NORTHERN LIGHTS

NORTH CENTRAL REGION OF THE ASTRONOMICAL LEAGUE

Autumn 2025 - Volume 10, Number 2

INSIDE THIS ISSUE OF *Northern Lights*

CHAIR'S MESSAGE

This summer has been memorable for me. I am still basking in the glow of the wonderful Astrocon 2025 in Bryce Canyon, Utah. Bryce Canyon is a great place to visit with spectacular scenery and a first-class convention center at Ruby's Inn. Despite the wildfires just outside the park, which occasionally clouded the skies with smoke, I was able to set up my scope four nights in a row (virtually impossible to do in the Midwest) and capture amazing views of the sky and astronomical objects. The most enjoyable part of the observing sessions, however, was the camaraderie. Several of us from the NCRAL region set up scopes near each other at the astro-imaging area, which was set aside for Astrocon attendees by the conference planners. I learned a lot about my ASIAir and camera equipment by discussing with those around me. We also challenged each other to image challenging and beautiful astronomical objects. It was educational and fun to egg each other on in trying new things. You can read more about Bryce below. For me, it was a great way to kick off the summer.

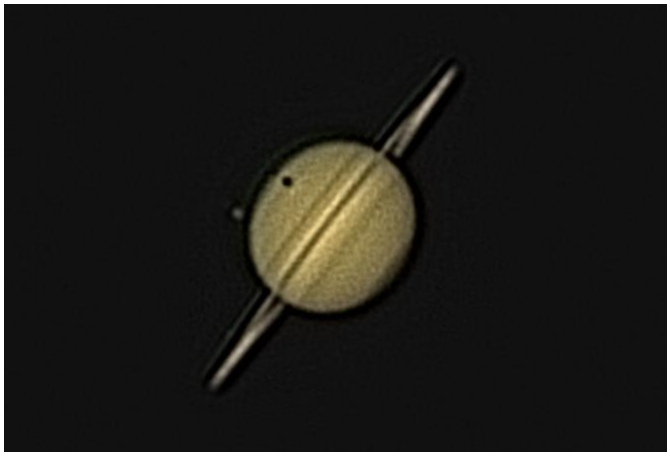
On the way back home from Bryce, my wife Sara and I stopped by to visit the Black Hills Astronomical Society, Rapid City, SD, and the Badlands Observatory in Quinn, SD. I want to thank Rick Van Ness, observatory director of BHAS's Hidden Valley Observatory, who gave us a tour of their facility. I would also like to thank Ron Dyvig and Teresa Hofer, who gave us a nice tour of the Badlands Observatory.

Closer to my home in the Quad Cities, I attended the Eastern Iowa Star Party hosted by the Quad Cities Astronomical Society at the Menke Observatory near Dixon, Iowa. This was also an excellent opportunity for camaraderie and learning. We also had great weather and great dark sky observing. Thanks to John Baker, president of QCAS, and to everyone who participated in EISP.

I would also like to thank Josef Chlachula, our NCRAL webmaster, for the bang-up job he is doing with the website. I am particularly impressed with his work of hosting live broadcasts of this summer's Titan Shadow transits. As I write this, we have had three successful Zoom meetings with NCRAL members, who have shown live views of the planet Saturn and Titan's eclipse shadow as it transits the planet. I'm hoping to continue providing similar observing sessions using Zoom to allow folks from around the region and beyond to observe unique astronomical events virtually. If you have suggestions for such events, feel free to contact us.

Get your calendars out and mark May 15-17 for the Eastern Iowa Cosmic Conference. NCRAL 2026's theme is "Mission Possible" and will be hosted by the Cedar Amateur Astronomers at the DoubleTree by Hilton in Cedar Rapids, Iowa. CAA's planning committee is putting together a wonderful conference—one you will not want to miss. So put that on your astronomical things to do next year!

I would like to thank the numerous contributors to this issue of the ***Northern Lights***. Your newsletter editor, Carl Wenning, has worked diligently to assemble a fine newsletter. This would not be possible without the contributions from writers from around the region. Please feel free to contact us with material for future issues.



Titan shadow transit image by John Baker, QCAS Menke Observatory, September 4th

For clubs that have a virtual (Zoom) component to their club meetings, I have been attempting to attend. I've lost track of the number of meetings, but I have attended quite a few and am very impressed with the quality of your speakers and the meetings themselves. Thank you for including me in your meetings.

Finally, I really want to thank the Sangamon Astronomical Society and their selection committee, who selected me to receive the Donald C. Jardine Service to Amateur Astronomy Award. This award is given to individuals who demonstrate qualities that encourage interest and appreciation of astronomy, provide guidance to those seeking further advancement, and offer leadership within their support group. For me, this is really an honor, and I am very touched. I especially want to thank John Baker of QCAS who nominated me for the award.

Alan Sheidler
NCRAL Chair

TREASURER'S REPORT – JULY 1, 2025, THROUGH AUGUST 31, 2025

ROY GUSTAFSON, NCRAL TREASURER

Check #	Date	Description	Amount	Deposit	Balance
	30-June-25	Balance brought forward			$7,937.12
	31-July-25				$7,937.12
	31-Aug-25				$7,937.12

Net Change: **$0.00**

CHARACTERISTICS OF A TRUE AMATEUR ASTRONOMER

A true amateur astronomer authentically exhibits a deep passion for the hobby. A true amateur astronomer will spend an appreciable amount of time daily doing astronomy in some fashion. It might be reading, writing, or speaking with others. It might be planning observations, making observations, or cleaning up observing records. It might be spending time with others who are amateur astronomers, attending conventions or other private or public gatherings, or working on behalf of others in their club or the community. They might spend time preparing and delivering presentations to the public or engaging in "sidewalk astronomy" – showing interested passersby the wonders of the heavens with a telescope from a city street. The key to being a true amateur astronomer is taking action in relation to the hobby nearly every day. Unless wanna-be amateur astronomers are actively engaged in the pursuit, they cannot honestly declare themselves to be true amateur astronomers!

TCAA Guide #3 – *Astronomy as a Hobby*

AstroCON 2025: Yet Another One for the Books!

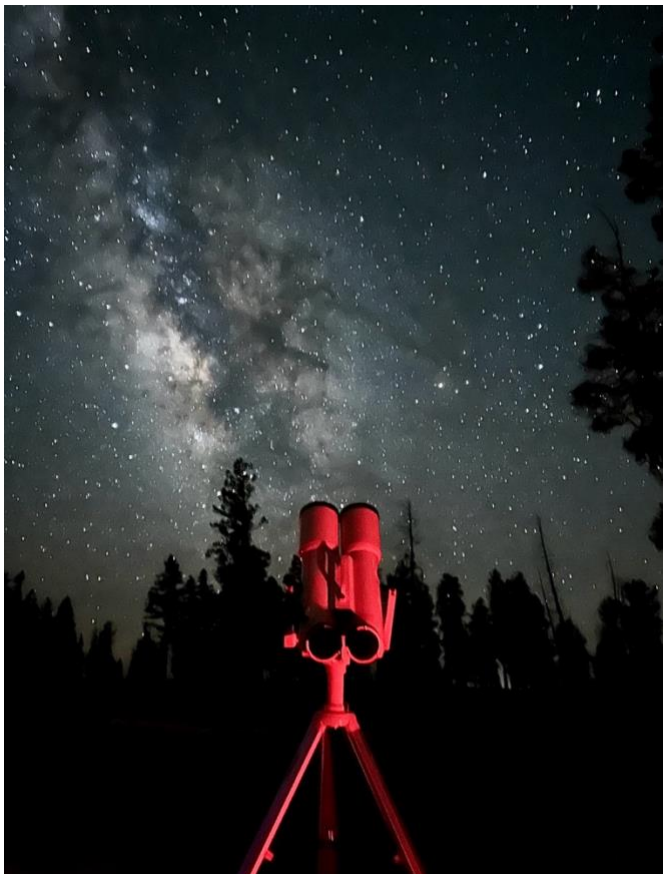
~ by Carl Wenning, Twin City Amateur Astronomers ~

AstroCON 2025, sponsored by the Astronomical League and held the new moon week of July 25–28 at breathtaking Bryce Canyon National Park, in Utah, was a truly unforgettable gathering of amateur astronomers from across the nation. Our venues were the world-class Ruby's Inn and nearby *Ebenezer's Barn and Grill*. As a featured speaker on the topic of *Night Vision Technology,* I was honored to contribute to a conference that so successfully blended scientific enrichment, observing opportunities, and a deep sense of community. Some 450 amateur astronomers attended this event, and I'm fortunate to be permitted to tell our NCRAL members about it.

Set against the stunning backdrop of southern Utah's red rock amphitheaters and world-renowned dark skies (Bortle 1), the event provided an ideal environment for both daytime and nighttime activities. The high elevation (8,000-9,000 feet depending on location), low humidity, and minimal light pollution made for exceptional observing sessions—and neither the Sun nor the Milky Way disappointed! The days were generally crystal clear, allowing for excellent views of the Sun in both white light and Hα. The nights were cool and clear, except for the occasional times when smoke from the nearby France Canyon forest fire drifted over the observing and photographic sites.

This image by NCRAL Chair Alan Sheidler won gold-level first place recognition in the Nightscapes category of the AstroCON 2025 photo contest. It was taken at Ruby's Inn Bryce Canyon Overlook on 27 June. Alan used a Nikon D7500 camera with 10-24mm zoom lens at F=10mm, f/3.5, 30-second exposure at ISO 8000. The camera was set up on an unguided tripod. The astronomers at work in the image are Jim Dole and Gary Gordon from the Planetary Studies Foundation, a NCRAL affiliate in Freeport, IL.

The best nighttime views of the convention were found at Rainbow Point – 18 miles south of Bryce Canyon City. Despite the nearby France Canyon wildfire, an atmospheric inversion layer trapped much of the smoke below the observing altitude. One participant summed it up perfectly, "We lucked out at AstroCON with wildfires burning just miles away. The inversion layer kept the smoke well below the 9100-foot elevation (at Rainbow Point), providing breathtaking views of the Milky Way that arched overhead." Servers reported spotting Omega Centauri, M16, and NGC 6124 with the unaided eye, and even Mercury near the Crescent Moon.



This stunning iPhone shot, which lasted 30 seconds, was taken at Bryce Canyon's Rainbow Point on June 26, 2025, during the AstroCON 2025 convention. The image was taken by Jerry Maynard, Northwest Suburban Amateur Astronomers.

Exhibitors included 15 vendors showcasing the latest gear or opportunities. Numerous door prizes were distributed throughout the convention. Additionally, an astrophotography contest showcased images captured during AstroCON from Bryce Canyon. As noted above, NCRAL Chair Alan Sheidler won first place in the nightscape category with his Nightscape shot. Though not recognized as a winner, Randy Harrison of the River Bend Astronomy Club took a spectacular shot of Cygnus, including NGC 6888, which is shown in column 1 of this page.

AstroCON 2025 featured an impressive array of presenters from across astronomy disciplines. Yours truly gave a presentation on *Night Vision Technology,* where I described using the TCAA's military-grade image intensifier on a telescope, explaining what can be seen through Generation 3 white light night vision technology. I featured several dozen photographs that were taken with a 20-inch PlaneWave scope using cell phones at Waynesville Observatory. In so doing, I featured the work of TCAA members Patrick Connelly and Meredith Barkhurst.

