Numbers in parentheses (#) indicate that the award has been both earned and received.

## APRIL OBSERVERS' LOG

The moon phase and overcast sky conspired against observers during the early part of the month. On Saturday, April 11<sup>th</sup>, William Carney went out to SGNC at about 9 p.m. to view another new comet, the last he needed for the AL Comet Club gold award. He reported, "It's a new comet, C/2009 F6 Yi-Swan, in Cassiopeia. It's dim and diffuse at about 8.5, but noticeable." Congratulations to William for completing another observing program.

William also reported spending observing from SGO from 11:30 to 2 a.m. the night of April 16/17. He observed all remaining 9 Herschel 400 objects required for that award, and one more comet. He noted, "It was a dim one that I had not gotten before – 65 P Gunn. With a very clear night and not much problem with the 12" I was able to spot it. It was somewhere between 11<sup>th</sup> and 12<sup>th</sup> magnitude with a very slight coma." Congratulations again to William for completing yet another observing

program!

On Earth Day, April 22<sup>nd</sup>, William, Bobby Arn, and Lee Green went to SGNC for observing on a wonderful clear cool evening. They arrived around 8 p.m. William was doing deep sky binocular work. Bobby was imaging the Beehive, the tail of the Big Dipper and the Leo triplet. Lee was working on the Herschel and Messier lists. Lee now has 103 Messier objects.

For the record, Brian Barling has continued viewing Herschel objects from time to time. He is now at 249. Recently William recently began the deep sky binocular and planetary nebular observing clubs and has recorded 17 observations combined. He has also added to his asteroid club and Lunar II club counts. Lee has also upped his observing counts as he closes in on the urban and lunar clubs. The most up-to-date observing club totals are found in a table elsewhere in this issue of *The OBSERVER*.

## MAY SKY GUIDE

<b>02</b>	Venus is at greatest brilliancy, 10 A.M.	  
<b>04</b>	The Moon passes 6° south of Saturn, 6 A.M.	 
<b>05</b>	Eta Aquarid meteor Shower peaks	
<b>10</b>	The Moon passes 0.6° north of Antares, 4 P.M.	  
<b>17</b>	The Moon passes 3° north of Jupiter, 3 A.M.	 
	The Moon passes 3° north of Neptune, 4 A.M.	
<b>18</b>	Mercury is in inferior conjunction, 5 A.M.	
<b>19</b>	The Moon passes 5° north of	
<b>21</b>	The Moon passes 7° north of Venus, 3 A.M.	 
	The Moon passes 7° north of Mars, 3 P.M.	 
<b>25</b>	Jupiter passes 0.4° south of Neptune, 8 A.M.	 
<b>31</b>	The Moon passes 6° south of Saturn, noon	 

## 2009 PUBLIC OBSERVING SESSIONS

Throughout 2009 – the 400<sup>th</sup> anniversary of the invention of the telescope – we acknowledge the astronomical work of Galileo in our Public Observing Sessions. One, and preferably two, coordinators are needed for all Saturday events as illustrated in the table below. Don't hesitate to volunteer to lead a public sky viewing session if you are qualified to do so.

Date	Times	Sunset	Topic	Coordinator(s)
May 23	9:00 PM ~ 11:00 PM	8:13 PM CDT	Galileo's Universe	Dave Osenga
June 27	9:00 PM ~ 11:00 PM	8:31 PM CDT	Craters of the Moon	Dave Osenga
July 25	9:00 PM ~ 11:00 PM	8:18 PM CDT	Galileo's Telescope	Dave Osenga
August 22	8:30 PM ~ 10:30 PM	7:43 PM CDT	Jupiter and Neptune	Dave Osenga Carl Wenning
September 19	7:30 PM ~ 9:30 PM	6:58 PM CDT	Exploring the Milky Way	John Werner Dave Osenga
October 17	7:00 PM ~ 9:00 PM	6:13 PM CDT	The Pleiades Star Cluster	John Werner Dave Osenga

Additional prominent sky objects such as planets, nebulae, star clusters, and galaxies will be viewed when visible. *When uncertain if an observing session will be held, call one of the following cell phone numbers after 6:00 pm:* 309-830-4085 (Carl) or 309-824-2804 (Lee). The updated 2009 public brochure for these sessions can be downloaded from the club's web site: [www.tcaa.us](http://www.tcaa.us).

## 2009 MEMBERS-ONLY OBSERVING SESSIONS

The club's members-only observing sessions are slated one week earlier than the club's public sky viewing sessions. This ensures club members with a dark night, and a public sky viewing session with typically a crescent moon. Member-only observing sessions begin as soon as the sky grows dark enough for viewing, usually one hour after sunset. Coordinators are needed for each session to ensure that at least one telescope is available for viewing with TCAAers not in possession of their own telescopes.