Other notable speakers included Chuck Allen, Bill Brown, John Chapman-Smith, Scott Harrington, Cindy L. Krach, Jerico Kuehl, Dr. Shane Larsen, Terry Mann, Dr. Jeffrey W. Mirick, Dr. Brian Ottum, Dr. Stacy Palen, Howard Qian, Martin Ratcliffe, Cindy La Russa, Julian Shapiro, and Craig Stocks.

One of the standout moments was the keynote address by Dr. Shane Larson, who shared remarkable insights into the evolution of galaxies and black holes with clarity and enthusiasm. His talk set a high bar for a program that included dozens of excellent presentations, including workshops on imaging techniques, telescope automation, and outreach strategies that inspired attendees to take their efforts to the next level.

The workshops and breakout sessions were generally well-organized and covered a wide range of interests, though some could have benefited from more structure, clearer objectives, and more interactive elements. A few of the so-called "workshop" sessions were talks than hands-on learning opportunities. Additionally, the much-anticipated Star-B-Q fell short of expectations in terms of food (tacos, beans, and rice, not the sort of BBQ many had expected)—an unfortunate hiccup in an otherwise well-run event.

Still, what stood out above all was the camaraderie: the spirit of sharing, learning, and laughter that filled every hour, whether over a telescope or around the venue. AstroCON 2025 reminded me why amateur astronomy is such a rewarding and enduring pursuit.

One of Bryce Canyons many overlooks along an 18-mile road.

Sincere thanks to Lowell Lyon and the entire organizing committee – consisting of members from the Salt Lake Astronomy Club, members from societies in the MARS region and beyond, as well as the Astronomical League office and Bryce Canyon National Park, for delivering a first-class event in one of the most beautiful dark-sky locations in the world. With a few small refinements, the next AstroCON at Bryce Canyon will be even better. If you weren't there, you missed something truly special!

If you did not attend AstroCON or any ALCon in recent years, attending a national convention offers a wealth of benefits that can invigorate both personal passion and professional growth. One of the greatest rewards is the inspiration and motivation that comes from being surrounded by thought leaders, pioneers, and enthusiastic peers. Keynote speakers and panel discussions often spark fresh ideas and renew one's commitment to their field. Conventions also offer extensive learning opportunities through workshops, presentations, and hands-on sessions, allowing attendees to gain exposure to new techniques, tools, and cutting-edge research.

Beyond the formal sessions, conventions provide unmatched networking opportunities. They bring together like-minded individuals from across the country, creating a vibrant community where ideas are exchanged and collaborations begin. Attendees can meet potential mentors, colleagues, and vendors, and build relationships that last well beyond the event. Vendor exhibits and product showcases also allow for first-hand exploration of new technologies, tools, or educational resources, often accompanied by demonstrations or special discounts.

Professional development is another key benefit. Attendees gain exposure to diverse perspectives by learning how others from different regions or backgrounds are approaching shared challenges. The social and experiential side of conventions is just as valuable—shared observing sessions, meals, informal gatherings, and excursions foster camaraderie and lifelong friendships.

Ruby's Inn at Bryce Canyon City was the main venue for AstroCON 2025.

Returning from a national convention, participants are often energized with new ideas and practical insights they can apply to their own work or hobbies. For many, these events open doors to new career opportunities, invitations to collaborate, or platforms to share their voice. Finally, the travel itself adds an element of adventure, with conventions frequently held in scenic or culturally rich destinations. Whether for personal enrichment, professional growth, or community connection, attending a national convention is a rewarding and worthwhile experience.

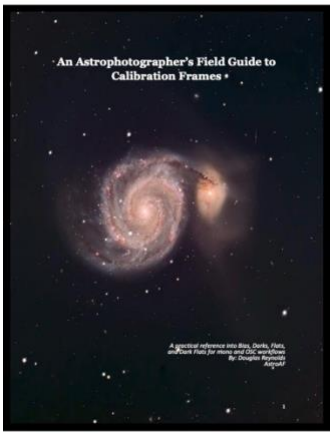
Let's not forget that the Astronomical League's next annual convention will be sponsored by the Cincinnati Astronomical Society and held in nearby Cincinnati, Ohio. The dates of the convention in 2026 are August 12-15. Mark your calendar and start making plans now to attend this sure-to-be fantastic event!

Did you know that NCRAL's *Northern Lights* newsletter has over 600 subscribers? Still, that's only about one quarter of the North Central Region membership. Please be sure to promote subscriptions among your club's members as a benefit of membership.

AstroBits

Here are some news notes that readers might find interesting or helpful. Items appear here as bullet points because they are too short to merit separate articles. If readers have something to share and want it to appear here, email this newsletter's editor at carlwenning@gmail.com.

- ***What's Up With the Astronomical League,*** along with lots of other announcements, can be found on the landing page of the AL website. Be sure to see all the relevant links and information by going HERE.
- Check out **NCRAL's Facebook page** at https://www.facebook.com/northcentralregionastronomicalleague/. There are lots of timely updates made there on a near-daily basis. Also, don't forget about the Astronomical League's Facebook page found here: https://www.facebook.com/search/top?q=astronomical%20league.
- The TCAA's Doug Reynolds has produced a new book for astrophotographers. ***An Astrophotographer's Field Guide to Calibration Frames*** is a practical reference designed to help you understand, capture, and apply calibration frames for deep sky astrophotography using both one-shot color and monochrome cameras. Whether amateur astronomers are just getting started or refining an advanced workflow, calibration frames are essential to producing clean, accurate, and artifact-free images. This guide walks you through how to master calibration frames — and, more importantly, how to reuse them confidently session after session. More than a one-time read, this guide is designed to be a field-ready reference — something you can keep close and refer to whenever you need a refresher or a deeper understanding during your imaging projects. To learn more about this new publication, *click on the image to the right,* and it will take you to Doug's AstroAF website.



- **Barlow Planetarium Update –** The Barlow Planetarium at the University of Wisconsin–Oshkosh is now entirely owned by Winnebago County. In June, the Winnebago County Board of Supervisors voted to amend their 2025 budget and fund the campus planetarium through the end of the year, including transitioning the Barlow staff to county employment. Funding for 2026 will be done through the county's normal budgeting process later this fall. It is now up to the planetarium staff to demonstrate to county supervisors that the planetarium can be self-sustaining through ticket sales, memberships, and donations.
- **NCRAL 2026, *Mission Possible*, Cedar Rapids, Iowa, May 15-17 –** Discussions continue for all phases of the NCRAL 2026 Conference, also known as the ***Eastern Iowa Cosmic Conference***, to be held at the DoubleTree by Hilton in Cedar Rapids, Iowa, from May 15th to 17th, 2026. Three of the six speaker slots have already been confirmed. The University of Iowa will provide Professor Jasper Halekas, one of the developers of instruments aboard the Parker Solar Probe mission, and Professor Allison Jaynes, who has made significant contributions to the Aurora and TRACERS missions. The third speaker so far is Sean Walker, associate editor and contributor to *Sky & Telescope* magazine! Walker is also involved in the MDW Hydrogen-Alpha Sky Survey. The *Cedar Amateur Astronomers* planning committee has developed a logo for the conference and has prepared a promotional video that can be found through this link: http://bit.ly/4n7jl0f

Ongoing discussions include events on Friday night at the Eastern Iowa Observatory and Learning Center, as well as bonus activities our guests can visit before heading home on Sunday. Among those destinations are the Collins Aerospace Museum, the University of Iowa Astronomy and Physics Lab, the NRAO telescope site, and a tour of the new astronomical clock tower located at the Czech and Slovak Museum, which mirrors the original clock in Prague. The development of the conference website is still in progress and will be available soon. Look for more updates next month and start making plans for your unforgettable visit to Cedar Rapids, May 15-17, 2026!

- **Opportunity knocks at the Reflector:** Amateur astronomy has a wide field of view, featuring all sorts of interesting events and cool equipment. The Astronomical League is seeking someone to help amateur astronomy by volunteering to be part of the Reflector magazine team and to assume the duties of the Reflector Advertising Representative. This is an opportunity to interact with star party and convention organizers, merchandise vendors, and equipment manufacturers while gaining a firsthand view of the state of the hobby. The primary responsibilities of this volunteer position include:

  - Coordinate all incoming advertisements from multiple sources.
  - Send ad placement deadline reminders to all advertisers.
  - Send all ads received to the Design Editor for placement.
  - Generate invoices for each advertiser and send via email or hard copy (with complimentary current issue).
  - Send invoices to the Treasurer to track payments.
  - Proofread draft issues to ensure all ads are included and accurate.
  - Review the ads for spelling, grammar, image placement, and correct information, and contact advertisers to make any necessary changes.
  - Identify (and contact) potential new advertisers.
  - Field emails and answer questions from advertisers.

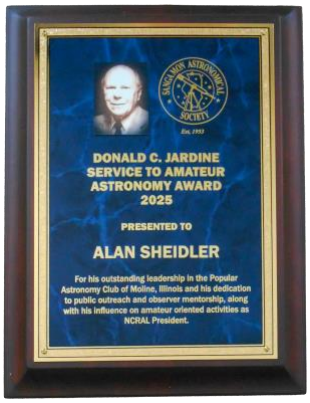
  The AL estimates that about 10 hours per month should be adequate to fulfill all the above duties. If this fun and important role is for you, please send your name to Reflector managing editor Kristine Larsen at larsen@ccsu.edu.

- **Large Amount of Astronomical Equipment for Sale:** The Twin City Amateur Astronomers are divesting themselves of a considerable amount of unused and unwanted astronomical equipment. They will soon have available for sale 33 items, with additional items becoming available soon. Items range from a 24" *AG Optical* f/11 reflector on a *Software Bisque* Taurus 600 yoke mount, to a *Celestron* EdgeHD 11" SCT, to a 50mm *Lunt* Hα telescope, to *SBIG* and *Canon* cameras and a variety of planetary video and guide cameras, to *Flat-Man* field flats, to eyepieces and Barlow lenses, to 42" telescope piers, to you name it. Reserve sale prices start at 25% to 40% off original pricing. Many items are in "like new condition" and everything will be sold as "used" and on an "as is" basis. Club members have first right of refusal, but unsold items will be available for bidding and purchase by non-club members shortly after October 1st. Contact Carl Wenning at carlwenning@gmail.com to view the materials list and learn more about the bidding and acquisition process.

- Note from the AL's Mitch Glaze: The ***RASC 2026 Observer's Handbooks*** (USA version) and 2026 RASC Calendars are available for PRE-ORDER on the League Sales web store at https://store.astroleague.org/. League Sales sells these items each fall at a great price with our members in mind. Stock typically arrives in late November and is usually shipped to customers in December, in time for the holidays/Christmas. We suggest ordering early to ensure availability. We order a limited number of these items, and once they are sold (or pre-sold), we will not be able to obtain any more. If your group or club wants to place a group order, you will find versions of the RASC Calendar for 6+ units and for the *RASC Handbook* for 10+ units, both on the League Sales web store. BE SURE TO LOOK FOR THE DIFFERENT ITEMS ON OUR WEB STORE -- THE SINGLE COPY ITEM AND THE BULK QUANTITY ITEM (10+ Handbooks or 6+ Calendars). Those will save you a bit on the per-unit cost and will also receive free shipping on the order. Ordering from the Astronomical League saves you from paying import fees

and shipping costs from Canada, and the Astronomical League has the best prices around on these great items. Shipping costs on small orders shipped directly from Canada have increased significantly this year; ordering through the Astronomical League will save you money!