Date	Coordinator(s)	Date	Coordinator(s)
May 16	Dan Miller	September 12	Carl Wenning
June 20	Carl Wenning	October 10	John Werner
July 18	Lee Green	November 14	Lee Green
August 15		December 19 (Saturnalia)	Carl Wenning

## OPTIMIZING OBSERVATIONS OF DEEP SPACE OBJECTS IV

By Carl J. Wenning

Two recent developments have more strongly influenced my “ability” to observe deep space objects than anything else. They are the advent of “go-to” telescopes and the Astronomical League’s observing programs. When I first heard about go-to telescopes in the early part of this decade, I wasn’t quite sure what to expect. I shortly thereafter observed with Michael Rogers as he used his 8-inch Meade go-to telescope and fell in love with the concepts of “auto finding” celestial objects. Thanks in part to Michael, I moved to the next stage of amateur astronomy.

I was tired of seemingly crawling around on the ground on my hands and knees in order to keep seeing the same objects. I rarely took the time to observe any object that required me to search using approaches such as sweeping and star hopping. I especially hated bending over my telescope or contorting my body to use the straight-through finder to locate object nearly overhead. Astronomy was quickly getting older than me, and literally quite a pain in the back. The prospect of finding celestial objects at the push of a button held great appeal.

After using the SGO’s 12-inch Meade LX200 go-to telescope for the first time under the tutelage of William Carney, I was hooked. A few weeks later, I was immediately convinced of the good of my own go-to telescope after finding 60 celestial objects with the SGO telescope in just over one hour. In the summer of 2006 I purchased my first go-to telescope. That Celestron CPC 11-inch now makes finding deep space objects a breeze, and has increased my viewing pleasure immensely. I just align the telescope on two bright stars and start observing by pushing a few buttons. Nothing could be easier.

Using a go-to telescope has effectively increased the visibility of celestial objects in a most impressive fashion. Deep space objects of every type are now eminently more accessible. I now can spend much more time observing deep space objects, and much less time searching the heavens for them. I have used my CPC 11-inch to glimpse (I really can’t call this observing!) more than 100 galaxies in a two-hour time span. While the cost of a high quality go-to telescope can be in the thousands, trust me, it is well worth it.

Equipped with a powerful go-to telescope, one can really take a tour of the universe. Having an observing program improves viewing almost immeasurably, but is often NOT thought of as way to improve “visibility.” I assure you, it is. Had the Astronomical League’s observing clubs not existed, I would never have viewed 100 features on the moon, 110 Messier objects, 400 Herschel objects, 100 Urban objects, nearly 60 planetary nebulas and 50 globular clusters (to date)! Neither would I have found curious individual objects such as comets, asteroids, and deep red carbon stars.

So, folks, there you have it, how to optimize observations of deep space objects. I hope that you have been as inspired as I have by the four-part series and will spend some time out under the stars this summer. Now, let’s star putting this knowledge to use.

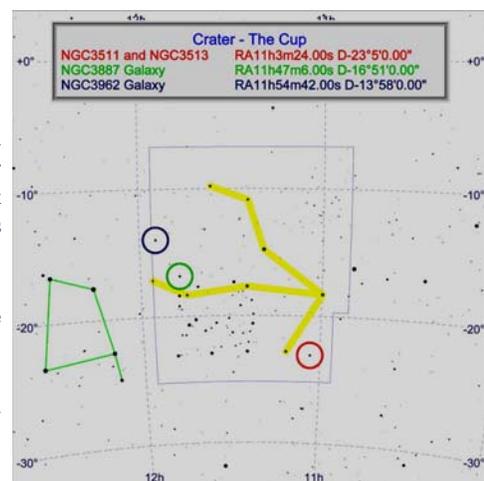
Note: Portions of this article are based on The virtual observer: A new breakthrough technology for the visual observer by Roger Blake appearing in *Astronomy Technology Today*, Volume 2, Issue 9, September 2008.

### CONSTELLATION OF THE MONTH: CRATER—THE CUP

Crater is shown as a wine cup or chalice sitting on the back of Hydra. In mythology, Crater is the cup used by Corvus, the Crow, to fetch water for Apollo. Corvus delayed his return when he saw a fig tree he waited for the fruit to ripen. Returning to Apollo with the cup and a water-snake, Hydra, in his claws, Corvus blamed the delay on the snake. Apollo, seeing through the deception set the snake to eternally separate Corvus from the Cup.

Astronomically, Crater is the 53<sup>rd</sup> largest constellation, covering 282 square degrees, and the 71<sup>st</sup> brightest. The brightest star in Crater, known as Alkes, has a magnitude of 3.5. The center of Crater is at opposition on March 10.

Being away from the Milky Way, Crater’s deep-space objects are populated primarily with galaxies. Among these are NGC 3511 and NGC 3513, two galaxies that are closely spaced, NGC 3887 and NGC 3962, to name a few.

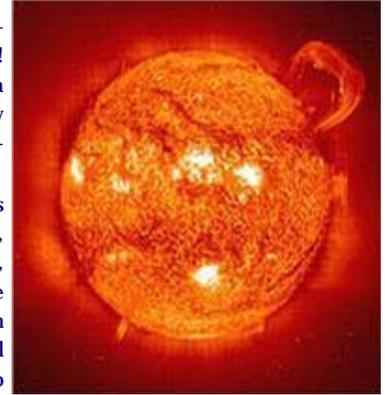
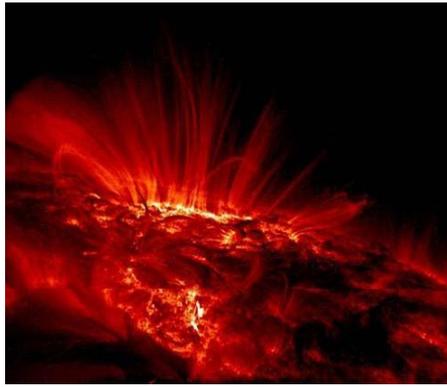


## OUR SUN

### From May 2009 International Year of Astronomy Discovery Guide

It warms the days, gives plants energy to grow, and allows us to see everything around us. In fact, without our Sun, we would not be here at all! Born from a cloud of gas and dust about 5 billion years ago, our Sun is a relatively quiet middle-aged star of average size in the suburbs of the Milky Way galaxy. But for Earthlings, the Sun couldn't be more special or fascinating.

As normal as our Sun seems on paper, it's not such a tame place. It was once thought that the Sun and all of the objects in the night sky were stable, unchanging spheres. When Galileo observed the sun through a telescope, his observations turned that idea on its head. He was one of the first people to record sunspots using a telescope. Sunspots are dark, irregular areas on the surface of the Sun caused by changing magnetic fields. They appear and disappear over hours to months and can be larger in size than the whole Earth.



Even though it is far away, the Sun's influence is so powerful that eruptions can affect satellites and power grids here on Earth and cause the beautiful auroras. Scientists at NASA are busy learning about the Sun's activity using some hot new technology. The STEREO mission has sent two space probes into the Earth's orbit- one ahead and one behind. Just like our two eyes allow us to see in 3D, the two cameras give us a 3D picture of the Sun. The Hinode mission is showing a magnetic field even more active than previously thought. And the THEMIS mission is investigating how the solar wind powers auroras like the Northern Lights.

\*\*\*It is very dangerous to observe the Sun directly. It can hurt your eyes and even cause blindness. Do not stare directly at the Sun or look at the Sun through a telescope without an approved solar filter.

Learn more about sunspots at <http://solarscience.msfc.nasa.gov/SunspotCycle.shtml>

Learn more about auroras at [http://www.nasa.gov/worldbook/aurora\\_worldbook.html](http://www.nasa.gov/worldbook/aurora_worldbook.html)

Learn more about STEREO at <http://www.nasa.gov/stereo/>

Learn more about Hinode at <http://solarb.msfc.nasa.gov/>

Learn more about THEMIS at <http://themis.ssl.berkeley.edu/index.shtml>

Find tips on safely observing the Sun at: <http://www.spaceweather.com/sunspots/doityourself.html>

You can also find wonderful live pictures of the Sun at <http://www.spaceweather.com/>

Learn more about the Sun from <http://sunearth.gsfc.nasa.gov/missions/index.php>

See what else is planned for the International Year of Astronomy at <http://astronomy2009.us/>

# TCAA Treasurer's Report – April 2009

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OPERATING FUND BALANCE – March 31, 2009 - \$ 2,941.30 \*

Income

Randall Byland (dues) - \$ 41.00

Expenses

LYB Inc. (April Observer) - \$ 20.89

William Carney (SGO Repairs) - \$ 8.54

Grinnell Mutual (liability insurance) - \$ 139.00

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OPERATING FUND BALANCE – April 30, 2009 - \$ 2,813.87

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OBSERVATORY FUND BALANCE – March 31, 2009 - \$ 2,144.74

Income

Pontiac Jr. H.S. PTO (donation) - \$ 30.00

Interest (Jan. - March) - \$ 0.67

Expenses

None - \$ 0.00

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OBSERVATORY FUND BALANCE – April 30, 2009 - \$ 2,175.41

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TOTAL TCAA FUNDS – March 31, 2009 - \$ 4,989.28

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Respectfully submitted,

L. Duane Yockey, Treasurer

## Sugar Grove Observatory

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

Duane Yockey (renewed through 2009)

Michael Rogers (renewed through 2008)

William Carney (renewed through 2009)

Carl Wenning (renewed through 2009)

Brian Barling (renewed through 2009)

Christopher Franklin (renewed through 2008)

David Osenga (renewed through 2009)

Josh Lindsey (renewed through 2008)

Andrew Morrison (February 2008)

Dan Miller (renewed through 2009)

Lee Green (renewed through 2009)

## UPCOMING EVENTS

May 12 — TCAA Board Meeting, LYB,  
6:30 p.m.

May 12—NCRAL Planning Meeting,  
LYB, 8:00 p.m.

May 16—Members-only Observing Ses-  
sion, dusk

May 23—Classroom for Kids, BPL, 1:30  
p.m.

May 23—Public Observing Session,  
SGNC, 9:00 p.m.

## WELCOME NEW MEMBERS

**Randall Byland**  
**Marsha Fogarty**  
**Matt Green**

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### 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/](http://www.twincityamateurastronomers.org/)