- **An updated version of the Summer 2025 issue of *Northern Lights*** has been added to the NCRAL newsletter archive. This latest version includes a detailed listing for the Noteworthy! column that is regularly included. The information needed to update that column with AL observing program accomplishments did not arrive until after the newsletter editor departed for AstroCON 2025. Rather than overwhelming the column with too much information in the autumn issue, your editor decided to put out an updated version of the summer issue. Please share this information with your membership.
- The 2026 **Wisconsin Observers Weekend** (**WOW 2026**) is officially scheduled for June 11–14, 2026, at Hartman Creek State Park—mark your calendar!
- The **University of Wisconsin-La Crosse planetarium** is going to be demolished. Here is an online story about the demolition. Be sure not to miss the link for the video interview with 50-year director Robert Allen. The planetarium first opened in 1967 and is being demolished to make way for an expansion of a science center. Over 400,000 visitors have attended programs there over the 57+ years of its existence.
- **CONGRATULATIONS to Alan Sheidler!** NCRAL Chair Alan Sheidler has received the *Sangamon Astronomical Society*'s *Donald C. Jardine Service to Amateur Astronomy Award.* This award is given to individuals who demonstrate qualities that encourage interest and appreciation of astronomy, provide guidance to those seeking further advancement, and offer leadership within their support group.



"…Your efforts in public outreach, mentoring other amateur astronomers, leading the Popular Astronomy Club, and your role as [Chair] of the NCRAL involve time, effort, communication skills, and self-motivation. These activities align with the criteria for this award. The award consists of a plaque featuring Don Jardine's likeness, the year of the award, your name, and a brief statement recognizing your contributions to promoting astronomy in the Midwest…"

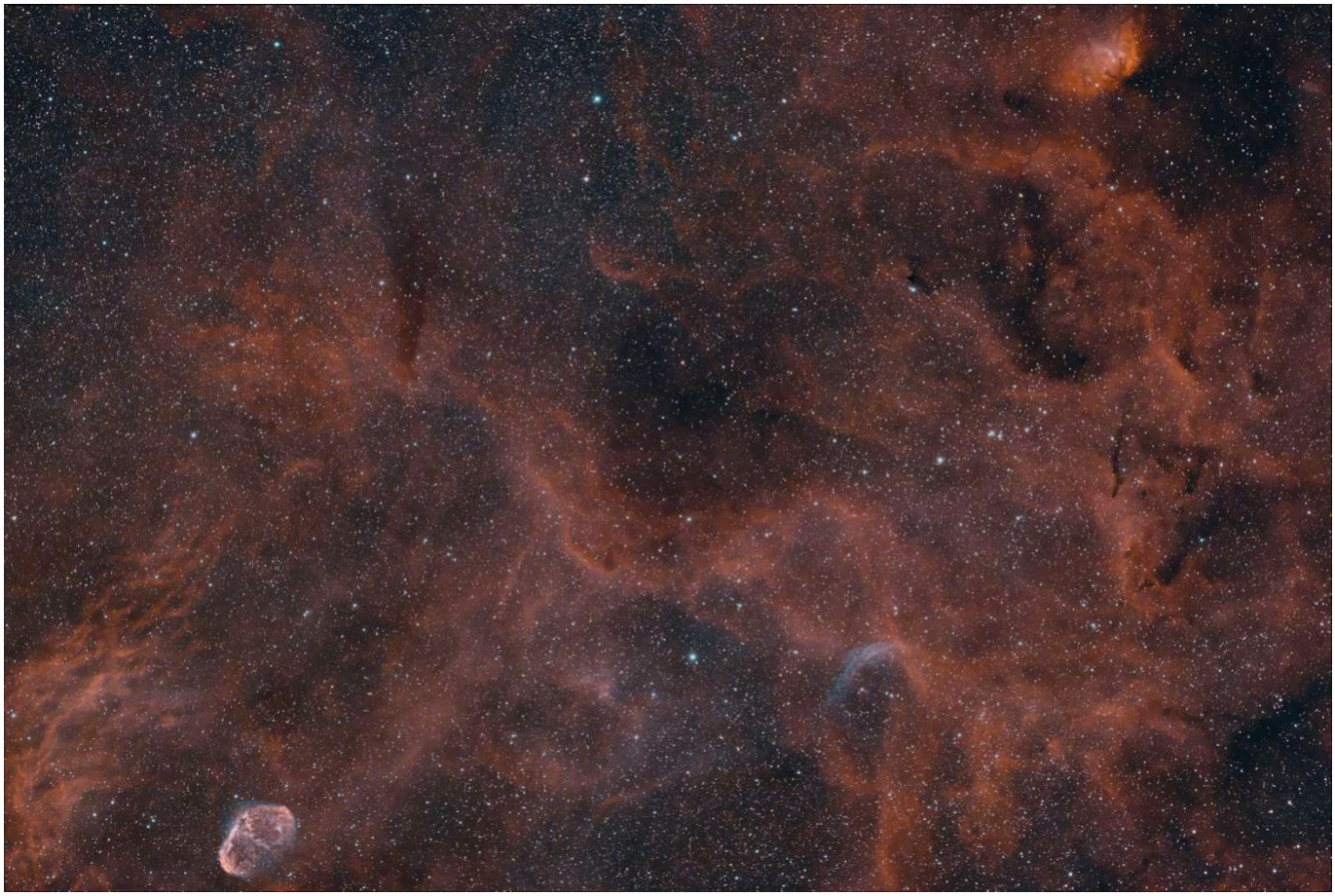
Congratulations, Alan!

- The **Eastern Iowa Star Party** (EISP) was held August 22-24. Fortunately, the observers encountered clear skies. Here are a few images from that event. The **Quad Cities Astronomical Society** and the **Popular Astronomy Club hosted the event.** This year was the 40th EISP event. Dozens more images can be found on the QCAS website… https://qcastro.org/images/2025%20EISP%20pictures/index.html

- **A new comprehensive index for *Northern Lights*** (Summer 2016 – Summer 2025) has been posted to the NCRAL website's newsletter archive page. Check it out at https://ncral.org/newsletter-ar/
- **Astronomy and Cataracts?** An important article came to the attention of your editor recently that deals with streaking of stellar images caused by cataract surgery. Joe Comiskey of the Kalamazoo Astronomical Society pointed it out. Check it out at https://www.jerryoltion.com/Cataracts_and_Astronomers.pdf
- The **Twin City Amateur Astronomers** are happy to announce that they have completed work on their fully handicap accessible Prairie Sky Observatory at Funks Grove Nature Spaces. It will be open for service soon.

SPEAKERS BUREAU

The leadership of the North Central Region proudly announces the beginning of this new service. The brainchild of NCRAL Chair Alan Sheidler, the NCRAL Speakers Bureau will facilitate the acquisition of professional speakers for meetings and other events for our Region's affiliates. Many individuals have indicated a willingness to serve as speakers. Most speakers are available for presentations over Zoom, though some might also be willing to attend club meetings and other events. Please contact the speaker directly through our NCRAL Speakers Bureau listing to arrange a presentation. Speak with them frankly about arrangements, including accommodations, meals, travel expenses, and honorarium, if any.



Here's an image by Randy Harrison (River Bend Astronomy Club) during AstroCON. It shows the Cygnus Region, including WR-134, the Crescent Nebula (NGC 6888), and the Tulip Nebula. Starfield G60 Telescope, ASI 2600 MC. Camera, Sky-Watcher Wave150i Mount, Starfield 30mm guide scope, Filter.- IDAS NBZ ll. Total exposure: 2 hours and 15 minutes. Taken at Bryce Canyon's Sunset Point

ADD YOUR EMAIL ADDRESS TO THE NCRAL MEMBER DATABASE

Did you know that only about 600 of our Region's 2,400 members (25%) receive this newsletter? That's less than one-quarter of the membership! Please help NCRAL get its newsletter out to the membership by encouraging fellow club members to add their email addresses to the NCRAL member database. Editors, please include this information in your affiliate's newsletter. It's one of the many benefits of being a member of Astronomical League.

When one adds their email address to the NCRAL member database, they will receive direct notifications about the availability of ***Northern Lights***. In addition, subscribers receive important and timely announcements about Regional conventions, elections, star parties, etc. Only blind addressing (Bcc:) will be used with this email list, so others will not see subscribers' email addresses. Email addresses will never be shared with or sold.

No one will add your email address to this list, so you must do it yourself. Sign-up takes only about a minute. Resubscribe if you recently changed your email address and are not receiving our notifications. You must provide your name, email address, and astronomy club affiliation (or indicate AL membership-at-large), and let us know if you hold specific positions within your club. Go to the following case-sensitive URL to add your information to our database at https://tinyurl.com/NCRAL today so you won't miss critical future communications.

NOTEWORTHY!

This item describes which NCRAL members have completed various Astronomical League observing and award programs in recent months. Its content is taken from ***Reflector***'s most recent issue***.*** As the listing below shows, North Central Region members continue to shine brightly. The following NCRAL members have completed the Astronomical League observing and award programs in recent months and were recognized in the **June 2025** issue of ***Reflector.*** Congratulations to all!

Solar Eclipse Observing Challenge (2024):
Steve Wolfgram, Silver, La Crosse Area Astronomical Society

Binocular Double Star Observing Program Award:
Jack Shelton, Minnesota Astronomical Society

Comet Observing Program:
Kevin C. Carr, Silver, Minnesota Astronomical Society

Deep Sky Binocular Observing Program:
Craig Endres, Milwaukee Astronomical Society

Imaging – Caldwell Observing Program:
Tom Holman, Minnesota Astronomical Society

Imaging – Messier Observing Program:
Tom Holman, Minnesota Astronomical Society

Lunar Observing Program:
Jack Shelton, Regular, Binocular, Eyes-Only, Minnesota Astronomical Society
David Husom, Regular, Binocular, Eyes-Only, Minnesota Astronomical Society
Kevin Carr, Binocular, Minnesota Astronomical Society

Outreach Program:
David Burnes, Outreach, Champaign-Urbana Astronomical Society

Solar Neighborhood Observing Program:
Kevin Carr, Eyes-Only, Minnesota Astronomical Society
Kevin Carr, Binocular, Minnesota Astronomical Society

Sunspotter Observing Program:
Jack Shelton, Minnesota Astronomical Society

Urban Observing Program:
Jack Shelton, Minnesota Astronomical Society

Variable Star Observing Program:
Lisa Wentzel, Twin City Amateur Astronomers

OBSERVATIONS AT BRYCE CANYON

~ by Alan Sheidler, Popular Astronomy Club ~

During AstroCON 2025, a group of NCRAL members met at Ruby's Inn Bryce Canyon Overlook to do some observing. I was able to go out four nights in a row and do imaging using my 10" LX200 and ZWO ASI2600MC Duo camera coupled with an ASIAir unit. Wildfires near Bryce Canyon created significant amounts of smoky haze, although I would judge the conditions there, at nearly 8,000-foot elevation, to be superior to what I would normally experience at home in Illinois. I have never been able to go out four nights in a row for observing, and after four nights hanging out past 1:00 A.M., I was getting a little fatigued. The observing sessions occurred on June 24-27.

My personal goal was to experiment with the ZWO camera and learn how to operate the ASIAir unit better using my iPad. These evening observing sessions were a great learning experience for me. Several of the fellow observers also had ASIAir units and offered excellent suggestions for how to operate the system. By the fourth night, I was able to use plate solving to center objects in the telescope's field of view as well as get the guide camera operational. I am not sure that guiding improves image quality, but I did manage to get guiding to function on a couple of occasions.

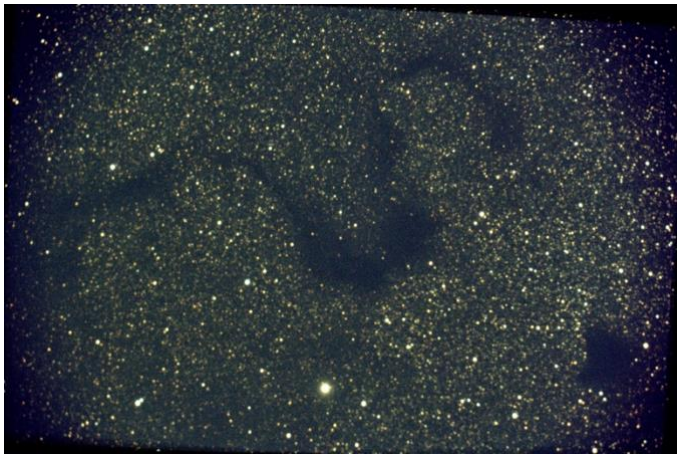
The telescopic images accompanying this article were taken with the scope set up in alt-az mode. This allowed reasonably good images for 20-second exposure times without guiding and 40 seconds with guiding. Significant field rotation could be noticed from one sub-frame to the next, but the live-stacking algorithm was able to align the fields most of the time. For live stacking to work effectively, the telescope must be perfectly focused. The relatively good seeing and stable atmosphere at Bryce also contributed to my success. I experienced very few dropped frames. With this mostly successful experience under my belt, I will try to repeat the process at home again in Illinois. I also plan to use the wedge to set up the scope in equatorial modes and see if it is possible to increase the exposure times.

Not only was this a good opportunity to learn how to use my equipment, but it was also a good deal of fun. Several NCRAL members observed together as a group. Not only was this an opportunity to learn how to operate equipment, but it was also a chance to learn about some unique and unusual objects. In particular, Jim Dole (Planetary Studies Foundation) suggested I try imaging a dark nebula called *The Snake*, LDN66. Using the ASIAir unit, I was able to locate this object and easily center it in the scope's field of view.

I also used my Nikon D7500 camera to capture some landscape photos at the observing site. One of the photos of Jim Dole and Gary Gordon (both from the Planetary Studies Foundation, see page 3) showed them working at their computers, imaging objects in the Milky Way. I submitted this image to the AstroCON astro-photography contest. Surprisingly, this image won top prize in the landscape open category.

This is the group of NCRAL members who participated in observing at the Ruby's Inn Bryce Canyon Overlook during the week of AstroCON 2025. In the photo are Jim & Jan Rutenbeck (Quad Cities Astronomical Society), Jim Dole & Gary Gordon (Planetary Studies Foundation), Mike Donatsch (Popular Astronomy Club), Randy Hemann (Rochester Astronomy Club), Randy Harrison (River Bend Astronomy Club) and Al Sheidler (Popular Astronomy Club).

I couldn't resist taking a couple of "selfies" shown above. Daytime temperatures were 75-80F, but the mercury dropped down into the 40s at night. There was a light breeze that caused significant vibration of the scope. Removing the dew shield solved the wind-induced vibration issue, and because the humidity was so low, there was no noticeable condensation on the optics.



LDN66, Barnard 72, "The Snake" in Ophiuchus. This image was taken using a 10" LX200 at F6.3, ZWO ASI2600MC Duo camera, stack of 14x40 second sub-frames.

Various other images taken during the week of AstroCON 2025. All images thanks to NCRAL Chair Alan Sheidler.

The Moon, June 25th, 2025. 10" LX200, f/6.3, ZWO ASI2600MC Duo, 10.0ms, gain 100.

M10, 10" LX200, f/6.3, ZWO ASI2600MC Duo, 22x10 sec subs, gain 100.

M20, Trifid Nebula, 10" LX200, f/6.3, ZWO ASI2600MC Duo

NGC4535, The Lost Galaxy of Copeland

M63, Sunflower Galaxy, 10" LX200, f/6.3, ZWO ASI2600MC Duo, 40x20 sec subs, gain 100.

NGC4565, The Needle Galaxy plus two uninvited guests.

M101, The Pinwheel Galaxy, 10" LX200, f/6.3, ZWO ASI2600MC Duo, 42x20 sec subs, gain 100.

M57, The Ring Nebula, 10" LX200, f/6.3, ZWO ASI2600MC Duo, 11x20 sec subs, gain 100.

M12, 10" LX200, f/6.3, ZWO ASI2600MC Duo, 22x10 sec subs, gain 100.

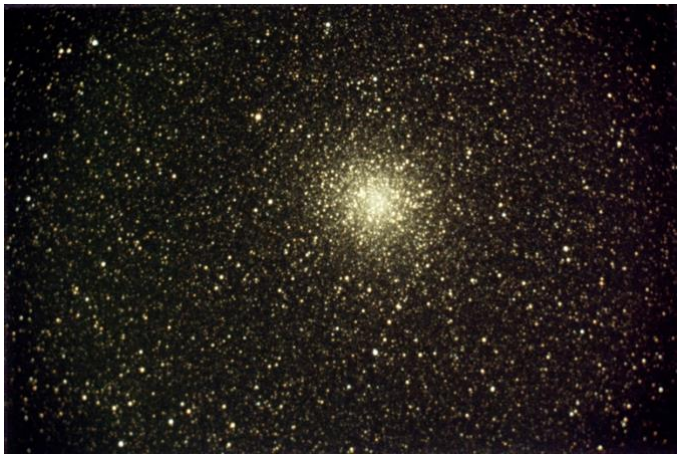
M17, The Swan Nebula or The Omega Nebula, 10" LX200, f/6.3, ZWO ASI2600MC Duo, 30x20 sec subs, gain 100.

M8, The Lagoon Nebula, 10" LX200, f/6.3, ZWO ASI2600MC Duo, 25x20 sec subs, gain 100.

M27, The Dumbbell Nebula or The Apple Core, 10" LX200, f/6.3, ZWO ASI2600MC Duo, 32x20 sec subs, gain 100.

M51, The Whirlpool Galaxy, 10" LX200, f/6.3, ZWO ASI2600MC Duo, 25x20 sec subs, gain 100.

M80, 10" LX200, f/6.3, ZWO ASI2600MC Duo, 32x5 sec subs, gain 100.



M22, The Sagittarius Cluster, 10" LX200, f/6.3, ZWO ASI2600MC Duo, 35x10 sec subs, gain 100.

M97, The Owl Nebula, 10" LX200, f/6.3, ZWO ASI2600MC Duo, 37x20 sec subs, gain 100.

M106, 10" LX200, f/6.3, ZWO ASI2600MC Duo, 36x20 sec subs, gain 100.

M16, The Eagle Nebula, 10" LX200, f/6.3, ZWO ASI2600MC Duo, 41x20 sec subs, gain 100.

NCRAL Chair Visits to Hidden Valley & Badlands Observatories

~ Alan Sheidler, Popular Astronomy Club ~

After the conclusion of Astrocon 2025 in Bryce Canyon, my wife, Sara, and I took a chance to visit the Black Hills Astronomical Society in Rapid City, SD, and the Badlands Observatory in Quinn, SD.

On the day of our visit to BHAS, June 30th, several club members were working at the observatory, assembling a new dome that will replace the original from 1965. BHAS has approximately 60 members and operates the Hidden Valley Observatory in Rapid City, South Dakota. During the summer months, they hold monthly public observing sessions, at least one club observing session (weather permitting), and host private star parties year-round. BHAS also hosts a star party at Custer State Park (south of Rapid City) every summer. Last year, the event drew 420 visitors. Club members also set up their telescopes at the Annual Astronomy Festival in Badlands National Park (east of Rapid City). The BHAS is a very active and enthusiastic group. Many thanks to the club's observatory director, Rick Van Ness, who took a few minutes to meet with us for our visit. *Sorry to interrupt your work at the Hidden Valley Observatory!*

On July 1st, Sara and I visited the Badlands Observatory in Quinn, South Dakota. The observatory is built on the site of the former Quinn Community Hospital, which was closed in 1968. Eventually, Ron Dyvig purchased the property, where, with the help of skilled volunteer assistance from BHAS members, he established one of the finest research-grade observatories in the North Central Region. Ron designed and fabricated the 26" mirror used for the main telescope, which sits atop a massive 12,000-pound concrete pier. The village of Quinn installed streetlights with full cut-off light fixtures to preserve the pristine Bortle 3 sky in western South Dakota.

Pictured at the entrance to Black Hills Astronomical Society's Hidden Valley Observatory is observatory director Rick Van Ness. Located northwest of Rapid City, South Dakota, the observatory sits on the edge of the Black Hills National Forest. The grounds include an outdoor classroom and observation field. The public is welcome on specific dates listed on the society's website.

First Light at the observatory was May 27th, 2000. Since then, the observatory has been used to observe asteroids. Participating in NASA's Spaceguard Project, Badlands Observatory has contributed over 2000 Near Earth Object observations, discovered 25 main belt asteroids, and helped determine the orbital elements for more than 120 newly discovered NEOs. As part of their public educational activities, Ron and Teresa have also been very active in providing private observing sessions at the observatory. Since 2021, Badlands Observatory has welcomed over 2500 visitors from the U.S. and abroad for various public and private nighttime and daytime sessions, which have been offered year-round, weather permitting.

Websites:

sdbhas.org/

badlandsobservatory.com/

Inside the Hidden Valley Observatory's 10' dome is a nice 12" LX200 SCT, which is equipped for imaging and to provide views of celestial objects on a TV screen for visitors. In this photo is Rick Van Ness, the observatory director.

BHAS club members were working on assembling a new Ash dome, which they had just brought from Plainfield, IL.

The Badlands Observatory also features a few other telescopes available for guests to observe celestial objects.

Ron can't resist taking a peek at the sun through one of the scopes at the observatory.

The Badlands Observatory is located on the north side of Quinn, South Dakota.

The Badlands Observatory also has a relatively large radio telescope. Seen here is the receiving equipment for the radio telescope and a collection of analog ham radio equipment that Ron still uses.

Ron Dyvig and Teresa Hofer are standing next to the 26" telescope in the observatory.

The observatory has a small museum for visitors.

The observatory also has a classroom for visitors.

Ron and Teresa also use the large flatscreen TV monitor to provide views of their excellent astrophotography and information from the internet.

Inspiring Curiosity for the Sun and the Hubble Space Telescope

By Jeffrey S. Moorhouse, President, La Crosse Area Astronomical Society

On Saturday, July 12th, 2025, the Sun broke through the thinning clouds from the morning rain to allow our first glimpses of Sol. It was only 30 minutes before the event opened to an eager crowd gathering among the tree canopy and tents. We had one of the few areas where the massive trees of the floodplain forest did not block the view to the sky, a crucial requirement for our purposes. We had set up an array of telescopes to allow attendees to get one of their first views of the Sun. With the clouds breaking up and setup complete, we were ready to bring the wonders of the Sun closer to people of all ages. The event was to be held rain or shine, so we also had activities related to astronomy that did not require the Sun to be visible, including a telescope aimed at a diorama of the Hubble Space Telescope orbiting the Earth.

Our goal was twofold: to demystify the science of our Sun and introduce astronomy by demonstrating the use of basic equipment. Weeks of preparation had gone into this outreach. Our club, the La Crosse Area Astronomical Society, arranged for telescopes to be set up in the observing field of our site, with clear lines of sight to the open sky.

Youth Outdoor Fest is an annual event in La Crosse, Wisconsin, designed to encourage kids and families to get outdoors and try something new. The event features a variety of community groups offering numerous outdoor activity options, including fly fishing, archery, casting with a fly rod, learning to identify furs, fish, and birds, playing outdoor games, kayaking, interacting with live animals, and more. The event is a joint effort by the U.S. Fish and Wildlife Service, the City of La Crosse, Wisconsin Parks/Recreation/Forestry Department, Fox 25/48 News, the Genoa National Fish Hatchery, and Friends of the Upper Mississippi River. The event is free, and everything needed to try something new is provided. In all, over 1200 people attended the event. We estimated that around 350 people of all ages came through our station.

Image by Nick Walton Photography

Image by Nick Walton Photography

Diorama of HST over the Earth

We had tables set up to display various optical devices, including binoculars and a small Meade ETX telescope, allowing visitors to experience the telescope's potential through magnification. We also had a solar trifold display providing information about the Sun, including its makeup and examples of what would be visible in the telescopes at the event. We handed out galaxy pencils and star wheel kits that the people could take home and assemble to help them discover what is in the night sky. We also had a raffle to give away a Celestron StarSense Explorer DX 102AZ refractor. We set up a similar telescope to the one being raffled off, so that people had a chance to see and use a telescope like the one being given away.

Our solar telescopes included two 6" SCT telescopes and a small refractor with white light (Baader film) filters, and two 50mm Lunt Hα refractors. These five setups were sufficient to provide everyone interested with a clear view of our closest star.

This year, we were also celebrating the 35th anniversary of the Hubble Space Telescope's launch. The 102mm telescope we had set up became more relevant by having it focused on a diorama of the Hubble Space Telescope (HST). As people waited their turn, we had the opportunity to discuss HST, its 35th anniversary, its maintenance, and its contributions to science. At one point, there were two dozen adults and children in the area where we were set up to look at the HST diorama, and we asked, "Who has heard of the Hubble Space Telescope?" We were stunned by the result. Every adult was familiar with the Hubble Space Telescope. Not a single child indicated that they had ever heard of it. By the end of the day, we estimated that over 200 children and 120 adults had looked at the HST diorama through the 102mm refractor. We managed to let them down gently by revealing our secret: that we were only observing the diorama from about 100 feet away, not the actual scope in orbit. One might wonder how many young observers went away and, upon resting that night, thought of that telescope floating untethered above the Earth.

This astronomy outreach had achieved its purpose – to foster a sense of wonder by bringing people together beneath the shared sky and to remind everyone that the universe is within everyone's reach, waiting to be explored. Whether a young child with dreams of becoming an astronaut, a retiree rediscovering a childhood fascination, or a family simply looking for a shared connection, our outreach highlighted that being outdoors under the stars or in the presence of our star can inspire us to discover.

LA CROSSE AREA ASTRONOMICAL SOCIETY

MOSTLY ILLINOIS TEAM PRESENTS *ASTRO CAMP* AT MICHIGAN'S YMCA CAMP EBERHART

~ by Carl J. Wenning, Twin City Amateur Astronomers ~

I have just completed my third consecutive summer as an ***Astro Camp*** instructor at YMCA Camp Eberhart, which is located seven miles west of Three Rivers, Michigan, on the shore of Corey Lake. The six-day YMCA Astro Camp program this year was held from July 20 to 25. Having served in the capacity of co-leader and having created most of the current curriculum, I hope to offer a variation of this event in Central Illinois in 2026 by modifying the Michigan program to support a parent-child approach and to accommodate the program to our educational setting – Funks Grove Nature Spaces near Shirley, Illinois. Affiliates of the North Central Region of the Astronomical League (NCRAL) might want to consider doing the same in their locales. While this article is not a cookbook for confecting an Astro Camp, it can provide many necessary ingredients for doing so. This is undoubtedly a great way to take advantage of youth's inherent interest in astronomy and to build the ranks of amateur astronomers.

The YMCA Astro Camp at Camp Eberhart is a residential program for youth, most commonly ages 10 through 14 (though 9- and 15-year-olds are also admitted). A typical week at camp finds about 400 overnight campers in residence, only a small number of whom are admitted to Astro Camp. Morning events include two sessions of a wide variety of traditional summer camp activities such as sailing, water skiing, swimming, canoeing, archery, riflery, horseback riding, hiking, agility training, and skywatching. For standard campers, two additional afternoon sessions are held for camp activities while Astro Campers move to their astronomy-based lessons and activities. The number of Astro Camp attendees is limited to 27 for logistical reasons. Astro Camp activities officially run from Monday afternoon to Friday afternoon. The fee for Astro Camp this year was $950 per camper. It is collected by the YMCA of Greater Michigan, but none of the fee accrues to the volunteer instructors.

Astronomy at YMCA Camp Eberhart

Astronomy/Stargazing/Star Navigation has been a part of YMCA Camp Eberhart's program from the late 1910s, when George Arlo Cooper – a former WWI military aviator – became camp director (a position he held for 50 years). In 1960, a small island in Lake Corey was donated to the camp, and a road was built connecting the mainland to the island. Shortly thereafter, Yarger Observatory was built atop the island's hill, housing a 12.5-inch Criterion *Dynascope* – the fourth largest telescope in Michigan at the time.

Dave's House, the location of Astro Camp at YMCA Camp Eberhart

Joe Comiskey and Earl Todd visit Yarger Observatory (now defunct) located atop an ancient mound on Corey Lake Island.

A formal astronomy program to match the "proficiencies & awards" format of other camp programs was created in the summer of 1967 by Louis Sandock, a University of Notre Dame freshman, whose interest in Astronomy began in 1958 as a 10-year-old camper at Camp Eberhart. A variation of this Astronomy program continues today.

YMCA Astro Camp

In 2001, Louis Sandock returned to YMCA Camp Eberhart as a volunteer to create Astro Camp, a special one-week-long enriched experience of fun and learning, focusing on developing astronomy field skills...becoming familiar with the night sky, identifying stars and constellations, becoming skillful in telescope use and targeting deep sky objects, etc. with lots of daytime hands-on projects, solar viewing, etc. The Astro Camp program took place at the Yarger Astronomy Learning Center located at Dave's House on the waterfront at Camp Eberhart. Lou "retired" from Astro Camp after the summer of 2013. Over the years, the Astro Camp program has grown and developed, thanks to the input of many staff members/volunteers who have shared their astronomy expertise.

In 2006, visual observer extraordinaire Darren Drake joined the staff of Camp Eberhart, becoming the summer-long camp astronomer-in-residence, bringing a wealth of knowledge, observing skill, and equipment with him. Since that time, he has participated in Astro Camp for all but one year. In 2023, Darren became the director of Astro Camp.

Darren holds a Bachelor of Science degree from Illinois State University, with a specialty in science education. He holds a teaching certificate and has taught at the elementary, junior high, and high school levels in the Chicago area for decades. In addition, Darren was a planetarium operator at the Cernan Space Center at Triton College in River Grove for many years. Darren owns impressive 18" and 20" telescopes and is well-known in astronomy outreach in the Chicago area.

YMCA Astro Camp leaders (shown left to right) Darren Drake, Sam Springer, Joshua Burton, Earl Todd, Signe Mason, Carl Wenning, Ryan Ehlers, and Joe Comiskey.

Several others joined us this year in presenting camp activities, which ran daily from about 2 p.m. to as late as midnight, with a break for dinner. The teacher team also consisted of Joshua W. Burton (a retired IBM executive and parttime physics and math teacher from Chicago with a Ph.D. in astronomy), Earl Todd (a Space Shuttle rocket scientist from Huntsville, Alabama), Ryan Ehlers (an undergraduate student from the Detroit area attending Embry-Riddle Aeronautical University in Florida), Joe Comiskey (a retired analytical Chemist from Kalamazoo, Michigan, but originally from Decatur, Illinois), Sam Springer (a member of the Twin City Amateur Astronomers (TCAA), and an undergraduate astronomy major currently attending Illinois Community College from Delavan, Illinois), Michael Amber (an undergraduate astronomy major at the University of Illinois), and special guest Signe Mason (a new astronomy assistant at the VLA in Socorro, New Mexico who recently graduated with a B.S. degree in Astronomy from the University of Illinois). Signe gave attendees an update on her work at the Very Large Array.

Darren Drake is standing astride his 20" Obsession telescope

This year, the leadership team was joined by budding amateur astronomer Graham Havens (an 11-year-old TCAA member from Heyworth, Illinois, who also attended as a "camper"). 2025 was Graham's first experience with Astro Camp. Even at the tender age of 11, Graham is accomplished as an amateur astronomer. He has an 8" Dob that he knows how to operate, as well

as a ZWO SeeStar S50 smart scope. During this year's Astro Camp, Graham gave a talk about and demonstrated S50 astrophotography, greatly impressing his 26 peers and the Camp's instructors – the first time such an event had occurred in the history of the event.

Rounding out the leadership team was the author of this article, Carl Wenning, also a member of the Twin City Amateur Astronomers who resides in Normal, IL.

11-year-old camper and TCAA member Graham Havens demonstrating his ZWO SeeStar S50 to Astro Camp participants

The curriculum of the YMCA Astro Camp is based on four major themes. These themes are used to teach concepts multiple times using a variety of means, including hands-on and minds-on activities, as well as assessments. Evening activities include directed viewing with unaided eyes, binoculars, and telescopes.

The four themes were as follows: Monday, *Telescopes & Binoculars;* Tuesday, *Satellites, Bright Stars, & Constellations;* Wednesday, *Sun, Moon, Earth, & the Solar System;* Thursday, *Color, Stars & Stellar Physics;* and Friday, *Concluding Activities.* A detailed day-by-day curriculum is available by request from the author of this article.

The goal of the curricular planning is to make the 27 program attendees as actively engaged as possible. There are numerous paper-and-pencil activities, as well as lab exercises and demonstrations, including sky charts and planispheres, an optical bench, and countless short presentations illustrated with PowerPoint and memorable physical demonstrations. Time is also taken out for students to practice astronomical sketching.

On the first day, we introduce students to binoculars (each student receives their own 10x50 binocular for "keeps") and telescopes (students are assigned to one of Astro Camps ten 8" Sky-Watcher telescopes on Dobson mounts). Evening observations are assisted with star I.D. using laser pointers, an Obsession 20" telescope outfitted with an imaging Pegasus Astro *Smart Eye* eyepiece, an image intensifier providing "live" white-light images of the stars and Milky Way at 1X. As part of the nighttime activities, kids are challenged to find, view, and sketch up to 14 "bright" celestial objects, using binoculars and telescopes. Certificates noting observer prowess are presented at the bronze, silver, gold, and star hopper levels following concluding activities.

Some of the Camp's ten 8" Sky-Watcher telescopes await nightfall

Not to be neglected are daytime observations of the sun. Kids do things like measure the size of the sun using pinhole projection. They are trained in solar observing safety and introduced to the sun with the use of Hα telescopes and a 6" apochromatic refractor outfitted with a Lunt Herschel wedge. They also lay out a scale model of the Earth-Moon system using a basketball and a tennis ball, as well as a scale model of the solar system, where a grapefruit represents the sun.

Joe Comiskey demonstrates how to determine the diameter of the sun using pinhole projection

Joshua Burton explains light and radiation laws during a day dedicated to astrophysics

So that astrophotography isn't sold short, Ryan Ehlers sets up his 12-inch photographic rig and produces images throughout the night. (None of us has figured out how Ryan can do this, but somehow, he appears at staff meetings each morning.) Then, at the start of each Astro Camp day, he provides a show of the things he managed to image the previous night. The kids always seem to be fascinated!

Never one to waste time, Ryan Ehlers used daylight hours to go swimming and fishing at the same time

While most of the camp's activities focus on observing the sun, moon, planets, and stars, Thursday has the theme of astrophysics, with "star spectra science" as a focus. Joshua Burton and Carl Wenning each teach concepts related to light and spectroscopy, as well as the colors and brightness of stars, using colored sacks filled with multicolored beads to represent light, provided courtesy of the *American Association of Physics Teachers.* Not to be forgotten are the implications that can be derived from a Hertzsprung-Russell Diagram.

Recent Additions to YMCA Astro Camp

A generous anonymous donor provided YMCA Astro Camp Eberhart with a $5,000 grant shortly after the conclusion of the 2024 session. That donation provided for conference tables, a video projector, a screen, Internet access, and more.

In addition, Dave's House – a barn-sized building where Astro Camp is held – underwent a half-million-dollar renovation during late 2024 and early 2025, which included a new roof, wider doors, and new windows and doors. Astro Camp 2025 "got closer to the stars than ever before" because of all these changes.

YMCA Astro Camp: An Incubator of Ideas

YMCA Astro Camp is a great location for trying out new ideas. During the past three years, the curriculum has been expanded and updated following post-camp analysis by the instructors. This year, we also began surveying the campers to see what they liked best and what they felt needed improvement. The instructors have a vast amount of experience to share, helping others create better outreach activities for the amateur astronomer community.

For instance, this year we learned that having specific observing goals, an observing recording sheet, and award certificates can get campers involved in skywatching using the unaided eye, binoculars, and telescopes. We learned the importance of "transitional

activities" and small group and one-on-one instruction if kids are going learn how to use an instrument as sophisticated as an 8" Dobsonian reflector. We learned the importance of teaching the same concept using multiple means. We learned that it is more important to "explain" rather than merely "name" things. We also had the opportunity to try out a wide array of topics, activities, and presentation methods to see what kids liked and didn't like.

Educational Resources

If you suppose that a significant amount of material and human resources is required to provide these educational services, you are correct. Here is a partial listing of some of the major equipment and consumable materials teachers bring to camp each summer to present our program. There is no effort to be exhaustive here.

Sam Springer explains one of many aspects of astronomy

Major equipment: 20" Dobsonian reflector, 6" refractor with a Lunt Herschel wedge, Coranado PST Hα telescope on *Heliofinder* mount, PVS-14 image intensifier with Hα and IR cut filters, a Pegasus Astro *Smart Eye* electronic eyepiece, optical bench with lenses, a *Galileoscope* refractor, meter sticks, GPS unit or cell phone, Trippensee planetarium, laptop computer, green laser pointers, emission tubes and diffraction gratings, light bulbs on dimmer circuits, Earth globe, hole punch, surveyor flags, measuring tape, colored pencils, markers, pencil sharpener, 6" rulers, calculators, etc. In addition, the YMCA has ten 8" Sky-Watcher Dobson telescopes for use by campers in small groups.

Consumable materials: The following materials are provided by teachers and the camp: name tags, clipboards, red-filtered flashlights, RASC planispheres, index cards, paper clips, batteries, three-ring binders, magnifying glasses, 7x50 binoculars, award certificates, etc.


Campers use 6" Styrofoam balls mounted on pencils to simulate moon phases by both rotating and revolving around a corncob lamp

Instructional activities: The author of this article has created more than two dozen presentation files (PowerPoints, guidelines, worksheets, etc.) for the YMCA Astro Camp. Electronic copies of all may be obtained free of charge from the author upon request.

Human resources: This includes Astro Camp's educational leaders (all accomplished amateur or professional astronomers) and camp counselors (typically college students) who work with the kids during the hours campers are not with the instructional team. All but one of the YMCA Astro Camp's instructors are volunteers and work for free.

"Astro Camps" Led by Other Groups?

While I am not sure that my club will offer *Astro Academy* (so named because it will not be a traditional camp) in 2026, if we do offer the Academy, it will differ from YMCA Astro Camp in several ways.

First, Astro Academy will not be a residential program, rather a "day" program. Campers will leave Funks Grove Nature Spaces (the assumed base of operations) after evening activities conclude. This eliminates the need to handle the logistics of providing overnight accommodations.

Second, Astro Academy will be a parent-child or even a family experience. This accommodation is a practical approach that acknowledges the importance of protecting youth from inappropriate circumstances with adults. We are committed to following the best practices adopted by groups that regularly interact with

children (e.g., instructor training and the "truddy" (tri-buddy) system).

Third, Astro Academy will be held on a series of alternating Saturdays during late summer and early autumn. This will allow parents and children to avoid filling up every weekend for a whole month – something our instructors would appreciate as well. More importantly, this will provide a longer period during the course for observing the lunar motion and phases.

Fourth, Astro Academy will not be held to the same time constraints. The sessions at the YMCA Astro Camp run from approximately 2:30 to 5:00 p.m. and again from 9:00 p.m. to midnight, Monday through Thursday. The Friday afternoon session at the YMCA Astro Camp lasts but an hour. Astro Academy will run from 2 p.m. to 5 p.m. and from 8 p.m. to 11 p.m. on four Saturdays. This will give us a greater chance for at least some clear skies, cooler and drier weather, and a more bug-free environment.

Fifth, Astro Academy will have a greater emphasis on academic pursuits. While "camp" implies a carefree environment where kids do pretty much what they want, Astro Academy will have considerably more emphasis on "proficiencies and awards." With smaller attendance numbers and increased adult supervision, we will be able to ensure greater accountability. We might also integrate more technology into the course.

Sixth, Astro Academy will be open to people with visual and physical disabilities. Due to recent improvements at the TCAA's Prairie Sky Observatory, we will be able to assist students with these impairments. Our 14" iOptron telescope is on a telescoping mount, has night vision technology, and the observatory is accessible.

Earlier this year, a TCAA member gave a significant endowment to the club in memory of her father, which we have set aside as the *James W. Barkhurst Memorial Trust Fund*. This memorial fund serves to promote and assist with "special projects" within TCAA. The Memorial Fund paid for the safety rail at the entrance of a handicap access ramp to the club's observatory, which will be used extensively during Astro Academy.

In addition, a handicap ramp was provided last autumn by the Funks Grove Cemetery Association (proprietors of Funks Grove Nature Spaces), which the club could not readily afford with its limited assets at the time. That ramp was installed in November 2024. The only thing remaining to make the observatory fully accessible is the addition of a protective safety rail on that ramp, and that will be completed soon.

The handicap accessibility features of Astro Academy would not have been possible without these valuable and vital grants, as well as the generosity of past and present club members. Our thanks go out to the Funk's Grove Cemetery Association, Meredith Barkhurst, and other donors within the TCAA who wish to remain anonymous. In addition, the Barkhurst Memorial Fund trustees have already provided for the purchase of three 8-inch Dobsonian telescopes needed for Astro Academy.

Understandably, Astro Academy is unlikely to achieve a national following comparable to that of Astro Camp at YMCA Camp Eberhart. We will have mostly a "local following" due to our modifications. Still, we believe that under the right conditions (duration, dates, location, benefits, accessibility, costs, etc.), we will do well in populating our program. We intend to start small with perhaps five family units participating in the first year. If all goes well, we will expand this to twice its current size the following year.

Camp Eberhart: An Incubator of Ideas

The author gratefully acknowledges YMCA Camp Eberhart and its Astro Camp director and instructors as being an "incubator of ideas." We cannot forget the 76 campers who passed through YMCA Astro Camp during the summers of 2023, 2024, and 2025, who gave us valuable experiences and feedback. The past three years have enabled the development and piloting of many new activities that have allowed for the refinement of those to be used at Astro Academy.

The author also acknowledges the contributions of Louis Sandock, who provided the early history of the astronomy program at YMCA Camp Eberhart.

The Author: Carl J. Wenning is a former planetarium director (1978-2001) and director of the nation's most extensive high school physics teacher education program (1994-2008) at Illinois State University in Normal. He spent over 40 years teaching astronomy, physics, and physics education at ISU. Carl co-taught YMCA Astro Camp in 2023, 2024, and 2025. You may contact Carl at carlwenning@gmail.com.

COMMENTS ABOUT ASTRO CAMPS

by Josef Chlachula, NCRAL webmaster

Your request for my input about my experiences with an astro camp brought back a lot of memories. The astro camp I am referring to was in Czechoslovakia, now Czechia. Approximately 45 children, aged 11 to 18, attend a camp in the woods, located about 10 miles away. The children live in canvas tents with wooden bases for two weeks. Camp life is organized by instructors who are over 18 years old. The daily schedule was adapted to evening observations. Wake-up was at 8 a.m., and bedtime was at midnight, but anyone who wanted to could go to bed earlier. Breakfast, lunch, dinner, and then dinner for observers were served in the dining room. In the morning, there are usually two astronomy lectures. After lunch, there is an afternoon rest, followed by various games and sports. After dinner, there is preparation for evening observation, followed by evening observation of the sky.

I attended several of the first camps. The last time I was at this camp was in 2013 with my son. However, I am in contact with the current camp leader, a student at the Brno University of Technology.

I have no experience with any American astronomy camps. However, I do have experience with American scouting, and I would say that there are several differences. On the other hand, what is interesting about astronomy camps for children is evening sky observation, and that is certainly the same everywhere in the world.

TCAA Guides in Review - The TCAA Guides page is a collection of **PDF guides** intended to help amateur astronomers, both new and experienced, with various topics related to observing, equipment, club membership, and astronomy as a hobby. Some are introductory; others are more advanced or focused on specific practices. Here is the current listing found at https://tcaa.club/guides.

Guide Title	Purpose / What It Covers
Introduction To Amateur Astronomy	Basics for beginners—using eyes, binoculars, telescopes; what to expect.
TCAA Membership and Benefits	Explains what being a TCAA member entails and what benefits members often miss.
Astronomy as a Hobby	Encourages people to take up astronomy; explains what a hobby means; covers motivations and challenges.
The Art of Sky Interpretation	Tips for recognizing celestial objects/events just by looking; useful even if you don't plan to speak publicly.
Coordinating Observing Sessions	How to plan and organize observing nights, public or private.
Have a Successful Observing Session	Seven "P's" for good observing runs. (Passion, Preparation, Programs, Planning, Perseverance, Patience, Presentation)
Buying Binoculars & Telescopes	What to look for and what pitfalls to avoid when purchasing equipment.
Optimizing Deep Sky Observations	Enhancing observations of faint objects using tools observers already have.
Introduction to DSLR-based Astrophotography	Getting started with imaging using DSLR cameras; uses of common software.
Introduction to Spherical Astronomy	Covers positional astronomy (mathematics & descriptive) to understand where things are in the sky.
Recruiting & Retaining Astronomy Club Members	For club organizers: how to build and keep membership.
Introduction to Video-Based Astrophotography	Imaging solar system objects using video (e.g., planetary imaging) and software like FireCapture, iCap, AutoStakkert!, and Registax.

A Lifetime Watching the Northern Lights

~ by Bob King, Arrowhead Astronomical Society/Minnesota Astronomical Society ~

I saw and photographed my first aurora as a teenager in 1968, just 15 miles north of Chicago in Morton Grove, Illinois. I still have the photo somewhere – taken in black-and-white on Tri-X film – but I remember banks of pulsating rays in the northern and western sky. The sight surprised me. I'd assumed that my home state was too far south for Northern Lights. Light pollution was also rampant so near the Windy City, so I never expected something as tenuous as the aurora to show.

I don't recall another sighting until later in college, when I spent a charmed summer in northern Wisconsin working as an ice cream scooper at a fudge shop in Minocqua. One night, friends and I sprawled out on the soft grass in a park and marveled at a lavish, all-sky display.

I returned to Illinois, got my degree, and went to work as a news photographer at the Champaign-Urbana News-Gazette in the mid-to-late '70s. From 40° north latitude, auroras rarely bloomed above the soybean fields. However, the flat, treeless landscape provided wonderful views of Comet West as its tail rose like chimney smoke in the east at dawn in March 1976.

My heart has felt the pull of the North since childhood. Our family routinely escaped the madness of Chicago for the piney air of Waupaca and Hazelhurst in Wisconsin. In 1979, I applied to the Duluth News Tribune in Duluth, Minnesota, got the job, and started work that fall. The city has many positives, including ready access to wilderness and the amazingness of Lake Superior. I soon discovered that the aurora was common here, especially in the years around solar maximum.

My close relationship with the Northern Lights began in 1982, when I bought a C-11 telescope and got back into the astronomy hobby. Its $3,000 price tag has forever earned me good-natured grief from my two brothers, Mike and Dan. For years, whenever we'd get together, they loved to chide me with "How's that $3,000 telescope doing?" Let's say it never sat in a closet. I pressed it into service every clear and partly cloudy night, rediscovering (in much greater detail) sights from my childhood and exploring new ones, including variable stars, supernovae, and too many comets to count.

On those many evenings and early mornings, I became more deeply acquainted with the aurora and its habits. For one, I noticed that the lights were more common than I'd expected. Often, they took the form of a colorless glow or greenish arc low in the northern sky. Most of the time, those displays would remain unchanged for hours. Some resembled clouds or were so dim you had to know the signs to confirm the meek glow as an aurora.

Back then, when I was deeply into deep-sky observing, the Northern Lights were *not* my friend. Auroras lit up the sky and washed out the faraway "fainties" I sought. My passion blinded me to the simple beauty of these smaller outbreaks. Of course, when the whole sky was throbbing with a coronal auroral display, that was another matter. I would happily spend hours

watching and taking pictures. This was back when film was king, a hit-and-miss era decades before digital and beeping aurora apps.

Color print film wasn't up to the job of reproducing aurora because of slow ISO ratings, plus a lab, not the photographer, did the processing. Slide film did a much better job, and I often used Ektachrome 400 to capture night-sky sights. Now, like many aurora photographers, I routinely photograph at ISO 3200 and 6400! My equipment includes a Canon R6 mirrorless body and several wide-angle f/2.8 and f/2 lenses. The fast f-ratios allow for short exposures that capture the maximum amount of detail in a moving target.

As cameras improved and ISOs headed into the stratosphere, photographers like myself noticed and recorded other aurora-related phenomena. One of the most curious was a narrow, contrail-like arc that stretched from northwest to southeast high in the southern sky. Word got around that it was a proton arc – a rare type of aurora sparked by protons in the solar wind interacting with Earth's magnetic field.

When a Canadian scientist studied amateurs' images, he found it was an entirely different phenomenon we now know as STEVE, an acronym for Strong Thermal Emission Velocity Enhancement. STEVE, SARs (Stable Auroral Red) arcs, fragmental aurora, black aurora, giant undulating aurora, omega aurora, auroral dunes, and more, are now part of common parlance among aurora photographers and aficionados. Over the past decade, interest in the Northern Lights has surged – and not just because we're nearing the peak of Solar Cycle 25.

Behind the fascination is the widespread use of inexpensive high-resolution digital cameras and phones, social media sharing, the proliferation of forecasting sites and apps, and professional scientists who are eager to work with interested amateur photographers to record and investigate the aurora's many mysteries. When ordinary people participate in science and are recognized for their efforts, the more exciting the field becomes.

While I continue to explore the nighttime and daytime sky with a variety of telescopes (oh, how they have proliferated!), the aurora has bent me toward it – both as an observer and photographer – like an electron spiraling down a magnetic field line. I love the anticipation of a solar storm, the arrival, and waiting to see what happens.

While there are predictable aspects to every geomagnetic storm, each has its own unique rhythm, balance of colors, intensity, duration, and sequence of forms. I've witnessed 55 displays so far this year and am still eager for more. Our cameras record their many variations far better than our eyes. One of life's small thrills is reexperiencing the night's delight the following day, when we open our photos in a favorite imaging program and see them in technicolor.

While I usually prefer the quietude of watching the lights from various haunts in the countryside, I'm no purist. Hanging with the crowd under a savage auroral display can be equally as primal and wonderstruck as standing with humanity under a total solar eclipse.

Watching the aurora, Bob King

Often, the aurora doesn't show up on time, which can mean a lot of waiting, with occasionally nothing to show for it. Cold and mosquitoes can be challenging, and boredom may set in. That's OK. The lights have

taught me to be patient and take what comes, a lesson I've had to keep learning all my life.

Actually, *nothing* isn't quite correct. Nights are rich with sounds and smells and solitude. And if the aurora's a no-show, I'll use the camera to photograph airglow or the Milky Way and watch for meteors. There's always something to gain by getting outdoors. Even when the predicted big storm doesn't arrive, I never go home disappointed.

The aurora is as unpredictable as life itself, which only whets my appetite for more of both.

Editor: Bob's most recent book, *Magnificent Aurora,* explores the history of the aurora, forecasting methods, types and forms, auroral sounds, and much more. You can get a signed copy by contacting Bob at duluthaurora@gmail.com or through *Sky & Telescope* at https://shopatsky.com/pages/about-us).

AUTUMN 2025: PLANETS, MOON, AND CHANGING SKY

~ by Jeffrey L. Hunt ~

The **Sun** is at the autumnal equinox on September 22 at 1:19 p.m. Central Time. The season lasts 44 days, 22 hours, and 52 minutes. The midpoint occurs on November 6 at 11:30 p.m. Central Time.

Beginning October 31 and running through February 10, darkness – the time between the end of evening twilight and the beginning of morning twilight – is longer than daylight.

Daylight Saving Time ends on the morning of November 2. A common misconception is that turning the clock back to Standard Time causes us to lose an hour of daylight. In reality, the sun's seasonal southerly shift shortens daylight by about three minutes from November 1 to November 2.

At Chicago's latitude, the latest sunrise (7:18 a.m.) occurs December 28 through January 10, while earliest sunset (4:20 p.m.) occurs December 2-14.

The **Moon** cycles through three Full moons (Oct 6, Nov 5, and Dec 4) during the season, following a lunar eclipse on September 7 that was visible across the Indian Ocean basin.

When I taught high schoolers as October ended, students in my classes asked me whether the moon would be full on Halloween. With the season's persistent imagery, which includes black cats with arched backs, leafless trees, haunted mansions, flying witches, jack-o'-lanterns, and the like, a Full moon typically highlights the background. The last full moon of Halloween occurred in 2020. This year's Halloween night moon phase is waxing gibbous, 74% illuminated. I suppose somebody will call this a Full moon. The next full moon on Halloween occurs in 2039. Every 19 years, the moon phase repeats on the same date.

The lunar orb reaches its maximum northern declination – known as a lunar standstill – on December 4 and again on January 2. Watch the moon rise at its most northerly point on those nights.

Three bright planets – Venus, Jupiter, and Saturn – span the length of the ecliptic before sunrise, along with dim Uranus and Neptune. The Venus-Saturn opposition occurs on October 17, signaling that after this date Saturn (and Neptune) sets before Venus rises. Saturn and Neptune dip into the thicker atmosphere near the horizon, where dimming and blurring increase, during early October, essentially ending the parade of five planets. What results is a collection of Saturn, Neptune, Uranus, and Jupiter in the early morning hours or Venus, Jupiter, and Uranus near the beginning of morning twilight.

Mercury reaches its greatest elongation in the evening sky on October 29 (23.9°) after its superior conjunction on September 12. This apparition is very unfavorable because of the ecliptic's low angle with the western horizon. The planet sets only 53 minutes after sunset, before the end of nautical twilight, when the sun is 12° below the horizon. Mercury reaches inferior conjunction on November 19.

Its best morning appearance of the year occurs during early December when it reaches greatest western elongation (20.7°) on December 7. For several days around that date, at 45 minutes before sunrise, the planet is visible low in the east-southeast. Use a

binocular to follow Mercury as it tracks through Libra and Scorpius before fading into bright twilight.

On elongation morning (December 7), Mercury (m = −0.4) is 9.8° to the lower left of Zubenelgenubi (α Lib, m = 2.8). A week later, the planet (m = −0.5) passes 0.6° to the upper left of Graffias (β Sco, m = 2.5). On December 17, the crescent moon, 6% illuminated, is 11.0° to Mercury's upper right.

On solstice morning (December 21), Mercury shines at 5° altitude in the east-southeast, 6.0° to Antares' upper left. While not yet at its heliacal rising, the planet and Antares appear in the same binocular field.

Venus descends into morning twilight during the season. After its trek through the bright star fields of Taurus and Gemini, and conjunctions with Jupiter, the Beehive star cluster, and Regulus, the brilliant planet moves through Leo, Virgo, and into Libra. As the season opens, at 45 minutes before sunrise, the Morning Star is over 15° up in the east, 2.2° to Regulus' (α Leo, m = 1.3) lower left and over 40° to Jupiter's (m = −2.1) lower left. From morning to morning, Venus opens its gap to Jupiter about 1°.

On October 19, find the crescent moon (4%) 4.1° to Venus' right. At 45 minutes before sunup, the pair is less than 10° above the eastern horizon.

During autumn, the interval between Venus rising and sunrise shortens by two hours as the planet approaches superior conjunction and rises at more southerly azimuths. It passes Denebola (β Leo, m = 2.1), 10.1°, on October 7; Zavijava (β Vir, m = 3.6), 0.9°, Oct. 11; and Gamma Virginis (γ Vir, m = 3.4), 1.3°.

By October 25, it rises at the beginning of morning twilight. Venus passes 3.5° from Spica on November 7. On November 17, it rises at nautical twilight and at civil twilight on December 10.

Mars (m = 1.6) slides into bright evening twilight as it heads toward its conjunction with the sun on January 9. On the evening of the equinox, the Red Planet sets about 70 minutes after sunset, about the time of nautical twilight. It passed Spica (m = 1.0) on September 13, although the conjunction occurred in brighter twilight. The planet descends further into evening twilight, passing Mercury and Antares, setting at civil twilight on December 4.

Jupiter (m = −2.1), 7.0° to the lower right of Pollux (β Gem, m = 1.2), is over halfway up in the east-southeast during morning twilight as the season begins. While Pollux is 7.0° north of the ecliptic and the planets do not have close conjunctions with the star, it serves as a milestone for the planets' motions. The Jovian Giant begins a triple conjunction series with the star on October 10, continuing December 13, and concluding May 28, 2026. Jupiter begins retrograde motion (in ecliptic coordinates) on November 11, with its opposition following on January 10, 2026.

Look for the moon near Jupiter on October 14, November 10, and December 7. Until Jupiter reaches opposition, the moon's phase at each conjunction waxes from one conjunction to the next.

The RASC Observer's Handbook notes that Io and Europa's shadows cross Jupiter's cloud tops every 3.5 days beginning September 20. Depending on the timing, some of these dual-shadow events occur during daylight across much of the NCRAL region, while others take place as Jupiter rises.

The upcoming appearances include October 4, 12:24 a.m. CDT (altitude 3°); October 11, 3:10 a.m. (35°); October 18, 5:40 a.m. (65°); October 20, 12:10 a.m. (8.5°); November 4, 9:30 p.m. (3°); and November 20, 7:50 p.m. CST (5°) — when Jupiter rises with both shadows already projected across its cloud tops.

Saturn (m = 0.6) passes opposition on the morning of September 21 at a distance of 8.55 Astronomical Units from Earth. By mid-autumn, it is over 30° up in the southeast at mid-twilight, making it a nice target for evening sky watching and public programs. The ring plane is tilted less than 1.0° during the season.

In ecliptic coordinates, Saturn's retrograde ends on November 28 and it slowly resumes direct or eastward motion.

Saturn's brighter moons continue to put on a display with the planet. Another Titan transit with a shadow event on the northern hemisphere's cloud tops begins on September 19 at 11:24 p.m. Central Time, ending at 3:22 a.m. the next morning. In a transparent sky, the shadow event might be seen through telescopes with apertures as small as 80mm, though larger diameters provide better views.

Iapetus, Saturn's most distant moon of its eight largest satellites, has a period of 79.3 days with an inclination of 8.3°. On October 26, it is 1.5' north of Saturn and 1.1' south on December 6.

The moon is nearby on October 5, November 1 and 2, and November 29.

Uranus (m = 5.7) is in the same binocular field with the Pleiades, 4.7° to the southeast of Alcyone (η Tau, m = 2.8), the brightest Pleiad. For sharp-eyed observers in a dark location, it is visible to the unaided eye. For comparison, Uranus is approximately the same brightness as 13, 14, 32, and 37 Tauri. The Pleiades, field stars, and Uranus fit into a single binocular field.

Uranus began to retrograde on September 6, passing opposition (m = 5.6) on November 21. Try for that unassisted observation near that date. Unlike Neptune, Uranus is easier to resolve with modest apertures, though its globe is largely featureless.

Neptune (m = 7.6) is at opposition at 7:53 a.m. Central Time on September 23. Appearing near Saturn, it rises at sunset and sets in the west at sunrise. When it transits after midnight, Neptune is 2.6° to Saturn's upper left and 0.7° to the lower right of HIP 417 (m = 6.3). For comparison, 27 and 29 Piscium, to Saturn's lower left, are about the same brightness as Uranus, nearly 15 times Neptune's brightness. HIP 417 is four times brighter than the dim planet.

In a dark sky, Neptune is a binocular object. Considerable aperture and corresponding magnifications are needed to resolve the planet's disk.

In the coordinate system with the sun at the center, Saturn passes Neptune on December 11, known as a heliocentric conjunction. Their heliocentric longitudes are 1.2°. Neptune's retrograde ends on this date. The next Saturn-Neptune heliocentric conjunction does not occur again until May 29, 2061, though from Earth, the pair is only 11° west of the sun.

During autumn 2025, the sky offers a sequence of events: the equinox, three Full moons, and changing daylight lengths. Venus, Jupiter, and Saturn are prominent before sunrise, joined by Uranus and Neptune. Mercury makes its best morning appearance of the year in early December. The moon highlights the season with a waxing gibbous on Halloween, a standstill in December and January, and several conjunctions with the bright planets.

CONTRIBUTIONS TO *NORTHERN LIGHTS* WELCOME!

Have you ever considered writing an article for this newsletter? The Region is vibrant, and many noteworthy local events are happening. Authors are encouraged to submit stories for inclusion in ***Northern Lights*** and news items for the ***NCRAL blotter***. We are now looking for items to be included in the coming editions. Contact the editor, Carl Wenning, with your inquiries and submissions.

REGIONAL OFFICER & LEADER CONTACT INFORMATION

Chair: Alan Sheidler

Bio: Alan has been an active member of the *Popular Astronomy Club* in the Quad Cities for 30 years and has held the offices of vice president and president. He is currently serving as the director of observing. Alan has been very involved in public outreach activities and, in 2022, received the Master Level Astronomical League Outreach Award. He has also completed several AL observing programs for Double Stars, Globular Clusters, Planetary Nebulae, Venus & Mercury transits, and all four NCRAL Seasonal Messier Observing Awards. (Two-year term as Chair; currently in his second term, serving 2023-2027.)

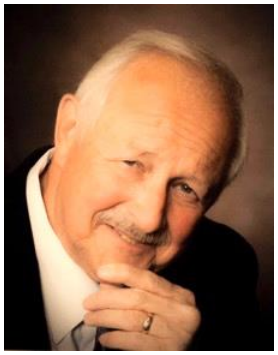
Contact: Adsheidler@gmail.com

Vice Chair: Eric Claeys

Bio: Eric's been in the *Naperville Astronomical Association* (Illinois) since 2013 and was the club's first media relations officer, where he appeared on TV and in various newspapers several times. He later was the club's webmaster. He still enjoys public outreach, especially when someone says, "Wow!" Eric received his first telescope in the 6th grade – a K-Mart "500x power" 2.5-inch scope he calls "a piece of junk." As a teenager, Eric became an Eagle Scout, and his first merit badge was Astronomy. He used his K-Mart "special" until 2014 to look at the Sun, Moon, a few planets, and occasionally the neighbors. He now owns an observatory and house in New Mexico with a 140mm refractor, a 14" SCT for astrophotography, and a 16" SCT for visual. Eric retired in 2020 from Nokia/Alcatel-Lucent/Lucent/Bell Labs as a project manager in the IT department. He's now the primary developer of the Allsky software used by over 500 people worldwide to capture wide-angle images of the sky. (Two-year term as Vice Chair; currently in his first term, 2025-2027.)

Contact: AstroEric@eccssw.com

Secretary-Treasurer: Roy Gustafson



Bio: Roy, a member of the *Popular Astronomy Club* (Quad Cities), got interested in astronomy when visiting the Adler Planetarium in Chicago in 2nd Grade. The star projected by the Zeiss Projector hooked him and started him on the path of astronomy. He has been active in outreach and has presented astronomy programs to over 20,000 people. He was awarded the ***Master Outreach Award*** from the Astronomical League. Roy travels with his telescopes and has observed both Transits of Venus and total solar eclipses in 2017 and 2019. Roy also taught astronomy at Black Hawk Junior College in Moline, IL. Roy retired from John Deere & Company after 32 years of service. As Secretary-Treasurer, Roy manages the Region's observing awards program. (Two-year term as Secretary-Treasurer; currently in his fourth term, serving 2018-2026.)

Contact: astroroy46@gmail.com

Regional Representative: John Attewell

Bio: John's interest in astronomy was kindled during two great comet events – comets Hyakutake (1996) and Hale–Bopp (1997). He used a 2½-inch refractor borrowed from his brother for the next ten years, which he mounted on a rickety camera tripod. It wasn't until 2009 that he acquired a serious telescope as a gift from his family. He started attending the *Rochester Astronomy Club* meetings in 2002, becoming a member in 2006 and Vice President in 2019. In 2017, he chaired the NCRAL annual conference held at Eagle Bluff Environmental Center in Lanesboro, Minnesota, and served as NCRAL Vice Chair from 2017-2019. John's particular interest is the history of astronomy. (Three-year term as Regional Representative; currently in the second term, serving 2022-2028)

Contact: john_attewell@hotmail.com

Webmaster: Josef Chlachula (appointed position)

Bio: Josef has been an amateur astronomer since he was 14 years old when he first built a telescope with a 50mm aperture and a 1m focal length. Then, he built a 6-inch reflecting telescope. He was interested in spherical astronomy, celestial mechanics, and variable star observations. In 1988, he helped establish a two-week summer astronomy camp for children and teenagers, which has been held yearly since. Born in Czechoslovakia, he has lived in Rochester, Minnesota, since 1997. He is a member of the *Rochester Astronomy Club,* where he oversees outreach and is also one of the webmasters. He helped organize the NCRAL 2025 conference and became the NCRAL webmaster shortly after the conference ended.

Contact: josefch@gmail.com

Newsletter Editor: Carl J. Wenning (appointed position)

Bio: Carl has been an avid amateur astronomer since being introduced to the night sky by his grandfather in July 1957. He has been involved with the *Twin City Amateur Astronomers* (Illinois) since September 1978, where he served as president as recently as 2024-2025. He is an ***Astronomical League Master Observer*** who spends much of his free time introducing nascent amateur astronomers to observing using his club's Celestron 11", iOptron 14", and PlaneWave 20" telescopes. Carl was first recognized for his Regional education and outreach efforts in 2007 when he received the ***NCRAL Region Award***. He served three consecutive two-year terms as NCRAL Regional Chair from 2017 to 2023. He has also served as the Region's ***Northern Lights*** newsletter editor since 2016. He has edited the ***NCRAL blotter***, a monthly newsletter for affiliate leadership, since 2023. He has just completed his third year as co-instructor of the week-long, summertime *Astro Camp* at YMCA Camp Eberhart in Three Rivers, Michigan. Now 72 years of age, Carl returned to teaching introductory astronomy at Heartland Community College during the autumn of 2025. Carl resides in Normal, Illinois.

Contact: carlwenning@gmail.com

